ATS-12-805

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OCD Artesia
NMOCD ARTESIA

Form 3160-3
(March 2012)

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NM-14785

6. If Indian, Allotee or Tribe Name

TCS 12/7/2012

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

1a. Type of work: ☑ DRILL ☐ REENTER

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

8. Lease Name and Well No. Bennett Federal #3H C309268?

2. Name of Operator YATES PETROLEUM CORPORATION C255757

9. API Well No. 30-015-40872

3a. Address 105 South Fourth Street, Artesia, NM 88210

3b. Phone No. *(include area code)* (575) 478-4347

10. Field and Pool, or Exploratory ~~Undesignated Bone Spring~~ Corral Canyon; B.S., South C33547

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

At surface 330' FSL and 2180' FWL

At proposed prod. zone 330' FNL and 2180' FWL

11. Sec., T. R., M. or Blk. and Survey or Area Section 3, T25S-R30E

14. Distance in miles and direction from nearest town or post office*
Approximately 33 miles southeast of Carlsbad, New Mexico.

12. County or Parish Eddy County

13. State NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330'

16. No. of acres in lease 401.8

17. Spacing Unit dedicated to this well E/2W/2

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. ~~200'~~ 130

19. Proposed Depth MD 13716' TVD 9267'

20. BLM/BIA Bond No. on file NMB000434

21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3100'

22. Approximate date work will start* 08/01/2012

23. Estimated duration 60 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, must 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 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 BLM.

25. Signature Cy Cowan — Name *(Printed/Typed)* Cy Cowan — Date 5/31/12

Title Land Regulatory Agent

Approved by *(Signature)* /s/ Don Peterson — Name *(Printed/Typed)* — Date DEC 2 2012

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 conduct 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 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.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

RECEIVED
DEC 05 2012
NMOCD ARTESIA

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
Phone (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-40872	13354	Corral Canyon; ~~Undesignated~~ Bone Spring, South

Property Code	Property Name	Well Number
309268	BENNETT FEDERAL	3H

OGRID No.	Operator Name	Elevation
025575	YATES PETROLEUM CORP.	3100'

Surface Location

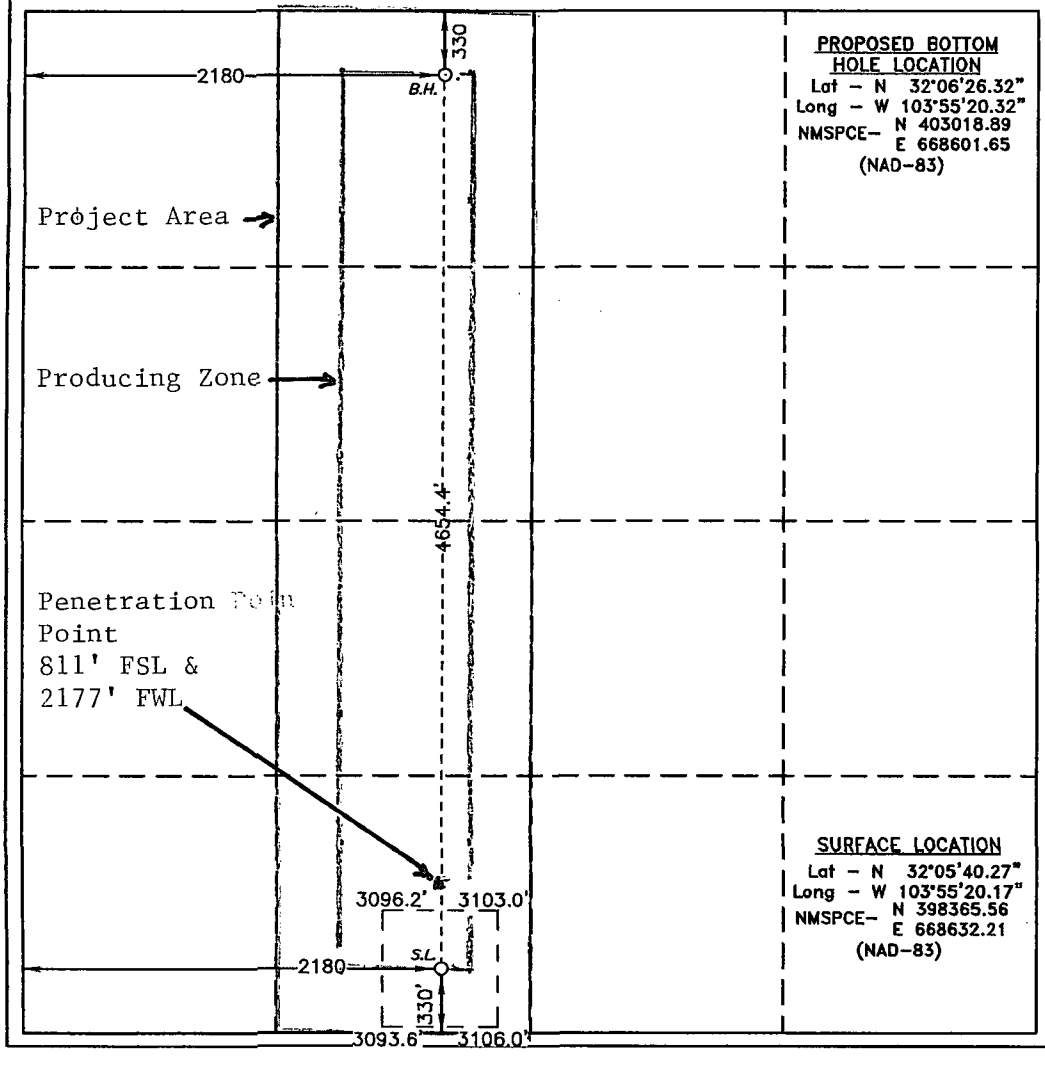
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	30	25 S	30 E		330	SOUTH	2180	WEST	EDDY

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
C	30	25 S	30 E		330	NORTH	2180	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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



PROPOSED BOTTOM HOLE LOCATION
Lat – N 32°06'26.32"
Long – W 103°55'20.32"
NMSPCE– N 403018.89
E 668601.65
(NAD-83)

SURFACE LOCATION
Lat – N 32°05'40.27"
Long – W 103°55'20.17"
NMSPCE– N 398365.56
E 668632.21
(NAD-83)

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 5/31/12 Date

Cy Cowan
Printed Name
cy@yatespetroleum.com
Email Address

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 supervison, and that the same is true and correct to the best of my belief.

MAY 19, 2012
Date Surveyed
Signature & Seal of Professional Surveyor
NEW MEXICO 7977 REGISTERED PROFESSIONAL SURVEYOR
NM No. 26803
Certificate No. Gary L. Jones 7977
BASIN SURVEYS 26803

CERTIFICATION
YATES PETROLEUM CORPORATION
Bennett Federal #3H
330' FSL & 2180' FWL, Surface Location
330' FNL & 2180' FWL, Bottom Location
Section 30-T25S-R30E
Eddy County, New Mexico

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 31st day of May 20 12.

