

OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM-113937

TES
2/28/2013

6. If Indian, Allottee or Tribe Name

1a. Type of work: DRILL REENTER

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

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

8. Lease Name and Well No.
Bodacious BSM Federal #114 <39756>

2. Name of Operator Yates Petroleum Corporation

9. API Well No.
30-015-41158

3a. Address 105 S. Fourth St.
Artesia, NM 88210

3b. Phone No. (include area code)
575-748-4120

10. Field and Pool, or Exploratory
Undesignated Bone Spring
WILDCAT: 6-03-5252636M; BS
<99818>

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface 510' FSL & 660' FWL SHL
At proposed prod. zone 330' FNL & 660' FWL

11. Sec., T. R. M. or Blk. and Survey or Area
Section 1, T26S-R26E

14. Distance in miles and direction from nearest town or post office*
38 miles to Carlsbad

12. County or Parish
Eddy

13. State
NM

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

16. No. of acres in lease
1720

17. Spacing Unit dedicated to this well
W2W2
160 Acers

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
None

19. Proposed Depth
8800' TVD in hole
7455' TVD in lateral
11704' MD

20. BLM/BIA Bond No. on file
NMB-000920
NATIONWIDE BOND #NMB000434

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3278'

22. Approximate date work will start*
06/15/2013

23. Estimated duration
30 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 *Travis Hahn*

Name (Printed/Typed)
Travis Hahn

Date
09/27/2012

Title
Land Regulatory Agent

Approved by (Signature) */s/ Don Peterson*

Name (Printed/Typed)

Date
FEB 26 2013

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)

RECEIVED
FEB 28 2013
NMOCD ARTESIA

*(Instructions on page 2)

Carlsbad Controlled Water Basin
Must be in compliance
w/ NMOCD Rule 5.9
prior to placing well
on production

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

DISTRICT I
1825 N. French Dr., Hobbs, NM 88240
Phone (575) 393-8181 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) 334-8178 Fax: (505) 334-8170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3480 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

AMENDED REPORT

API Number 30-015-41158	Pool Code 97818	Pool Name Undesignated/Bone Spring
Property Code 39756	Property Name BODACIOUS "BSM" FEDERAL	Well Number 1H
OGRID No. 025575	Operator Name YATES PETROLEUM CORP.	Elevation 3278

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	1	26 S	26 E		510	SOUTH	660	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
D LOT 4	1	26 S	26 E		330	NORTH	660	WEST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
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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

<p>PROPOSED BOTTOM HOLE LOCATION Lot - N 32°04'41.18" Long - W 104°15'11.08" NMSPC- N 392160.8 E 566193.9 (NAD-83)</p> <p>Project Area</p> <p>Production Zone</p> <p>Penetration Point: 984' FSL & 660' FWL</p> <p>SURFACE LOCATION Lot - N 32°03'56.86" Long - W 104°15'12.00" NMSPC- N 387682.5 E 566118.3 (NAD-83)</p>	<p>OPERATOR CERTIFICATION</p> <p>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.</p> <p><i>Travis Hahn</i> 10/12/12/12 Signature Date</p> <p>Travis Hahn Printed Name thahn@yatespetroleum.com Email Address</p>
	<p>SURVEYOR CERTIFICATION</p> <p>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 belief.</p> <p>Date Surveyed: 10/12/2012 Signature & Seal of Professional Surveyor <i>Gary L. Jones</i> Professional Surveyor No. 26816</p>
	<p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS 26816</p>

CERTIFICATION
YATES PETROLEUM CORPORATION
Bodacious BSM Federal #1H

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; and an someone under employment of Yates Petroleum Corporation has full knowledge of state and federal laws applicable to the 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 27 day of September 2012

Signature 

Name Travis Hahn

Position Title Land Regulatory Agent

Address 105 South Fourth Street, Artesia, New Mexico 88210

Telephone (575) 748-4120

Field Representative (if not above signatory) Tim Bussell, Drilling Supervisor

Address (if different from above) Same as above

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

B. CEMENTING PROGRAM:

Surface Casing: Lead with 365 sacks of Class C +2% CaCl (YLD 1.34 WT.14.80). Casing designed with 100% excess. TOC-Surface

Intermediate Casing: Lead with 455 sacks of PozC 35:65:6 (YLD 2.00 WT 12.50). Tail with 210 sacks Class C + 2% CaCl₂ (YLD 1.34 WT. 14.80). Casing designed with 100% excess. TOC-Surface

Production Casing: Cement to be done in two stages with a DV Tool being set at 5460'.

Stage 1 from 5460'-11705': Lead with 365 sacks of PozC 35:65:6 (YLD 2.00 WT 12.50). Tail with 995 sacks of Pecos Valley Lite (YLD 1.41 WT. 13.00), 30%CaCO₃, 3.2% Expansion additive, 2% Antifoam, .8% Retarder, 15 Fluid loss. Casing is designed with 35% excess. TOC-5460'

Stage 2 from 1400'-5460': Lead with 545 sacks of PozC 35:65:6 (YLD 2.00 WT 12.50). Tail with 200 sacks of Class C +2% CaCl (WT 14.80, YLD 1.34). Casing is designed with 35% excess. TOC-1400'

See COA

Pilot hole will be drilled vertically to 8800'. Pilot hole will then be plugged with a 200' plug from 8800' to 8600' and from 7700' to 7500', using Class H (YLD 0.94 WT 17.5) 100 sacks with 10% excess, and the additives being; Fresh Water 3.352 gal/sk, Dispersant 0.030 gal/sk, Retarder 0.070 gal/sk, Antifoam 0.020 gal/sk. A 600' kick off plug from 7250' to 6650', plug will be Class H (YLD 0.94 WT 17.5) 360 sacks with 35% excess and the additives being; Fresh Water 3.352 gal/sk, Dispersant 0.030 gal/sk, Retarder 0.070 gal/sk, Antifoam 0.020 gal/sk. Well will be kicked off at approximately 6953" and directionally drilled at 12 degrees per 100' with an 8 3/4" hole to 7700' MD (7431' TVD). Hole will then be reduced to 8 1/2" and drilled to 11705' MD (7455' TVD) where 5 1/2" casing will be set and cemented. Penetration point of producing zone will be encountered at 984' FSL & 668' FWL, Section 1-26S-26E. Deepest TVD is 8800' in the pilot hole. Deepest TVD in the lateral is 7455'.

5. Mud Program and Auxiliary Equipment:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0-350'	Fresh Water	8.6-9.2	28-32	N/C
350'-1900'	Brine Water	10.0-10.20	28-30	N/C
1900'-8800'	Cut Brine	8.8-9.2	30-32	N/C
8800'-11705'	Cut Brine	8.8-9.2	32-34	N/C

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: 30' Samples to 4400', then 10' Samples from 4400' to TD (11705').
 Logging: Gamma Ray Neutron-TD to Surface, Resistivity Density-TD to intermediate casing, CMR Dipole Sonic FMI-TD to intermediate casing
 DST's: None
 Cores: None
 Mudlogger: Yes, after surface casing.

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

Anticipated BHP:

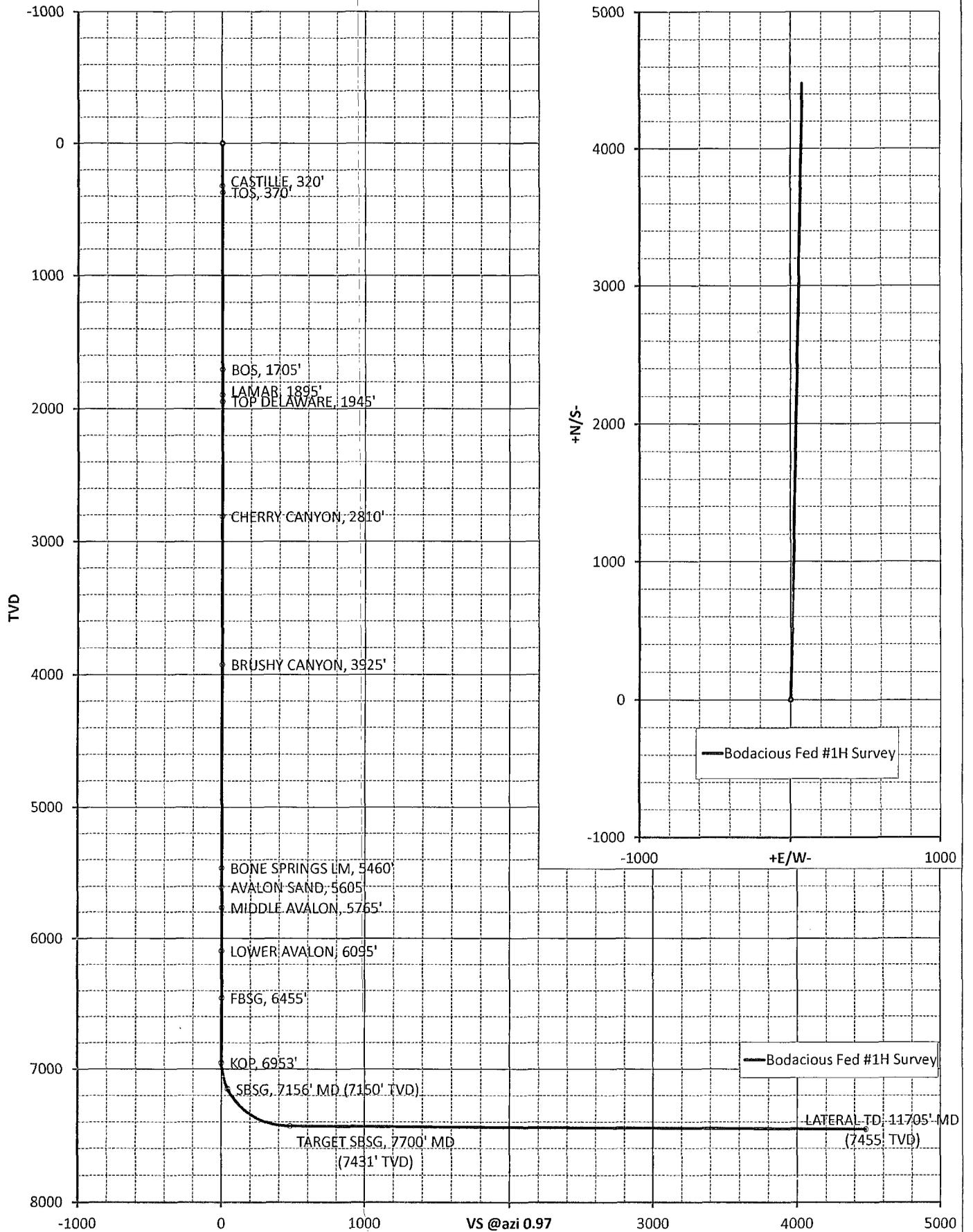
From: 0	TO: 350'	Anticipated Max. BHP:	167	PSI
From: 350'	TO: 1900'	Anticipated Max. BHP:	1008	PSI
From: 1900'	TO: 8800'	Anticipated Max. BHP:	4210	PSI

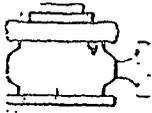
No abnormal pressures or temperatures are anticipated.
H2S is not anticipated on this well.

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.