Printed Name Cy Cowan

Signature

Position Title Land Regulatory Agent

Address 105 South Fourth Street, Artesia, NM 88210

Telephone 575-748-4372

E-mail (optional) cy@yatespetroleum.com

Field Representative (if not above signatory) Tim Bussell

Address (if different from above) Same

Telephone (if different from above) 575-748-4221

YATES PETROLEUM CORPORATION
Bennett Federal #3H
330' FSL and 2180' FWL, Section 30-25S-30E, Surface Hole Location
330' FNL and 2180' FWL, Section 30-25S-30E, Bottom Hole Location
Eddy County, New Mexico

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

FORMATION	DEPTH	FORMATION	VERTICAL DEPTH	MD DEPTH
Rustler	530'	Brushy Canyon Marker	7040' Oil	
Top of Salt	800'	Bone Spring	7280' Oil	
Base of Salt	3300'	Bone Spring 1/SD/	8200' Oil	
Bell Canyon	3340'	Bone Spring 2/SD/	9030' Oil	9042
Cherry Canyon	4430'	Target SBSG	9267' Oil	9543'
Brushy Canyon	6350' Oil	TD (Lateral Hole)	9240' Oil	13716'

2. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered.
   Water: 160'
   Oil or Gas: Zones: See above

3. Pressure Control Equipment: 3000 PSI BOPE with a 13.625" opening will be installed and tested on the 13.3/8" casing and a 5000 PSI BOPE with a 13.625" opening will be installed and tested on the 9 5/8" casing. Pressure tests to 3000 PSI on the 3000 PSI BOP and 5000 PSI on the 5000 PSI BOP 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: 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)

See COA

Hole Size	Casing Size	Wt./Ft	Grade	Coupling	Interval	Length
26"	20"	94#	H-40	ST&C	0-40'	40'
17 ½"	13 3/8"	48#	H-40/J-55 Hybrid	ST&C	0-~~555~~ 650	~~555~~
12 ¼"	9 5/8"	40#	J-55	LT&C	0-80'	80'
12 ¼"	9 5/8"	36#	J-55	LT&C	80'-3320'	3240'
12 ¼"	9 5/8"	40#	J-55	LT&C	3320'-3400'	80'
8 ½"	5 ½"	17#	P110	LT&C	0-8780'	8780'
8 ¼""	5 ½"	17#	P110	Buttress	8780'-13716'	4936'

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

B. CEMENTING PROGRAM:

Surface Casing: Cement with 250 sacks 35:65:6PzC (Wt. 12.50 Yld. 2.00). Tail in with 200 sacks Class C with 2% CaCl2 (Wt.14.80 Yld. 1.34). TOC surface. Cement designed with 100% excess.

Intermediate Casing: Lead with 925 sacks of 35:65:6PzC (Wt 12.50 Yld. 2.00). Tail in with 200 sacks Class C with 2% CaCl2 (Wt. 14.80 Yld. 1.34). TOC surface . Cement designed with 100% excess.

Production Casing will be cemented in two stages with stage tool set at approximately 7000'.

Production Casing: 1st stage lead with 425 sacks 35:65:6PzC (Wt. 12.50 Yld. 2.00). Tail in with 1020 sacks PecosVlLt with D112-Fluid Loss-0.4-%, D151-Caclium Carbonate-22.5-lb/sack, D174-Extender-1.5-lb/sack, D177-Retarder-0.01-lb/sack, D800-Retarder-0.6-lb/sack and D46-Antiform Agent-0.15-lb/sack (Wt. 13.00 Yld. 1.41). TOC 7000'. Cement designed with 35% excess.

Production Casing: 2nd stage lead with 565 sacks 35:65:6PzC (Wt. 12.50 Yld. 2.00). Tail in with 200 sacks Pecos VlLt with D112-Fluid Loss-0.4-%, D151-Caclium Carbonate-22.5-lb/sack, D174-Extender-1.5-lb/sack, D177-Retarder-0.01-lb/sack, D800-Retarder-0.6-lb/sack and D46-Antiform Agent-0.15-lb/sack (Wt. 13.00 Yld. 1.41). TOC 2900'. Cement designed with 35% excess.

Well will be drilled vertically to 8789'. The well will then be kicked off at approximately 8789' and directionally drilled at 12 degrees per 100' with an 8 3/4" hole to 9543' MD (9267' TVD). Hole size will reduced to an 8 1/2" hole and drilled to 13716' MD (9240' TVD) where 5 1/2' will be run and cemented. Penetration point of producing zone will encountered at 811' FSL and 2177' FWL in Section 30-25S -30E. Deepest TVD in the well will be in the lateral at 9267' in the lateral.

6. MUD PROGRAM AND AUXILIARY EQUIPMENT:

INTERVAL	TYPE	WEIGHT	VISCOSITY	FLUID LOSS
0-~~555'~~ 650	Fresh Water	8.60-9.20	32-34	N/C
~~555~~'-3400'	Brine Water	10.00-10.20	28-29	N/C
3400'-9267'	Cut Brine	8.80-9.20	28-32	N/C
9267'-13716'	Cut Brine (Lateral)	8.80-9.20	28-32	<10-12

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

7. EVALUATION PROGRAM:

Samples: 30' samples to 4400'. 10' samples 4400' to TD
Logging: Platform Hals, CMR, NGT. See COA
Coring: None anticipated
DST's: None Anticipated
Mudlogging: Yes. Out from under surface casing to TD.

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

Maximum Anticipated BHP:

0'-555'	266 PSI
555'-3400'	1803 PSI
3400'-9267'	4433 PSI

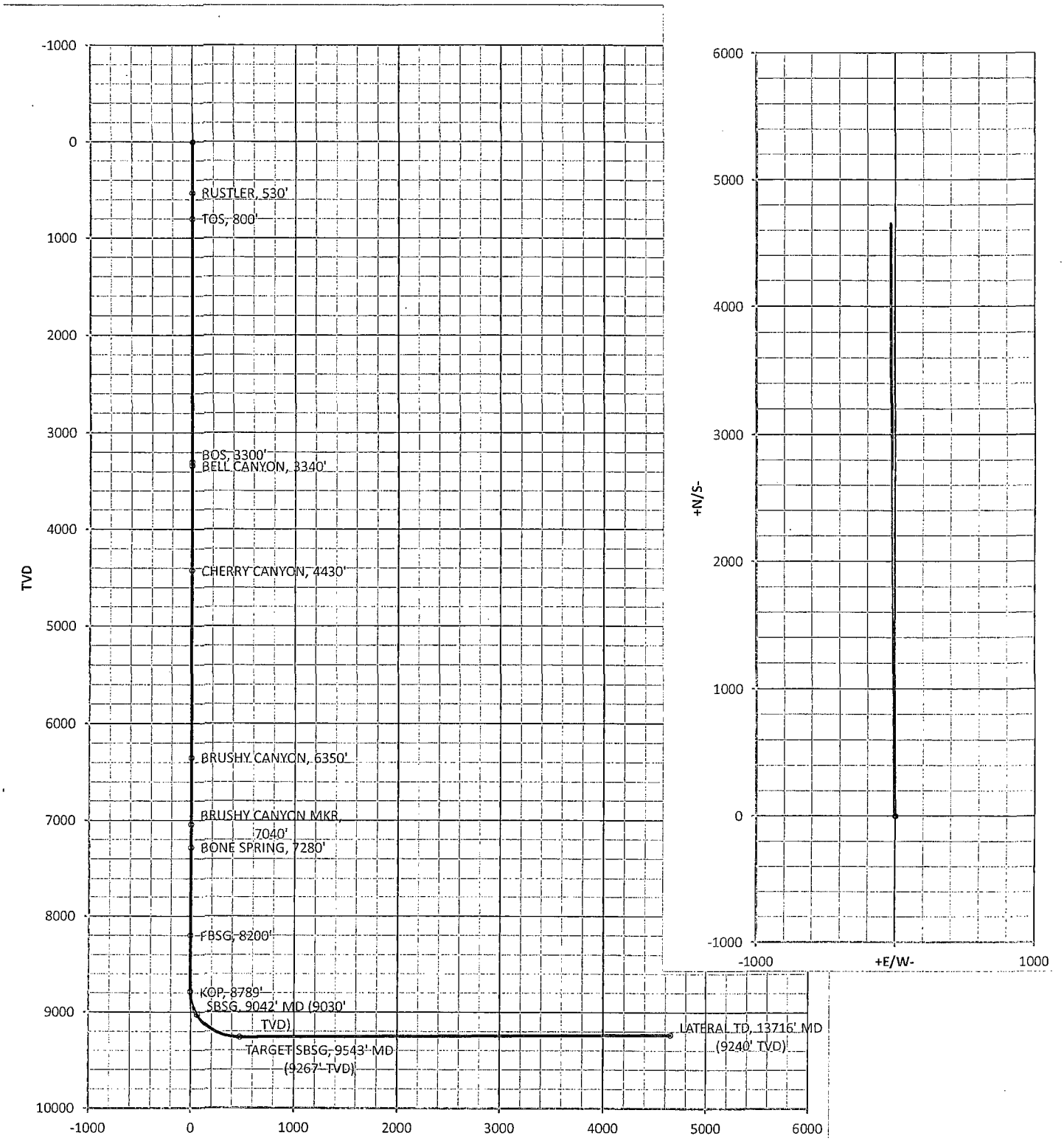
Abnormal Pressures Anticipated: None
Lost Circulation Zones Anticipated: None.
H2S Zones Anticipated: None Anticipated
Maximum Bottom Hole Temperature: 160 F

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 30 days.

Co:	Yates Petroleum Corporation	**Units:**	Feet, °, 7100ft	**VS Az:**	359.62 **Method:** Minimum Curvature
Drillers:	0	**Elevation:**		**Map System:**	NAD83, St. Plane, Wyoming West
Well Name:	Bennett Federal #3H	**Northing:**		**Latitude:**	
Location:	Sec. 30, 25S-30E	**Easting:**		**Longitude:**	

Yates Petroleum Corporation: Bennett Federal #3H

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	530.00	530.00	0.00	360.00	530.00	0.00	0.00	0.00	0.00	0.00	0.00	RUSTLER, 530'
2	800.00	270.00	0.00	360.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	TOS, 800'
3	3300.00	2500.00	0.00	360.00	3300.00	0.00	0.00	0.00	0.00	0.00	0.00	BOS, 3300'
4	3340.00	40.00	0.00	360.00	3340.00	0.00	0.00	0.00	0.00	0.00	0.00	BELL CANYON, 3340'
5	4430.00	1090.00	0.00	360.00	4430.00	0.00	0.00	0.00	0.00	0.00	0.00	CHERRY CANYON, 443(
6	6350.00	1920.00	0.00	360.00	6350.00	0.01	0.01	0.00	0.00	0.00	0.00	BRUSHY CANYON, 635(
7	7040.00	690.00	0.00	360.00	7040.00	0.01	0.01	0.00	0.00	0.00	0.00	BRUSHY CANYON MKR
8	7280.00	240.00	0.00	360.00	7280.00	0.01	0.01	0.00	0.00	0.00	0.00	BONE SPRING, 7280'
9	8200.00	920.00	0.00	360.00	8200.00	0.01	0.01	0.00	0.00	0.00	0.00	FBSG, 8200'
10	8789.49	589.49	0.00	359.62	8789.49	0.01	0.01	0.00	0.00	0.00	0.00	KOP, 8789'
11	8800.00	10.51	1.26	359.62	8800.00	0.12	0.12	0.00	12.00	0.00	12.00	
12	8900.00	100.00	13.26	359.62	8899.02	12.74	12.74	-0.08	12.00	0.00	12.00	
13	9000.00	100.00	25.26	359.62	8993.25	45.66	45.66	-0.30	12.00	0.00	12.00	
14	9041.55	41.55	30.25	359.62	9030.01	65.01	65.00	-0.43	12.00	0.00	12.00	SBSG, 9042' MD (9030' T
15	9100.00	58.45	37.26	359.62	9078.57	97.46	97.46	-0.64	12.00	0.00	12.00	
16	9200.00	100.00	49.26	359.62	9151.27	165.87	165.86	-1.09	12.00	0.00	12.00	
17	9300.00	100.00	61.26	359.62	9208.15	247.89	247.89	-1.63	12.00	0.00	12.00	
18	9400.00	100.00	73.26	359.62	9246.73	339.95	339.94	-2.23	12.00	0.00	12.00	
19	9500.00	100.00	85.26	359.62	9265.33	438.02	438.01	-2.88	12.00	0.00	12.00	
20	9542.58	42.58	90.37	359.62	9266.95	480.56	480.55	-3.16	12.00	0.00	12.00	TARGET SBSG, 9543' MI
21	13715.55	4172.97	90.37	359.62	9240.00	4653.44	4653.34	-30.56	0.00	0.00	0.00	LATERAL TD, 13716' MD