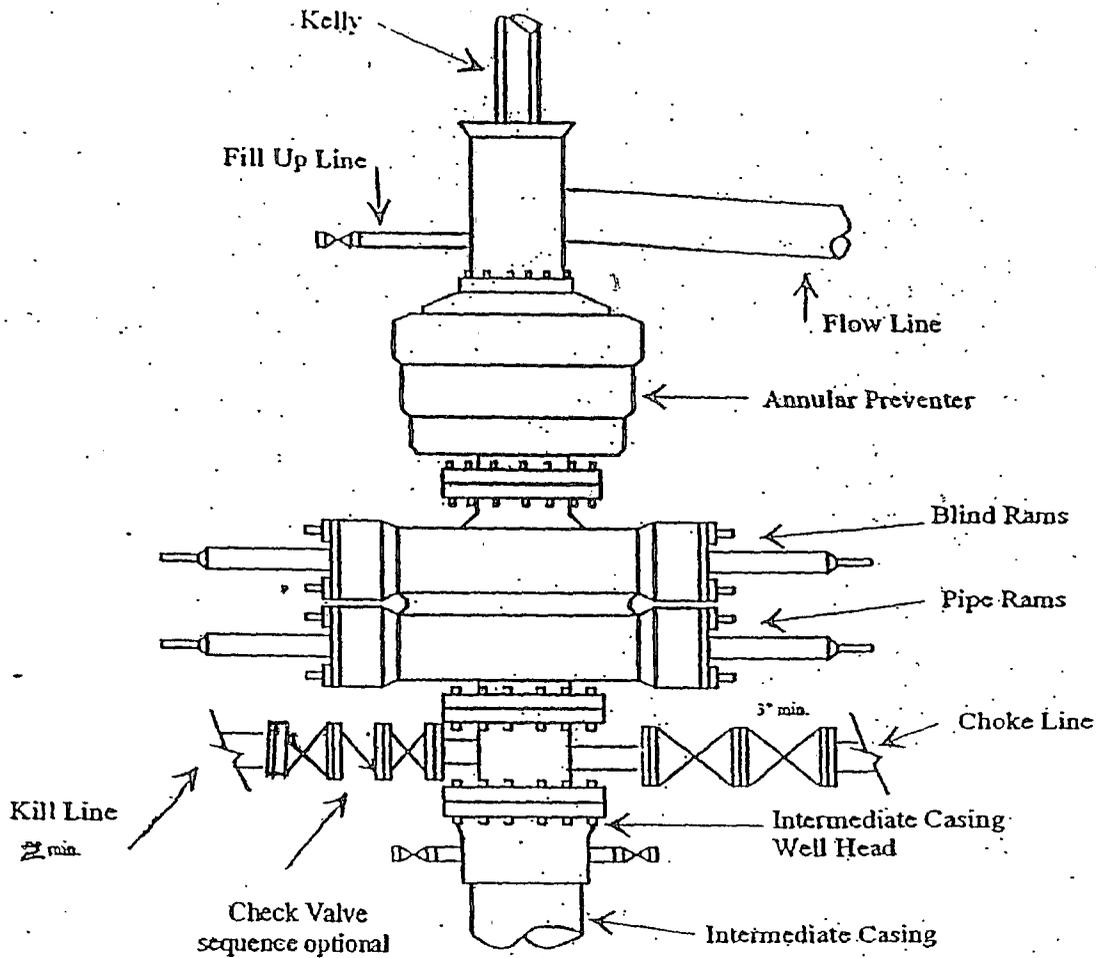
Survey/Planning Report										
Operator	Yates Petroleum Corp.			Northing		Date	19-Jul-12			
Dir. Co.	Yates Petroleum Corp.			Easting		System	2 - St. Plane			
Well Name	Bodacious Fed #1H Survey			Elevation		Datum	1983 - NAD83			
Location	Sec. 1, 26S-26E			Latitude		Zone	4302 - Utah Central			
Rig				Longitude		Scale Fac.				
Job				Units	Feet	Converg.				
MD	INC	AZI	TVD	INS	EW	VS@0.97°	BR	TR	DLS	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
320.00	0.00	0.00	320.00	0.00	0.00	0.00	0.00	0.00	0.00	
320 CASTILLE 320'										
370.00	0.00	0.00	370.00	0.00	0.00	0.00	0.00	0.00	0.00	
370 TOS 370'										
1705.00	0.00	0.00	1705.00	0.00	0.00	0.00	0.00	0.00	0.00	
1705 BOS 1705'										
1895.00	0.00	0.00	1895.00	0.00	0.00	0.00	0.00	0.00	0.00	
1895 LAMAR 1895'										
1945.00	0.00	0.00	1945.00	0.00	0.00	0.00	0.00	0.00	0.00	
1945 TOP DELAWARE 1945'										
2810.00	0.00	0.00	2810.00	0.00	0.00	0.00	0.00	0.00	0.00	
2810 CHERRY CANYON 2810'										
3925.00	0.00	0.00	3925.00	0.00	0.00	0.00	0.00	0.00	0.00	
3925 BRUSHY CANYON 3925'										
5460.00	0.00	0.00	5460.00	0.00	0.00	0.00	0.00	0.00	0.00	
5460 BONE SPRINGS LM 5460'										
5605.00	0.00	0.00	5605.00	0.00	0.00	0.00	0.00	0.00	0.00	
5605 AVALON SAND 5605'										
5765.00	0.00	0.00	5765.00	0.01	0.00	0.01	0.00	0.00	0.00	
5765 MIDDLE AVALON 5765'										
6095.00	0.00	0.00	6095.00	0.01	0.00	0.01	0.00	0.00	0.00	
6095 LOWER AVALON 6095'										
6455.00	0.00	0.00	6455.00	0.01	0.00	0.01	0.00	0.00	0.00	
6455 FBSG 6455'										
6953.08	0.00	0.97	6953.08	0.01	0.00	0.01	0.00	0.01	0.00	
6953 08 KOP 6953'										
7000.00	5.63	0.97	6999.92	2.31	0.04	2.31	12.00	0.00	12.00	
7100.00	17.63	0.97	7097.69	22.43	0.38	22.43	12.00	0.00	12.00	
7156.05	24.36	0.97	7149.99	42.50	0.72	42.50	12.00	0.00	12.00	
7156 05 SBSG 7156 MD (7150 TVD)										
7200.00	29.63	0.97	7189.14	62.44	1.05	62.44	12.00	0.00	12.00	
7300.00	41.63	0.97	7270.27	120.58	2.04	120.60	12.00	0.00	12.00	
7400.00	53.63	0.97	7337.54	194.31	3.28	194.34	12.00	0.00	12.00	
7500.00	65.63	0.97	7388.00	280.42	4.73	280.46	12.00	0.00	12.00	
7600.00	77.63	0.97	7419.46	375.14	6.33	375.19	12.00	0.00	12.00	
7700.17	89.65	0.97	7430.54	474.49	8.01	474.55	12.00	0.00	12.00	
7700 17 TARGET SBSG 7700 MD (7431 TVD)										
11704.63	89.65	0.97	7455.01	4478.31	75.60	4478.94	0.00	0.00	0.00	
11704 63 LATERAL TD 11705 MD (7455 TVD)										