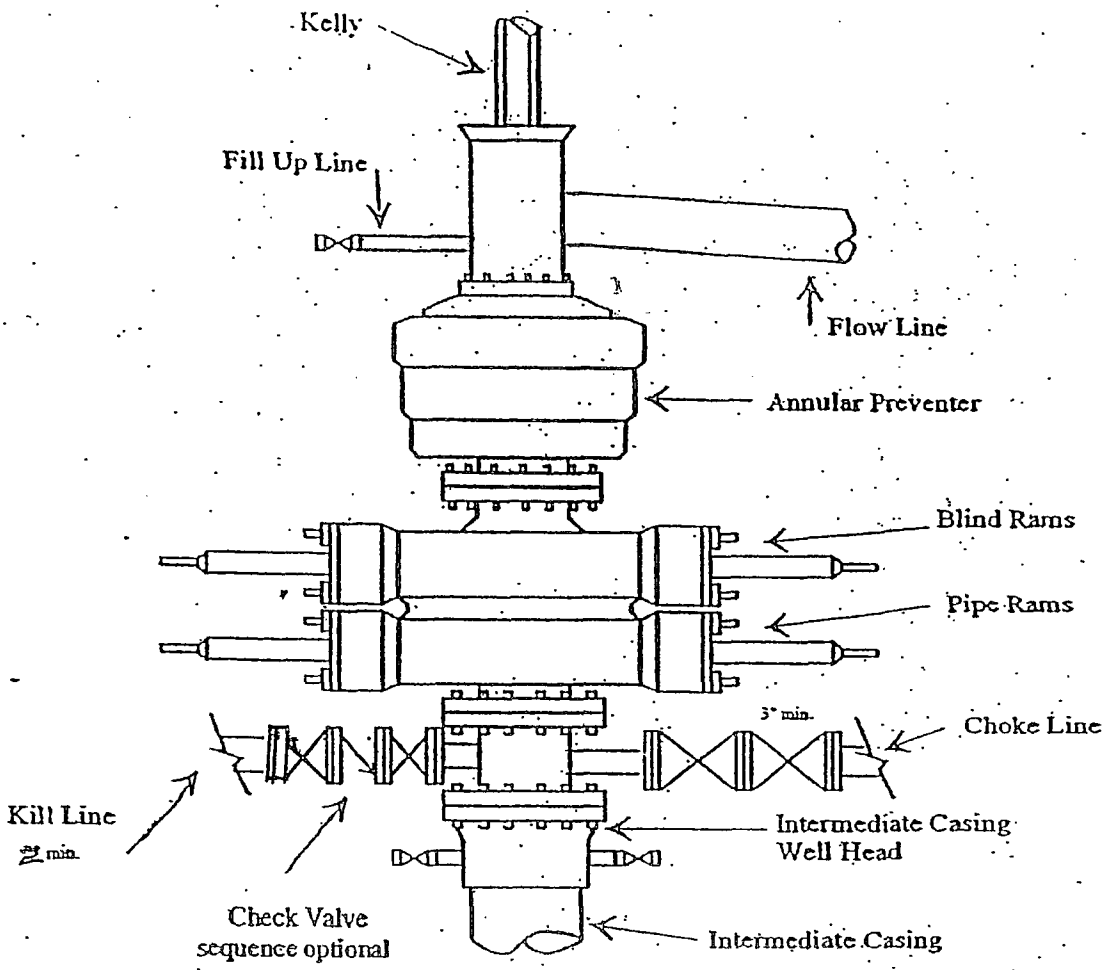


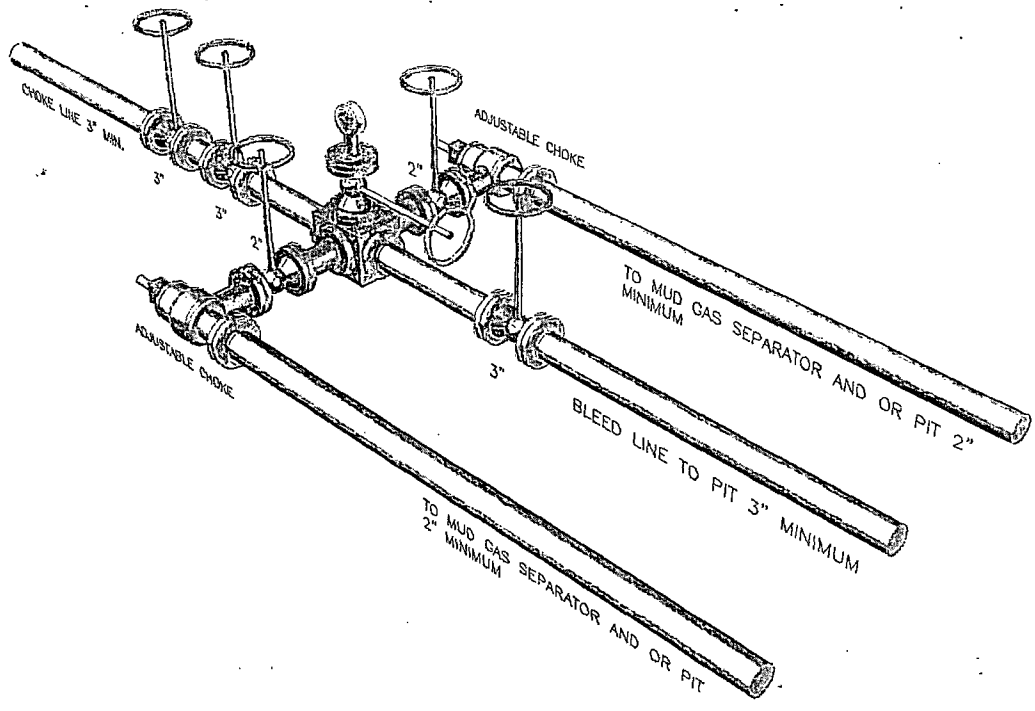
YATES PETROLEUM CORPORATION
Bennett Federal #3