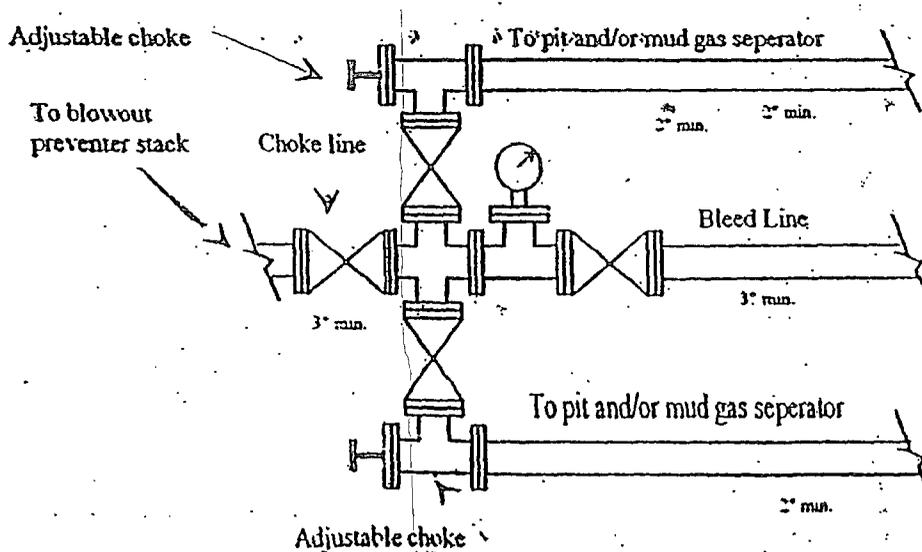


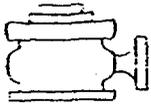
Yates Petroleum Corporation
Typical 3,000 psi Pressure System
Schematic
Annular with Double Ram Preventer Stack

BOP-3



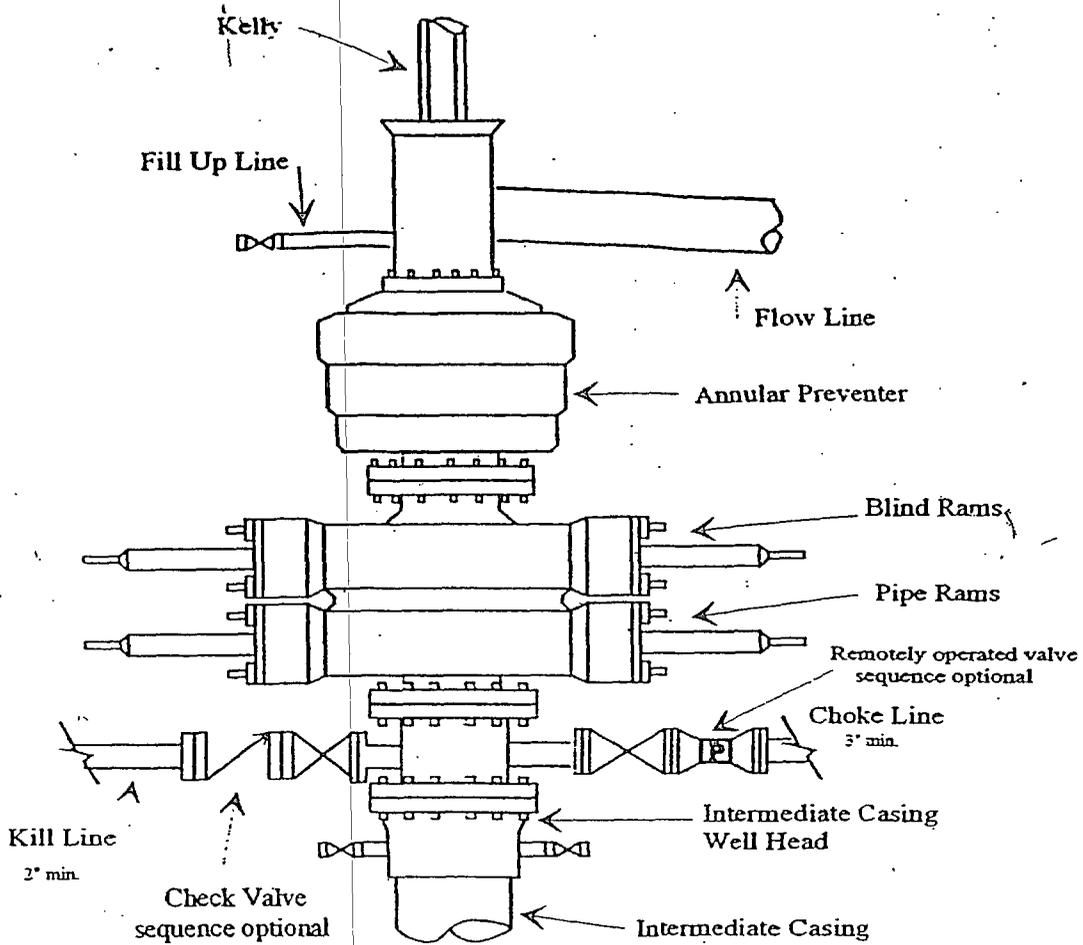
Typical 3,000 psi choke manifold assembly with at least these minimum features