Yates Petroleum Corporation

BOP-3

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



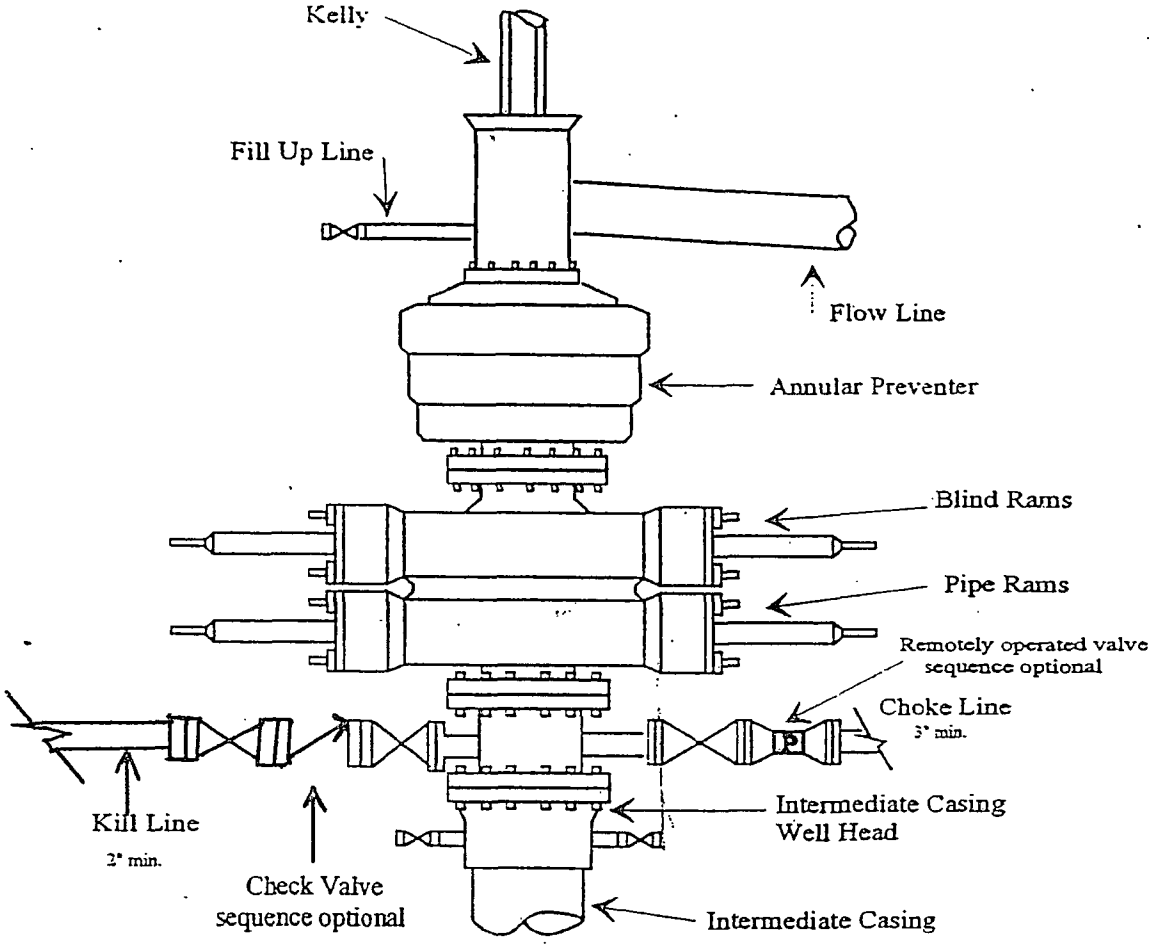


3M CHOKE MANIFOLD EQUIPMENT——CONFIGURATION OF CHOKES MAY VARY

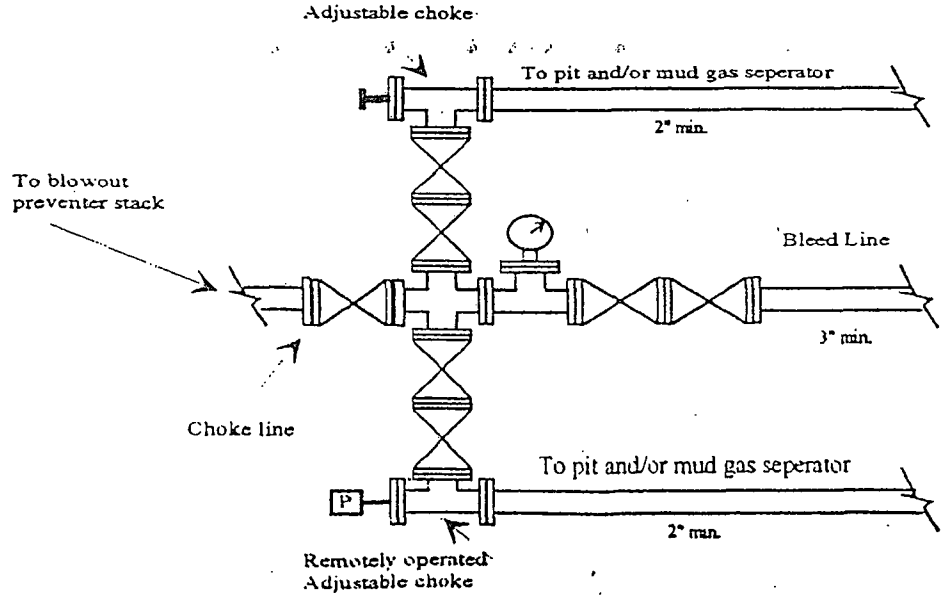
[54 FR 39528, Sept. 27, 1989]

Yates Petroleum Corporation

Typical 5,000 psi Pressure System
Schematic
Annular with Double Ram Preventer Stack

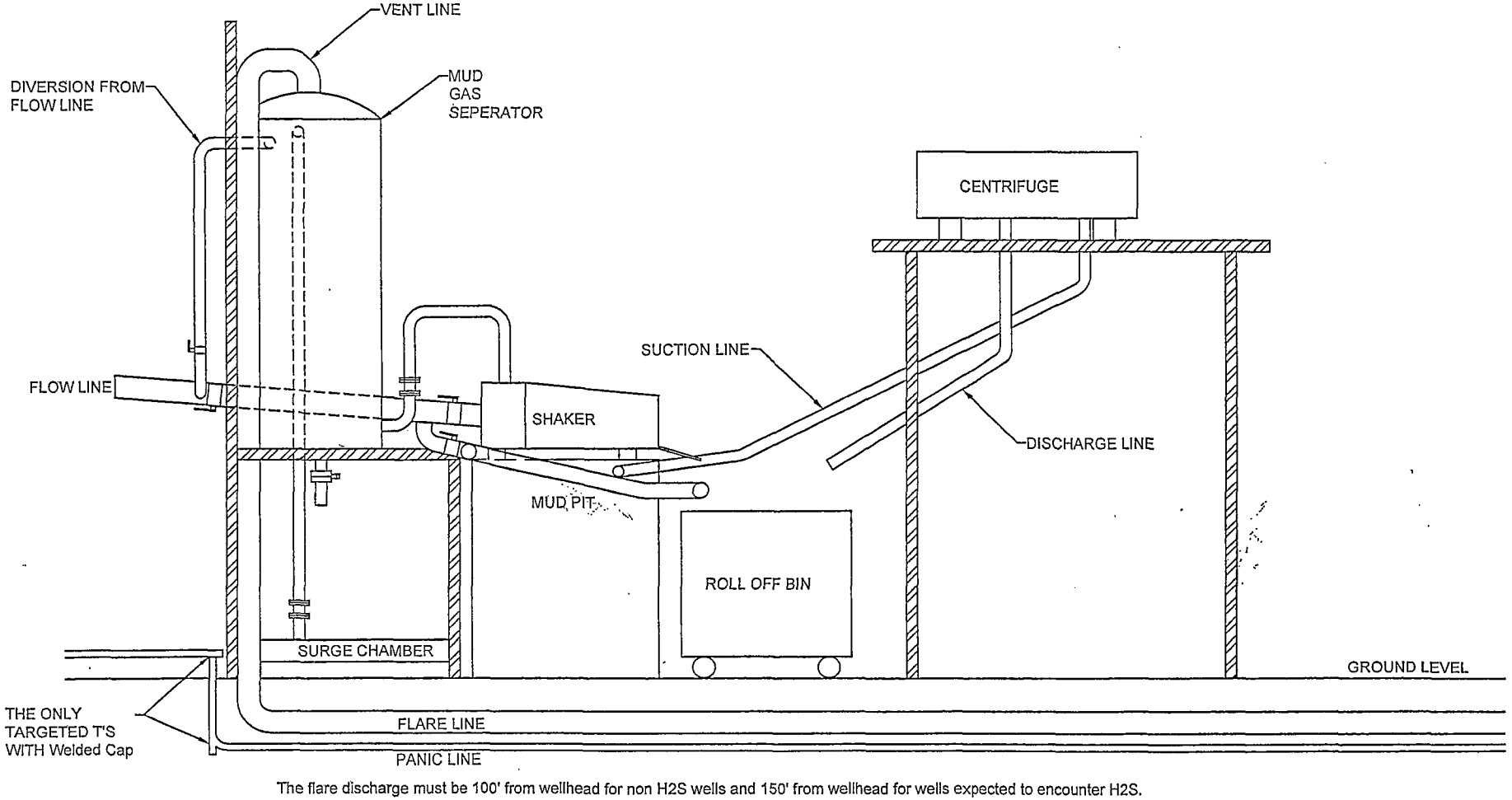


Typical 5,000 psi choke manifold assembly with at least these minimun features



YATES PETROLEUM CORPORATION

Piping from Choke Manifold
to the Closed Loop Drilling Mud System



The flare discharge must be 100' from wellhead for non H2S wells and 150' from wellhead for wells expected to encounter H2S.

Yates Petroleum Corporation
Closed Loop System

Equipment Design Plan

Closed Loop System will consist of:
1 – double panel shale shaker
1 – (minimum) Centrifuge, certain wells and flow rates may require 2 centrifuges
On certain wells, the Centrifuge will be replaced by a Clackco Settling Tank System
1 – minimum centrifugal pump to transfer fluids
2- 500 bbl. FW Tanks
1 – 500 bbl. BW Tank
1 – half round frac tank – 250 bbl. capacity as necessary to catch cement / excess mud returns generated during a cement job.
1 Set of rail cars / catch bins
Certain wells will use an ASC Auger Tank

Operation Plan

All equipment will be inspected at least hourly by rig personnel and daily by contractors' personnel.
Any spills / leaks will be reported to YPC, NMOCD, and cleaned up without delay.

Closure Plan

Drilling with Closed Loop System, haul off bins will be taken to Gandy Marley, Lea Land Farm, CRI or Sundance Services Inc.

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
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OIL CONSERVATION DIVISION

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Form C-102
Revised August 1, 2011

Submit one copy to appropriate District Office

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		Undesignated Bone Spring

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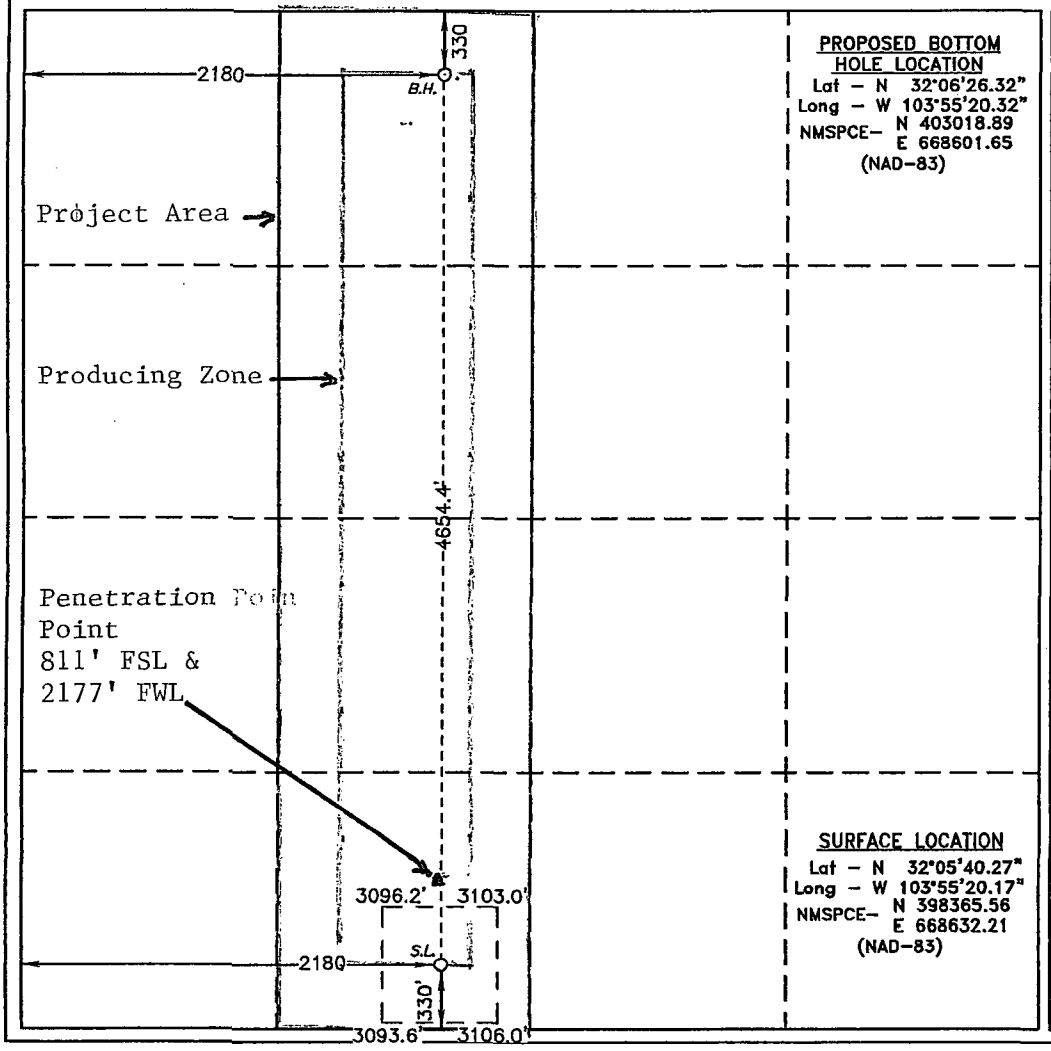

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Signature 5/31/12 Date

Cy Cowan
Printed Name

cy@yatespetroleum.com
Email Address

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 supervison, and that the same is true and correct to the best of my belief.