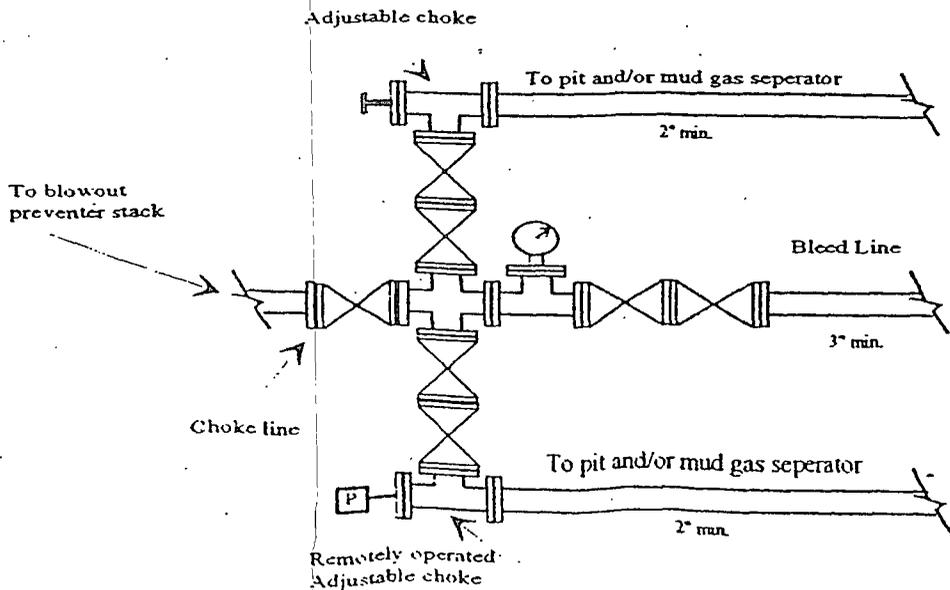


Yates Petroleum Corporation
Typical 5,000 psi Pressure System
Schematic
Annular with Double Ram Preventer Stack

BOP-4

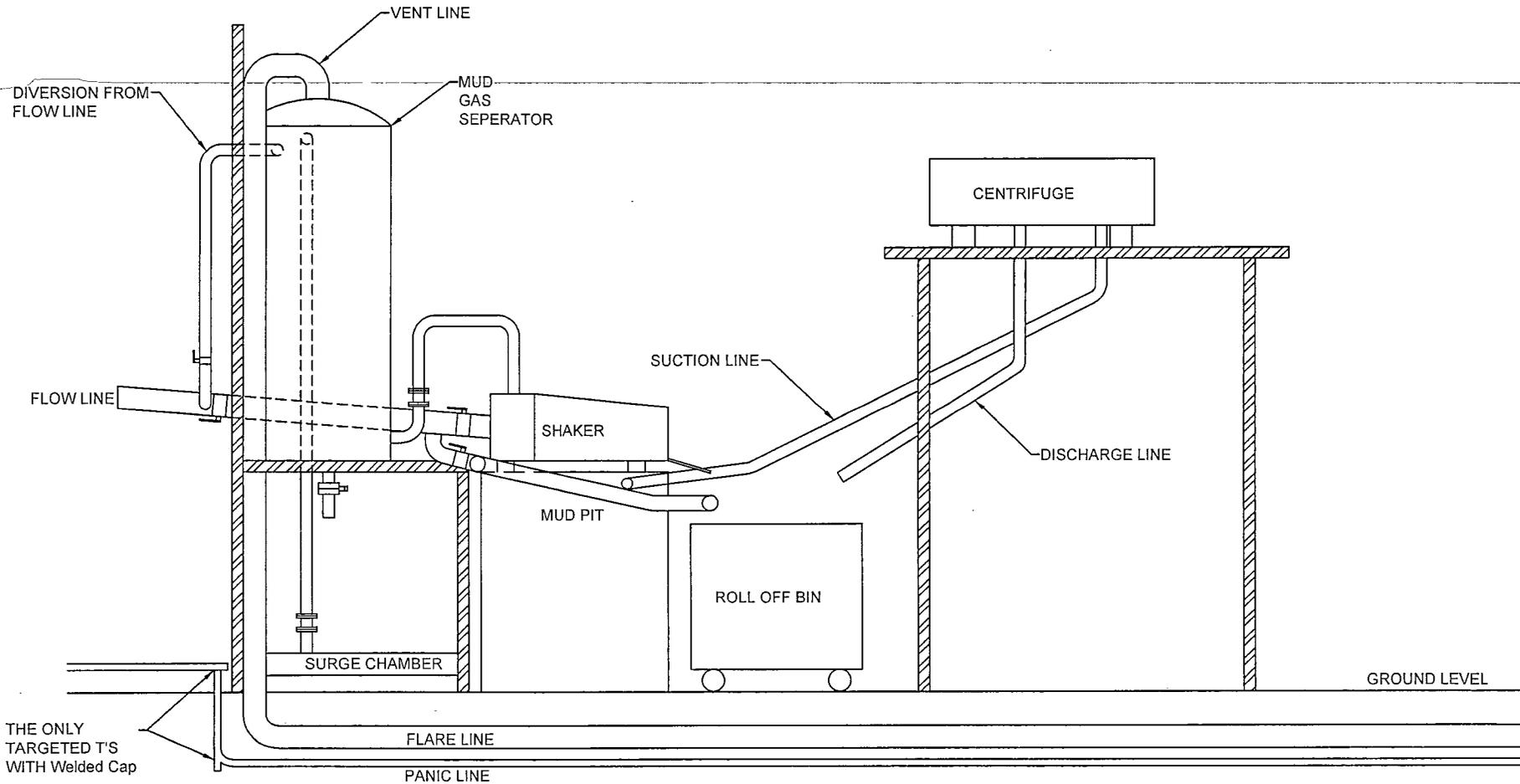


Typical 5,000 psi choke manifold assembly with at least these minimum features



YATES PETROLEUM CORPORATION

Piping from Choke Manifold to the Closed Loop Drilling Mud System

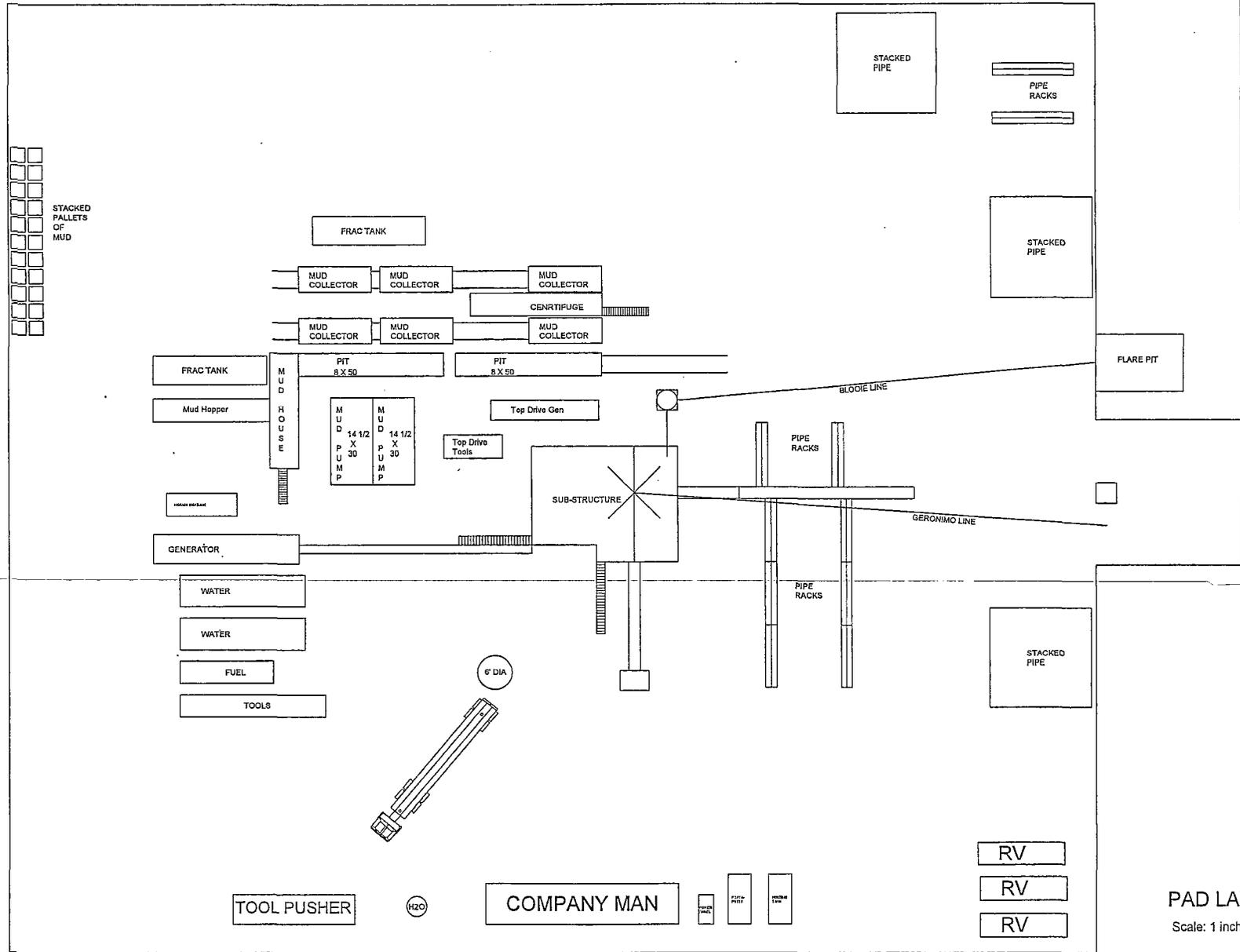


The flare discharge must be 100' from wellhead for non H2S wells and 150' from wellhead for wells expected to encounter H2S.