MAY 19, 2012
Date Surveyed

Signature & Seal of Professional Surveyor

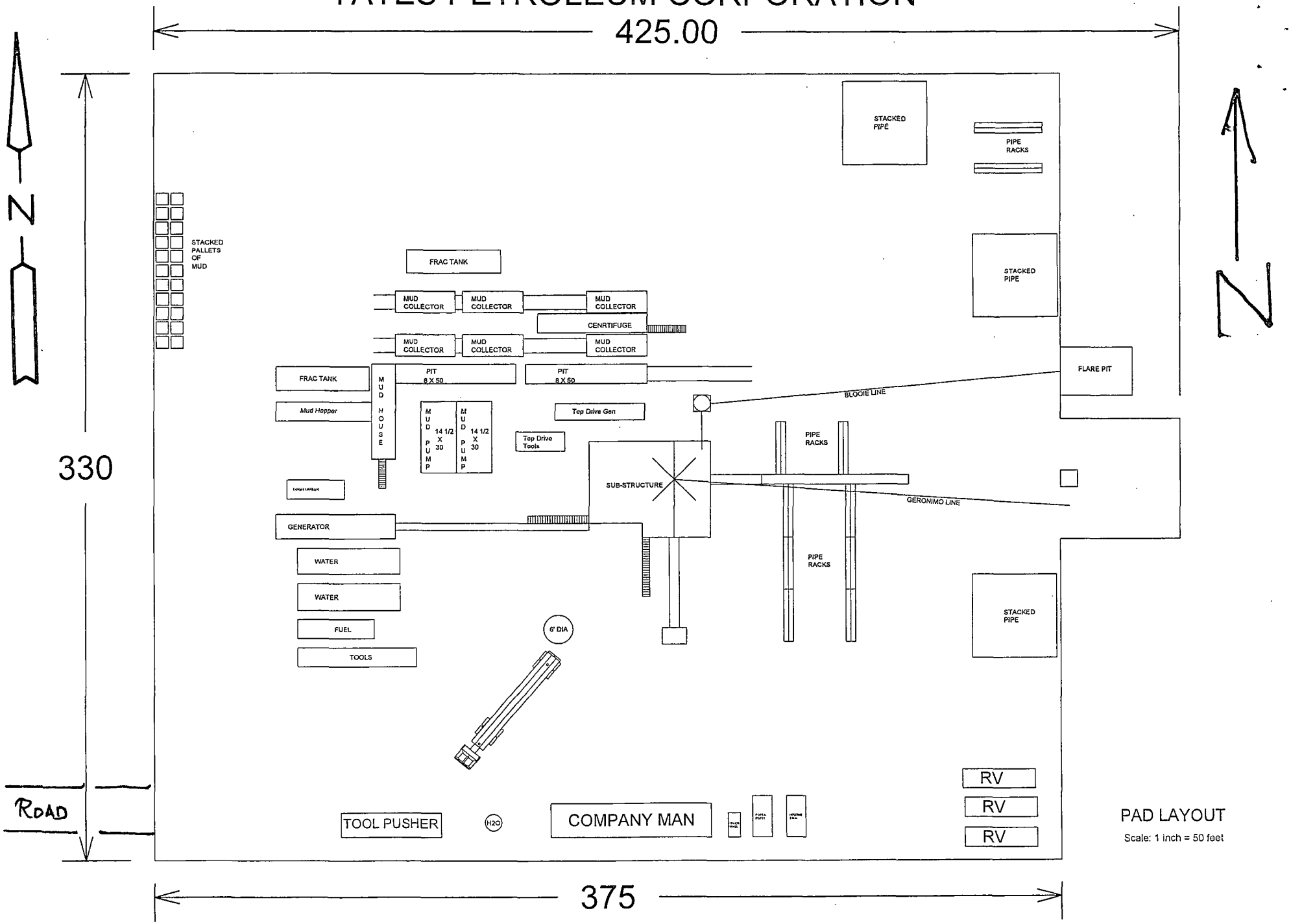
NEW MEXICO 7977 REGISTERED PROFESSIONAL SURVEYOR

NM No. 26803

Certificate No. Gary L. Jones 7977

BASIN SURVEYS 26803

YATES PETROLEUM CORPORATION

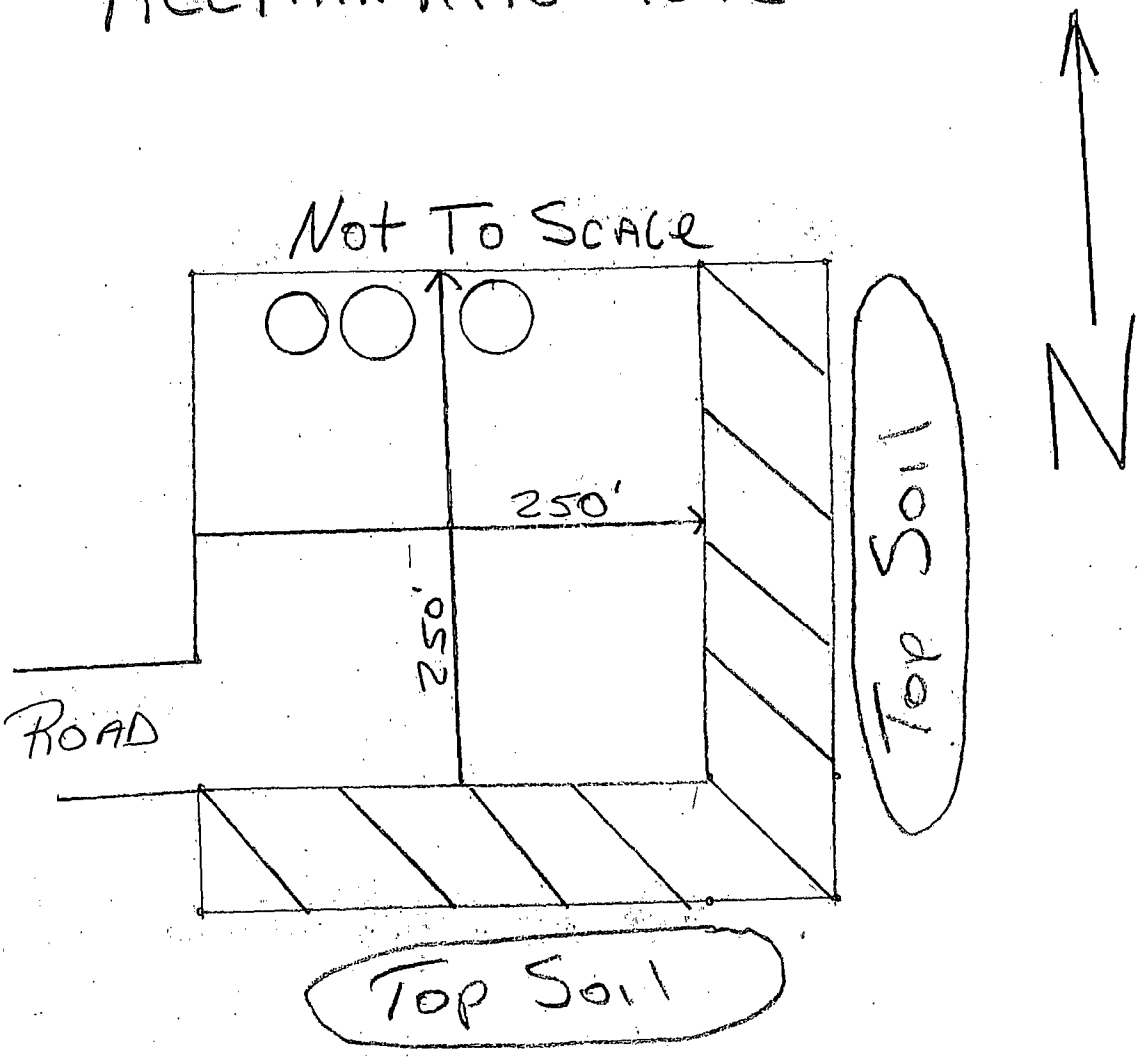


PAD LAYOUT

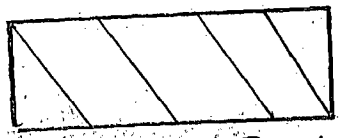
Scale: 1 inch = 50 feet

BENNETT Fed.
3H

Reclaimation Plat



Please Note:
Final Reclaimation
make Look Different
Than This PLAT



Possible Reclaimed
AREA

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Yates Petroleum Corp
LEASE NO.:	NM14785
WELL NAME & NO.:	3H Bennett Federal
SURFACE HOLE FOOTAGE:	330' FSL & 2180' FWL
BOTTOM HOLE FOOTAGE	330' FNL & 2180' FWL
LOCATION:	Section 30, T.25 S., R.30 E., NMPM
COUNTY:	Eddy County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Well pad will be bermed to prevent contaminants from leaving the well pad.