YATES PETROLEUM CORPORATION

425.00

330



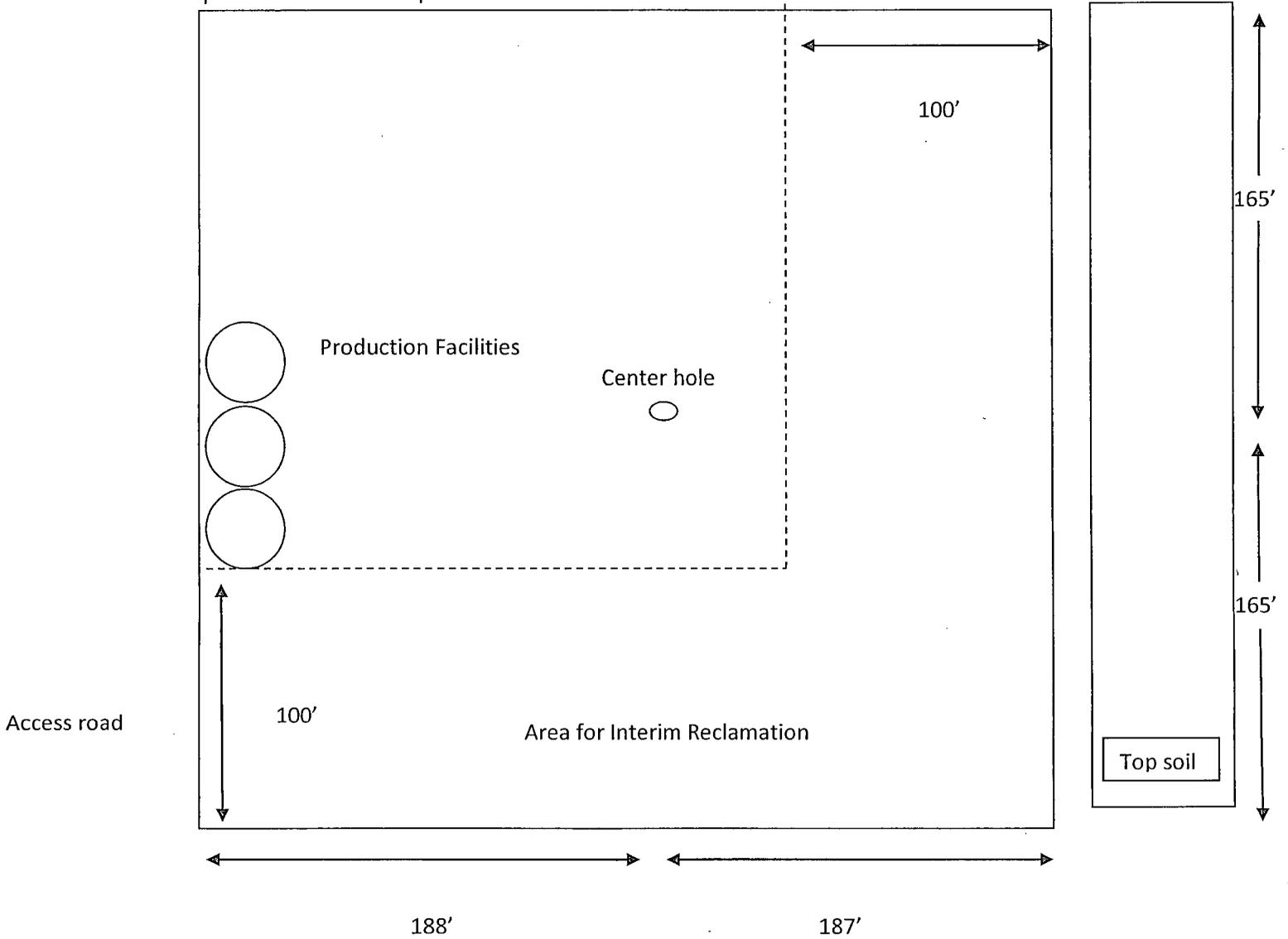
375

PAD LAYOUT

Scale: 1 inch = 50 feet

Interim Reclamation Well Pad Layout Example*

*dimensions and locations will vary and are not intending to be actual representations.



Created 9/27/2012

**PECOS DISTRICT
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Yates Petroleum Corp
LEASE NO.:	NM113937
WELL NAME & NO.:	1H Bodacious BSM Federal
SURFACE HOLE FOOTAGE:	510' / FSL & 660' / FWL
BOTTOM HOLE FOOTAGE:	330' / FNL & 660' / FWL
LOCATION:	Section 1, T.26 S., R.26 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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.

- General Provisions**
- Permit Expiration**
- Archaeology, Paleontology, and Historical Sites**
- Noxious Weeds**
- Special Requirements**
 - Cave/Karst
- Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- Road Section Diagram**
- Drilling**
 - Medium Cave/Karst Potential
 - Logging Requirements
 - Waste Material and Fluids
- Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- Interim Reclamation**
- Final Abandonment & Reclamation**

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)

Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:

The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. All sides will be bermed.

Tank Battery Liners and Berms:

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, siting valves and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:

Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

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) 234-5909 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 3 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

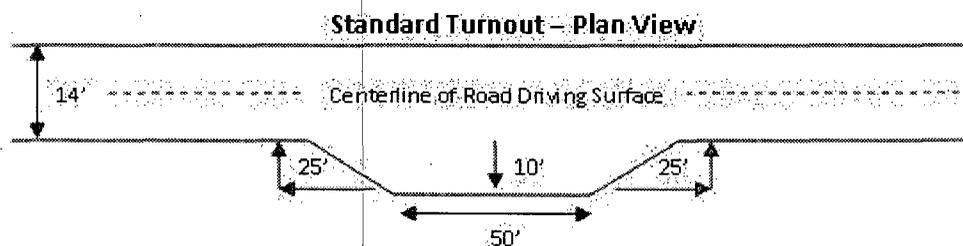
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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:

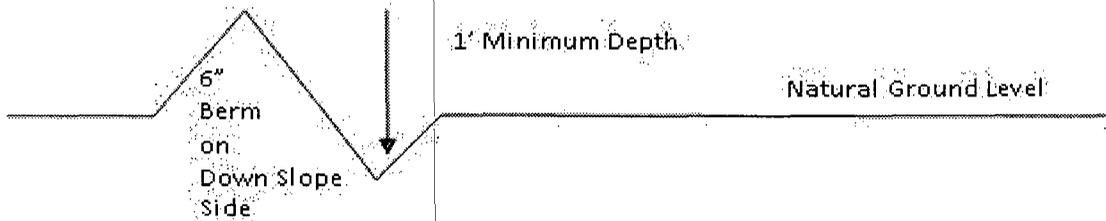


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outloping 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:

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

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

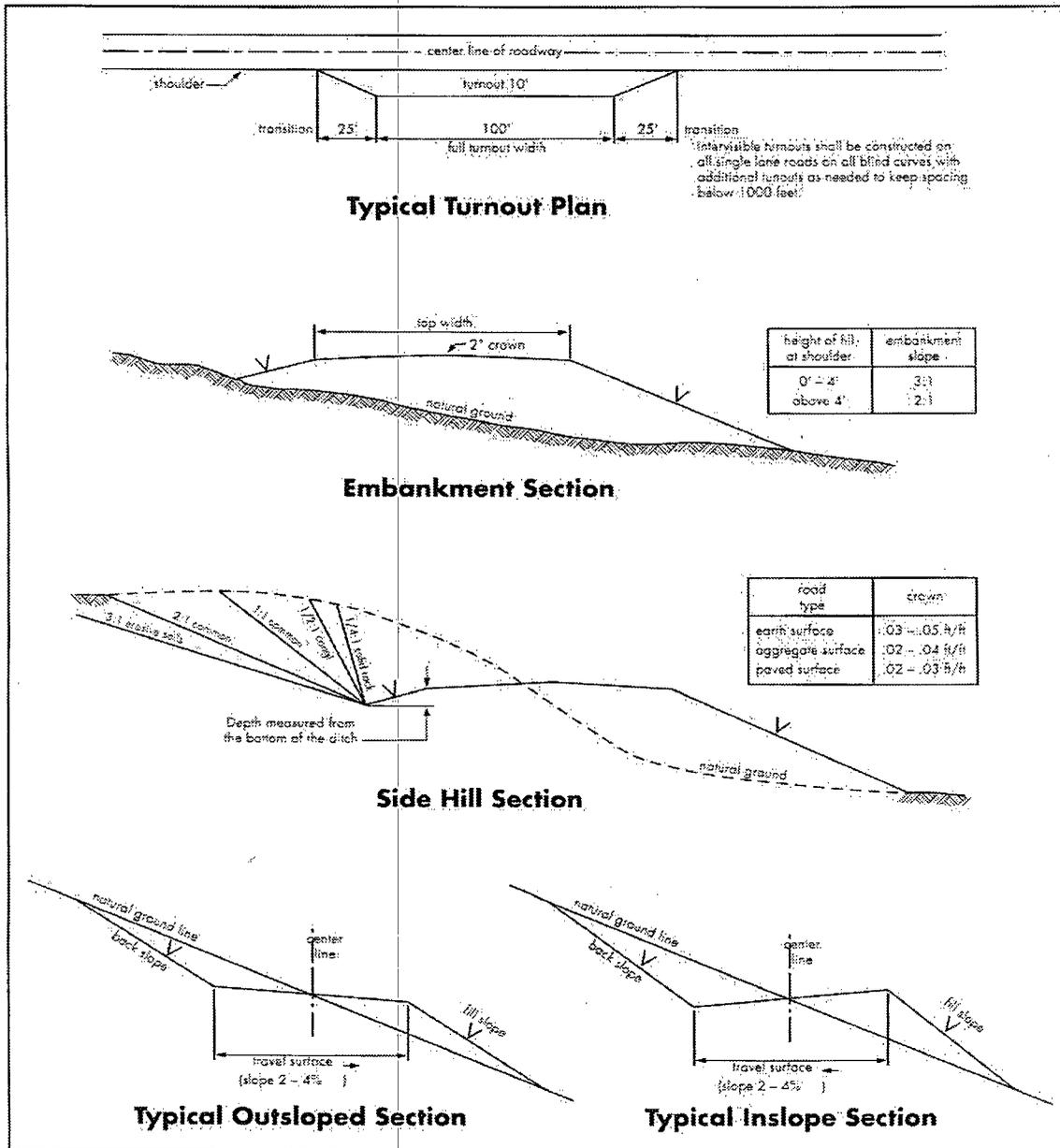
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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.**

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 potential.

Possible lost circulation in the Castile and Delaware formations.

Possible high pressure gas in the Wolfcamp formation. (Applies to pilot hole)

1. The 13-3/8 inch surface casing shall be set at approximately 350 feet 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.

Pilot hole is required to have a plug at the bottom of the hole. If two plugs are set, the BLM is to be contacted (575-361-2822) prior to tag of bottom plug, which must be a minimum of 200' in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug. (A tag is not required for spacer plug at 7700-7500'.)

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the and the mud weight for the bottom of the hole. Report results to BLM office.

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.
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.
 - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be **5000 (5M) psi. 5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**
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.
 - f. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2. **(Pilot hole)**

D. DRILLING MUD (pilot hole)

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

E. DRILL STEM TEST

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

F. 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.

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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 4, for Gypsum 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:

<u>Species</u>	<u>lb/acre</u>
Alkali Sacaton (Sporobolus airoides)	1.0
DWS Four-wing saltbush (Atriplex canescens)	5.0

DWS: DeWinged Seed

*Pounds of pure live seed:

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