Water leadouts will be constructed alongside access road to limit accumulation of water flowing in ditches of crowned and ditched access road.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-6235 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 4 inches in depth. The topsoil will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty (20) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

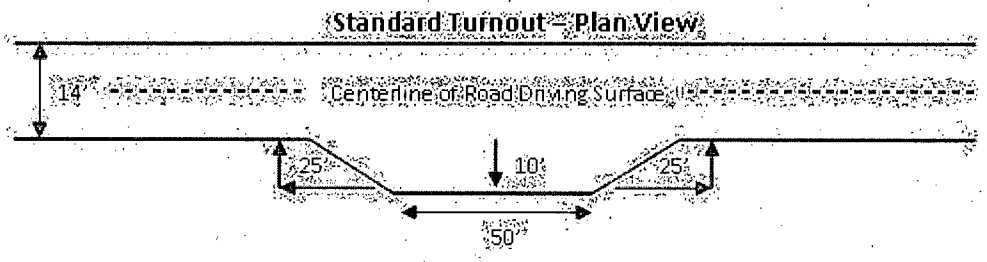
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

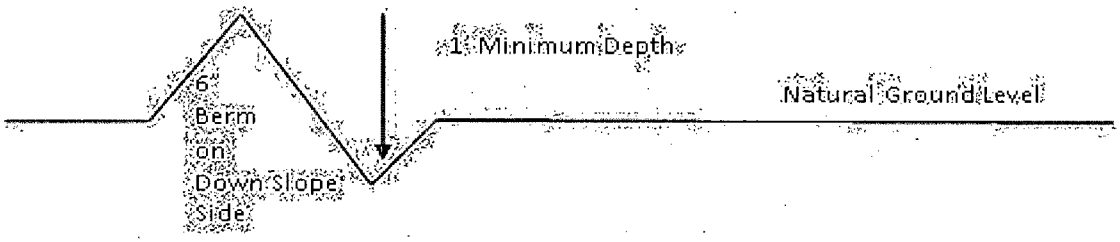
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

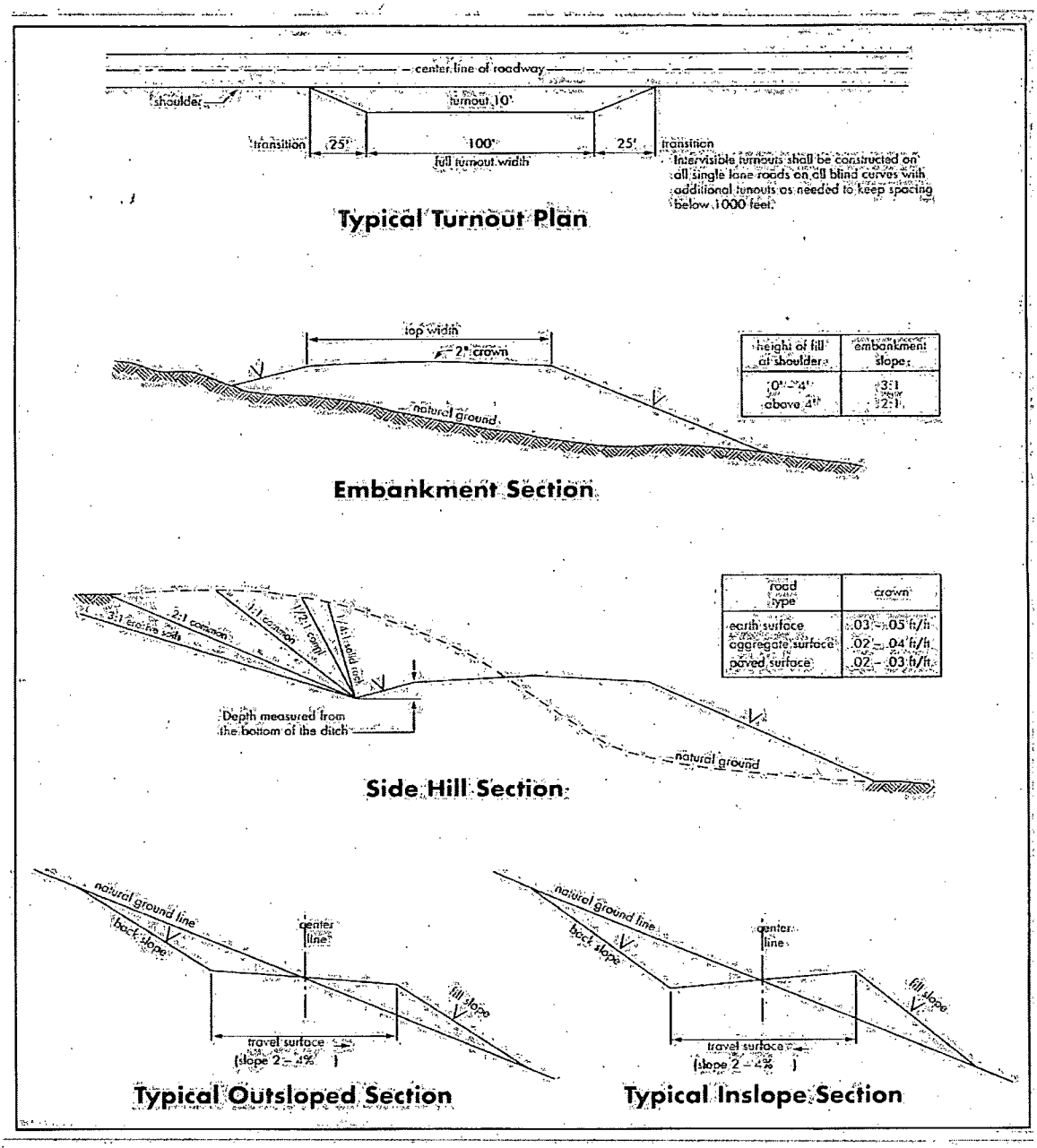
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Medium cave/karst.
Possible water flows in the Salado and Delaware Mountain groups.
Possible lost circulation in the Delaware and Bone Spring formations.

1. The **13-3/8** inch surface casing shall be set at **approximately 650 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

    ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
    Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   a. First stage to DV tool:

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

   b. Second stage above DV tool:

   ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification. **Additional cement may be required – excess calculates to 24%.**

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

   a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

c. The results of the test shall be reported to the appropriate BLM office.

d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

CRW 112912

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

B. PIPELINES (not applied for in APD)

C. ELECTRIC LINES (not applied for in APD)

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed