N.M. Oil Cons. DIV-Dist. 2 1301 W. Grand Avenue Artesia, NM, 88210

JUN 17 2009

RM

Artesia, NM 88210 FORM APPROVED Form 3160-3 OMB NO 1004-0137 (August 2007) UNITED STATES Expires. July 31, 2010 DEPARTMENT OF THE INTERIOR 5 Lease Serial No BUREAU OF LAND MANAGEMENT NM-0284972 6. If Indian, Allottee or Tribe Name APPLICATION FOR PERMIT TO DRILL OR REENTER 7 If Unit or CA Agreement, Name and No. la. Type of Work. x DRILL REENTER 8. Lease Name and Well No. X Oil Well 1b. Type of Well Gas Well Other Single Zone Multiple Zone Federal CL #6H **<133517** 9. API Well No Name of Operator Yates Petroleum Corporation 025575 3a. Address 3b. Phone No. (include area code) 105 South Fourth Street, Artesia, NM 88210 505-748-1471 Jones Tank Abo 11. Sec., T., R., M, or Blk And Survey or Area Location of well (Report location clearly and In accordance with any State requirements.*) At surface 1100' FNL & 200' FEL, Sec.34-15S-29E, UL A Section 34-T15S-R29E At proposed prod zone 350' FNL & 330' FWL, Sec. 34-15S-29E, UL D 12 County or Parish 13. State 14 Name of Operator Chaves NM16. No of acres in lease 17 Spacing Unit dedicated to this well 15. Distance from proposed location to nearest property or lease line, ft N/2N/2, Sec.34-T15S-R29E (Also to nearest drlg unit line, if any) 200 880.00 18. Distance from proposed location 19. Proposed Depth 20. BLM/ BIA Bond No on file to nearest well, drilling, completed, applied for, on this lease, ft. VD-7610' MD-12061' NATIONWIDE BOND #NMB000434 None 21. Elevations (Show whether DF, KDB, RT, GL, etc.) Aproximate date work will start* 23. Estimated duration 3834' GL ASAP 45 days 24 Attachments CONTROLLED WATER BASIN 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 4. Bond to cover the operations unless covered by existing bond on file(see 2. A Drilling Plan. item 20 above). 3. A Surface Use Plan (if the location is on National Forest System Lands, the 5. Operator certification. SUPO must be filed with the appropriate Forest Service Office) 6 Such other site specific information and/ or plans as may be required by the 25. Signature Name (Printed/ Typed) Cy Cowan Title Land Regulatory Agent Approved By Figather Mayes Name (Printed/ Typed) Title Assistant Field Manager, APPROVED FOR 2 YEARS ands And Minerals 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 co operations thereon. Conditions of approval, if any, are attached Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and wilfully to make to any department or agency of the United

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 Unite-States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

DECLARED WATER BASIN

CASING MUST BE CIRCULATED WITNESS

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS ATTACHED

^{* (}Instructions on page 2)

DISTRICT I 1625 N. French Dr., Hobbs, NM 86240 DISTRICT II

State of New Mexico Energy, Minerals and Natural Resources Department Form C-102 Revised October 12, 2005

Submit to Appropriate District Office

1301 W. Grand Avenue, Artesia, NM 88210 DISTRICT III 1000 Rio Brazos Rd., Aztoc, NM 87410

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

State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

Dedicated Acres

160

Joint or Infill

Consolidation Code

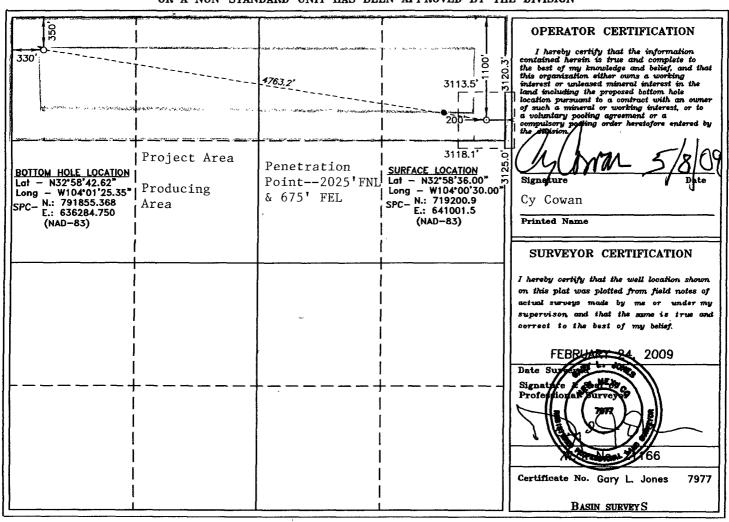
WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number		Pool Code		.	Pool Name					
30-005-64113		Q'	7460	}	Jones Tank, Abo					
Property Code				Property Name				Well Number		
12251			FEDERAL "CL" /						6H	
OGRID No.				Operator Name					Elevation	
025575		L		YATES PETROLEUM CORP.					3834'	
	Surface Location									
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
Α	34	15 S	29 E		1100	NORTH	200	EAST	CHAVES	
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	34	15 S	29 E		350	NORTH	330	WEST	CHAVES	

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

Order No.



YATES PETROLEUM CORPORATION Federal CL #6H

1100' FNL and 200' FEL, Section 34-15S-29E (Surface Hole Location) 350' FNL and 330' FWL, Section 34-15S-29E (Bottom Hole Location) Chaves County, New Mexico

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

Yates	1110'	_	Glorieta	4040'	
Seven Rivers	1260'		Tubb	5355'	-
Queen	1840'	Oil/Gas	ABO	6340'	Gas
Grayburg	2230'	Oil	Wolfcamp	7370'	Oil
San Andres	2545'	Oil	TVD	7610'	
			TMD	12061'	

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

Water: 200'

Oil or Gas: See above

3. Pressure Control Equipment: BOPE will be installed on the 9 5/8" casing and rated for 3000 psi BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout Preventor controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventors 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.

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.

4. THE PROPOSED CASING AND CEMENTING PROGRAM:

A. Casing Program: (All New)

Hole Size	Casing Size	Wt./Ft	<u>Grade</u>	<u>Thread</u>	<u>Interval</u>	Length
17 1/2"	13 3/8"	48#	H-40	ST&C	0-400'	400'
12 1/4"	9 5/8"	36#	J-55	ST&C	0-2650'	2650'
12 1/4"	7"	26#	HCP-110	LT&C	. 0-7610'	7610'
8 3/8"	4 1/2"	11.6#	HCP-110	Buttress	6500'-7750'MD	1250'
8 3/8"	4 1/2"	11.6#	HCP-110	LT&C	7750'-12061'MD	4311'

Pilot hole will be drilled to 7610' where 7" casing will be set and cemented. A whipstock will be set at approximately 6980' and a window milled in the 7" casing where well will be kicked off at 12 degrees per 100' to 12061' MD with a TVD of 7430' where 4 ½" Peak Completion Liner Assembly will be set and will NOT be cemented. Penetration point of producing formation encountered at 1025' FNL and 675' FEL, 34-15S-29E. Deepest TVD of the well will be in the pilot hole @ 7610'. Deepest TVD in the later will be 7457'

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

В. **CEMENTING PROGRAM:**

Surface Casing: 425 sacks "C" w/2%CaCl2 (WT 14.80 YLD 1.34). TOC at surface.

Intermediate Casing: 675 sacks C Lite (Wt. 12.50 YLD 2.04). Tail in with 200 sacks C + 2% CaCl2 (Wt 14.80 YLD 1.33). TOC at surface.

Intermediate Casing 2: TOC Surface', Lead w/ 830 sacks 50:50:10C (WT 11.60 YLD 2.43). Tail in with 200 sacks PecosVILt (WT 13.00 YLD 1.40)

5. Mud Program and Auxiliary Equipment:

<u>Interval</u>	<u>Type</u>	Weight	<u>Viscosity</u>		Fluid Loss
Spud to 400'	Fresh Water Gel	8.6-9.0	32-34	-	N/C
400'-2650'	Brine Water	10.0-10.2	28-28		N/C
2650'-6300'	Cut Brine	8.7-9.2	28-28		N/C
6300'-7610'	Cut Brine	8.7 - 9.2	28-28		N/C
Horizontal					
6980'-12061	Cut Brine	8.7-9.2	28-28		<10-12
	(Lateral Section)				

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.

EVALUATION PROGRAM:

6.

Samples: 10' out from under intermediate casing to TD.

Platform Express: CNL/LDT/NGT TD to surface, DLL-MSFL TD to surface casing,

BHC-Sonic TD to surface casing. Horizontal-MWD-GR.

Coring: None anticipated. DST's: None anticipated. H2S: None anticipated.

Mudlogging: Yes

7. ABNORMAL CONDITIONS, BOTTOM HOLE PRESSURE AND POTENTAL HAZARDS:

Anticipated BHP: Depths are TVD.

From: 400' TVD Anticipated Max. BHP: 190 PSI 0 TO 400' TO 2650' TVD From: Anticipated Max. BHP: 1400 PSI From: 2650' TO 7610' TVD Anticipated Max. BHP. 3640 **PSI**

Abnormal Pressures Anticipated: None

Lost Circulation Zones Anticipated: None

H2S Zones Anticipated: None

Maximum Bottom Hole Temperature: 120° F

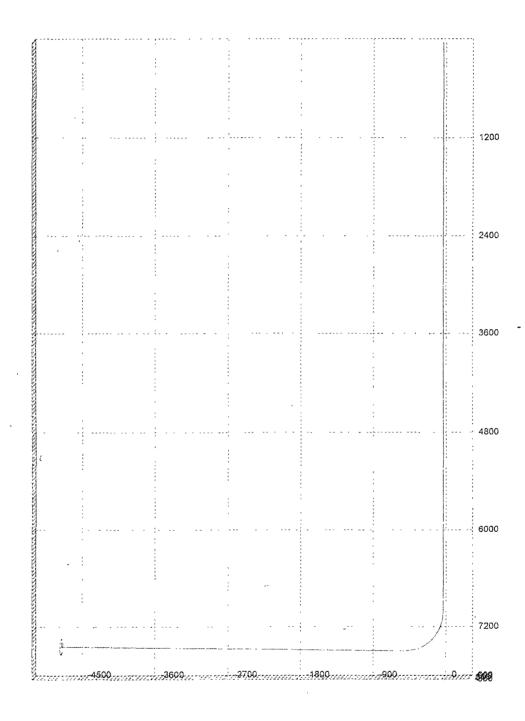
8. ANTICIPATED STARTING DATE:

Plans are to drill this well as soon as possible after receiving approval. It should take approximately 45 days to drill the well with completion taking another 30 days.

M.D.	Inclination 2	Azimuth	T.V.D.	N+/S-	E+/W-7	D.L.S.	ToolFace	T.F. Ref [HS/GN]	CH THE BOOK
0	0	0	0	0	0	0			
1,110	0	0	862	0	0	0			YATES
1,260	0	0	1,080	0	0	0			SEVEN RIVERS
1,840	0	0	1,615	0	0	0			QUEEN
2,230	0	0	2,035	0	0	0			GRAYBURG
2,545	0	0	2,380	0	0	0			SAN ANDRES
4,040	0	0	3,885	0	0	0			GLORIETA
5,355	0	0	5,085	0	0	0			TUBB
6,340	0	0	5,870	0	0	0			ABO
6980	0 (1)	0	6980	引 **の / 言語が	0.00	元二年122年元	279	GN GN	KOP
7000	2.4	278 97	6999.99	0.07	-0.41	12	360	HS	
7025	5.4	278.97	7024.93	0.33	-2.09	12	360	HS	
7050	8.4	278.97	7049.75	0.8	-5.06	12	360	HS	
7075	11.4	278.97	7074.37	1.47	-9.3	12	0	HS	
7100	14.4	278.97	7098.74	2,34	-14.82	12	360	HS	
7125	17 4	278.97	7122.78	3.41	-21.58	12	360	HS	
7150	20.4	278,97	7146.43	4.67	-29.58	12	360	HS	
7175	23.4	278.97	7169.62	6.12	-38.79	12	0	HS	
7200	26.4	278.97	7192.3	7.77	-49.18	12	0	HS	
7225	29.4	278 97	7214 39	9.59	-60.74	12	360	HS	
7250	32.4	278.97	7235.84	11.59	-73.42	12	0	HS	
7275	35,4	278 97	7256.59	13.77	-87.19	12	360	HS	
7300	38.4	278.97	7276,58	16,11	-102.02	12	360	HS	
7325	41.4	278,97	7295 75	18,61	-117.85	12	360	HS	
7350	44.4	278.97	7314 06	21.26	-134.66	12	0	HS	
7375	47.4	278 97	7331.46	24.06	-152.39	12	360	HS	,
7400	50.4	278.97	7347.89	27	-171	12	360	H\$	
7425	53 4	278.97	7363.32	30.07	-190.43	12	0	HS	
7434	54.48	278.97	7368,62	31.2	-197.62	12	0	HS	WOLFCAMP
7450	56 4	278.97	7377 69	33.26	-210.63	12	0	HS	
7475	59.4	278.97	7390 97	36,56	-231.55	12	360	HS	
7500	62.4	278.97	7403 13	39.97	-253.12	12	0	HS	
- 7525	65.4	278.97	7414.13	43.47	-275.29	12	360	HS	
7550	68,4	278 97	7423.94	47.05	-298.01	12 '	0	нѕ	
7575	71.4	278.97	7432 53	50.71	-321.19	12	0	HS	
7600	74.4	278.97	7439 88	54.44	-344.79	12	0	HS	
7625	77 4	278 97	7445.97	58.22	-368.74	12	360	HS	
7650	80.4	278 97	7450 78	62.05	-392.97	12	360	HS	
7675	83 4	278,97	7454.3	65.91	-417.41	12	360	HS	
7700	86.4	278.97	7456 52	69.79	-442.01	12	360	HS	
7725	89.4	278 97	7457.44	73.69	-466.68	12	0	HS	
7733.03	90.36	278.97		74.94	* 474.62 ·	12:	与域域02至隆	HS	Producing Zone
12061.47	90:36	278.97	¥ 7430	<i></i> 750	-4750	10分割0分割	多名的特別		Lateral TD.

Pilot hole will be drilled to 7610' Well will then be plugged back and kicked off at approx. 6980' at 12 degrees per 100' to 12,061' MD with a TVD of 7,430' Penetration point of producing formation encountered at 1025' FNL and 675' FEL, 34-15S-29E. Deepest TVD of the well will be in the pilot hole @ 7,610' Deepest TVD in the lateral will be 7457'

Well: Federal CL #6H

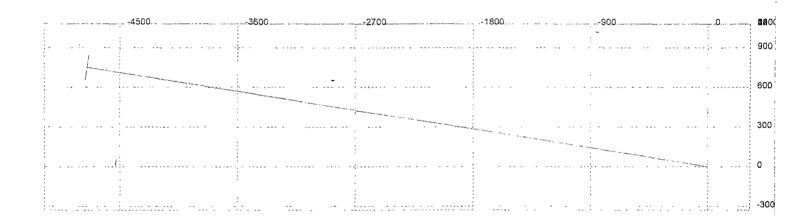


File: G:\drilling toolbox wellplans\Horizontal\federal cl 6h.wpp

3D³ Directional Drilling Planner - 3D View

Company: Yates Petroleum Corporation

Well: Federal CL #6H



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MULTI-POINT SURFACE USE AND OPERATIONS PLAN Yates Petroleum Corporation Federal CL #6H

1100' FNL and 200' FEL (Surface Hole Location) 350' FNL and 330' FWL (Bottom Hole Location) Section 34, T15S-R29E Chaves County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

Exhibit A is a portion of the BLM map showing the well and roads in the vicinity of the proposed location. The proposed well site is located approximately 9.7 miles north of Loco Hills, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

DIRECTIONS:

Go east of Artesia, NM on highway 82 to Loco Hills, NM. Turn north at Loco Hills on the Hagerman cutoff for approximately 9.7 miles. There will be a Chaves Co. line marker and a lease road to the left. Turn left here on lease road and go approximately 1.3 miles. The new access road will start here going to the right.

2. PLANNED ACCESS ROAD:

- A. The proposed new road will go north for about .1 of a mile to the southwest corner of the drilling pad.
- B. The new road will be 14' in width (driving surface) and will be adequately drained to control runoff and soil erosion.
- C. The new road will be bladed with drainage on one side. Traffic turnouts may be built if needed.
- D. The route of the road is visible.
- E. Existing roads will be maintained in the same or better condition. Yates' has road right-of-way coming west from Hagerman Cutoff crossing State of New Mexico Lands R-31284 in the N/2SW/4 of Section 36 and NM-121409 from the Carlsbad Bureau of Land Management Office crossing the SE/NW/3, E/2SW/4, N/2SE/4 of Section 35, T15S-R29E. Per an email from Scott Sanderford, Roswell BLM Office Yates' right-of-way NM-110272 provides Yates' access into Section 34 and 35 and additional road access to the Federal CL #6 will be on lease and not require a right-of-way.

3. LOCATION OF EXISTING WELL

- A. There is not any drilling activity within a one-mile radius of the well site.
- B. Exhibit D shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

- A. There are no production facilities on this lease at the present time. However, if production facilities are needed for this well they will be placed on the location as determined by Yates' Production Department. Placement has not been determined at this time.
- B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power until an electric power line can be built if needed.

5. LOCATION AND TYPE OF WATER SUPPLY:

A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit A.

6. SOURCE OF CONSTRUCTION MATERIALS:

The dirt contractor will acquire any materials from the closest source at the time of construction of the well pad.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. A closed loop system will be used to drill this well.
- B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division the "Pit Rule" 19.15.17 NMAC.
- C. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
- D. Oil produced during operations will be stored in tanks until sold.
- E. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- F. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not approved.

8. ANCILLARY FACILITIES: None

9. WELLSITE LAYOUT:

- A. Exhibit B shows the relative location and dimensions of the well pad, the closed loop mud system, the location of the drilling equipment, rig orientation and access road approach. The proposed well location will be approximately 350' x 300'. All of the location will be constructed within the 600' x 600' staked area.
- B. The closed loop system will be constructed, maintained and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division—the "Pit Rule" 19.15.17 NMAC.
- C. A 600' x 600' area has been staked and flagged.

10. PLANS FOR RESTORATION

- A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible. At the time interim reclamation is proposed Yates will furnish the BLM with a Sundry Notice detailing the remediation plans.
- B. Unguarded pits, if any, containing fluids will be fenced until they have dried and been leveled.
- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible.

11. SURFACE OWNERSHIP

Surface Estate: Managed by the Bureau of Land Management, 2909 West Second Street,

Roswell, New Mexico 88201

Mineral Estate: Bureau of Land Management, 2909 West Second Street, Roswell, New

Mexico 88201.

12. OTHER INFORMATION:

1

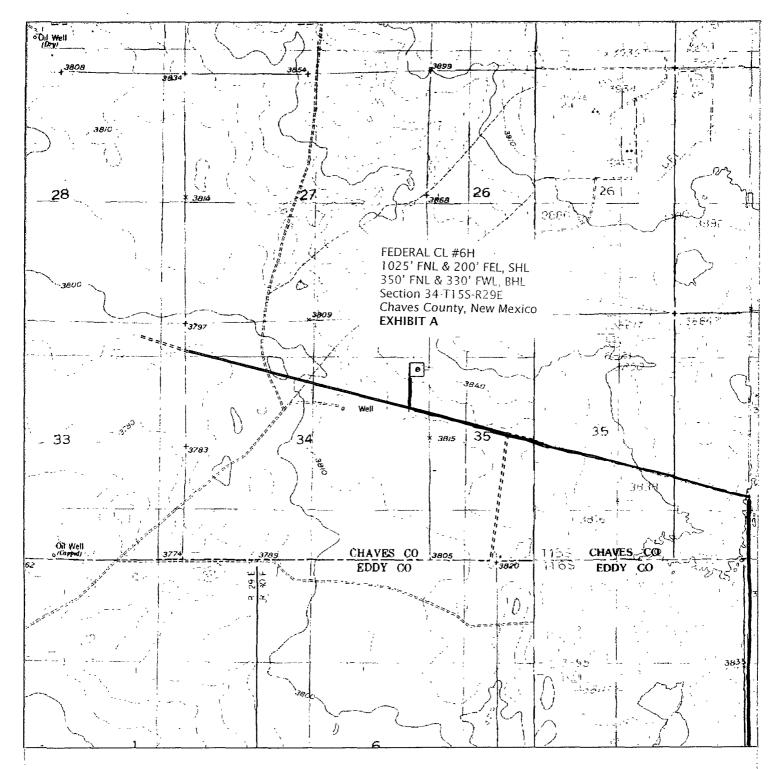
A. Topography: Refer to the existing archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.

B. The primary surface use is for grazing.

CERTIFICATION YATES PETROLEUM CORPORATION Federal CL #6H

I hereby certify that I or the company I represent, have inspected the drill site and access route proposed herein; that the company I represent is familiar with the conditions which currently exist; that 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 the company I represent is 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 8th day of May, 2009
Printed Name & Cowar
Signature 4 MM
Position Title Land Regulatory Agent
Address 105 South Fourth Street, Artesia, NM 88210
Telephone <u>575-748-4372</u>
E-mail (optional) cy@yatespetroleum.com
Field Representative (if not above signatory) <u>Tim Bussell</u>
Address (if different from above) Same
Telephone (if different from above) 575-748-4221
F-mail (antional)

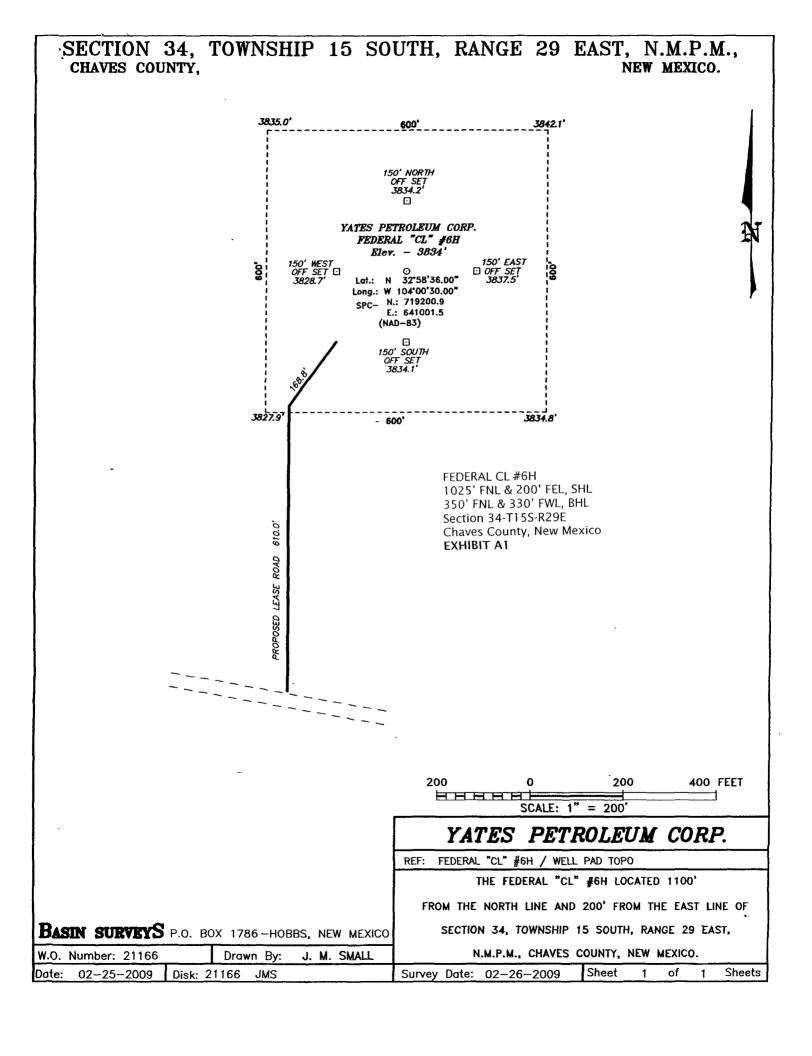


EXISTING LEASE ROAD TO ACCESS THE FEDERAL CL #6
Sections 21-20. Township 17 Section 10-28 79 fast.

PART BE A CREEK PROPER PROPERTY BEAR BEARING



YATES PETROLEUM CORP.

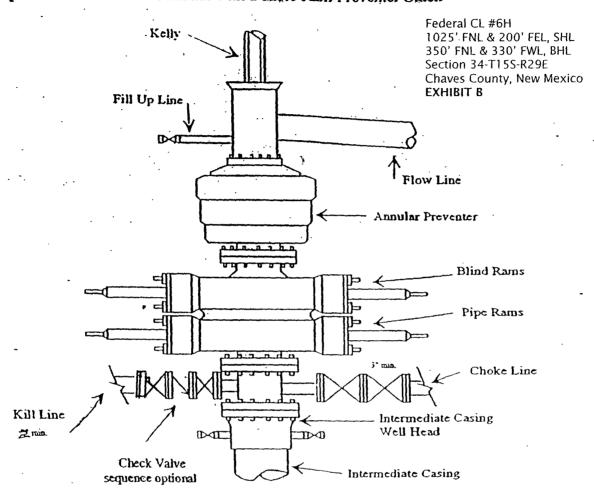




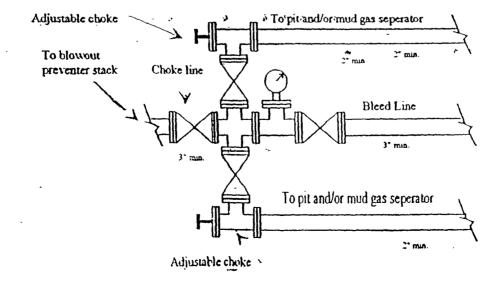


Yates Petroleum Corporation

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

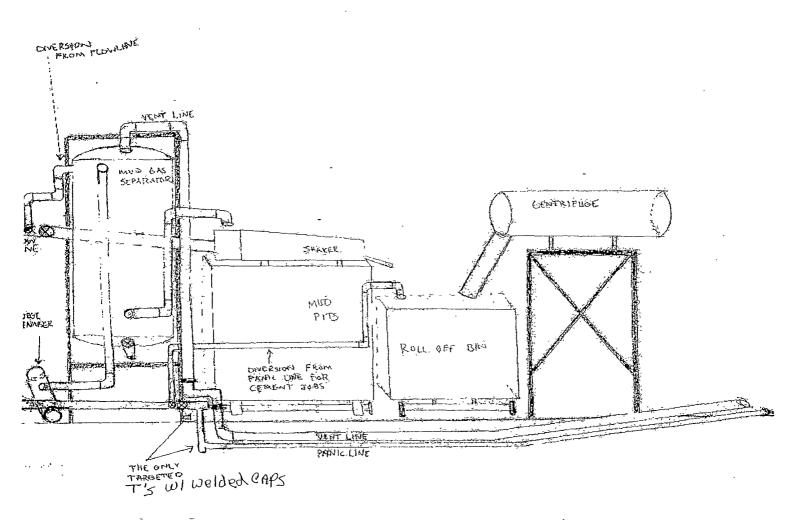


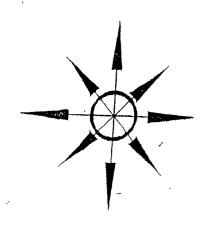
Typical 3,000 psi choke manifold assembly with at least these minimum features



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

FEDERAL CL #6H 1025' FNL & 200' FEL, SHL 350' FNL & 330' FWL, BHL Section 34-T15S-R29E Chaves County, New Mexico EXHIBIT B1

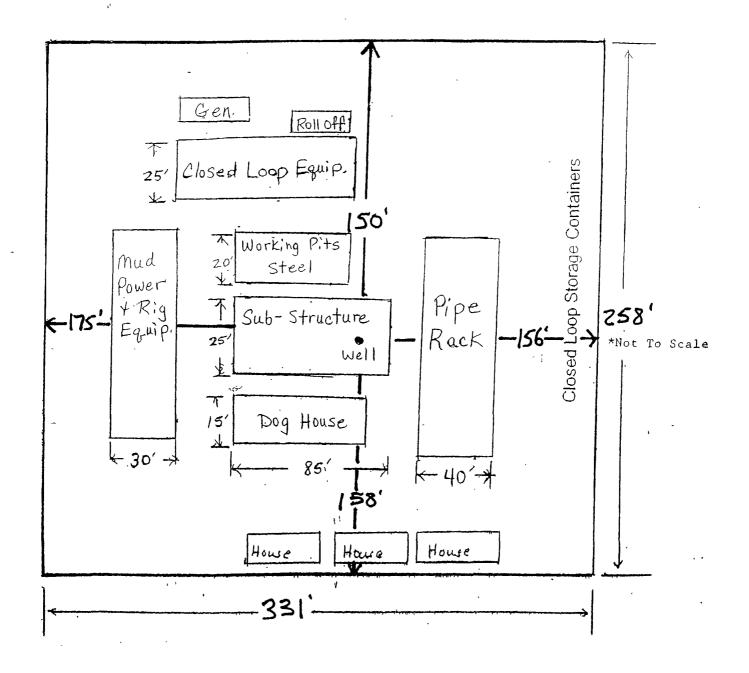


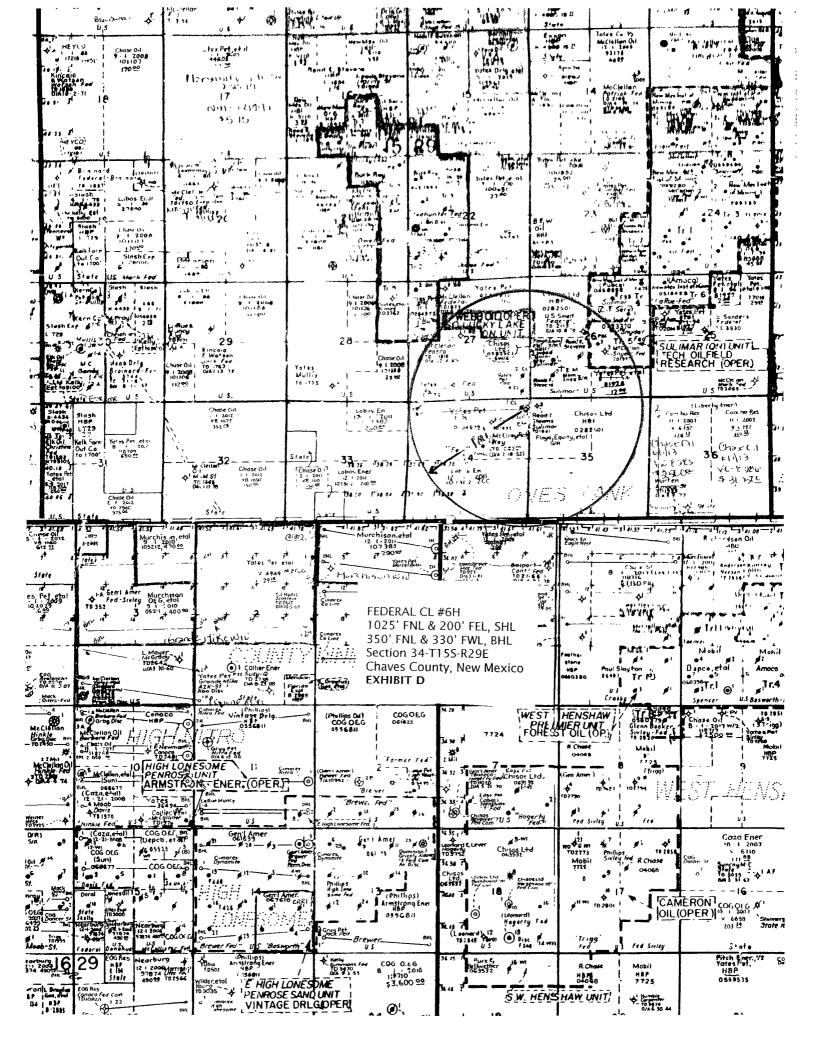


FEDERAL CL #6H 1025' FNL & 200' FEL, SHL 350' FNL & 330' FWL, BHL Section 34-T15S-R29E Chaves County, New Mexico **EXHIBIT C**

Yates Petroleum Corporation Location Layout for Permian Basin

Closed Loop Design Plan





PECOS DISTRICT - RFO CONDITIONS OF APPROVAL

June 4, 2009

Yates Petroleum Corporation
NM-0284972
Federal CL #6H
Surface: 110' FNL & 200' FEL,
Bottom: 350' FNL & 330' FWL,
NE¼ NE¼ Section 34, T. 15 S., R. 29 E.,
NMPM, Chaves County

DOI-BLM-NM-P010-2009-120-EA

Arch Report # 09-R-059A

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.

I. 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).

II. 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.

III. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations (access road and/or well pad). 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.

IV. CONSTRUCTION

A. NOTIFICATION:

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Roswell Field Office at (505) 627-0247 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 Application for Permit to Drill and Conditions of Approval on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL:

The topsoil will be stripped to approximately 6 inches in depth within the area designated for construction of the well pad. The operator shall stockpile the stripped topsoil adjacent to the constructed well pad. The topsoil will be used for interim and final reclamation of the surface disturbance created by the construction of the well pad.

C. CLOSED SYSTEMS OR STEEL TANKS: .

A closed system or steel tanks will be used in lieu of reserve 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 from any site. Call the Roswell Field Office at (505) 627-0236.

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 need.

F. ON LEASE ACCESS ROADS:

Road Egress and Ingress

The on lease access road shall be constructed to access the southwest corner of the well pad.

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 thirty (30) 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 to prevent erosion.

Turnouts

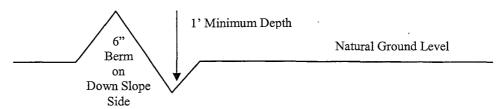
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

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 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: $\frac{400'}{40\%} + 100' = 200'$ lead-off ditch interval

Fence Requirement

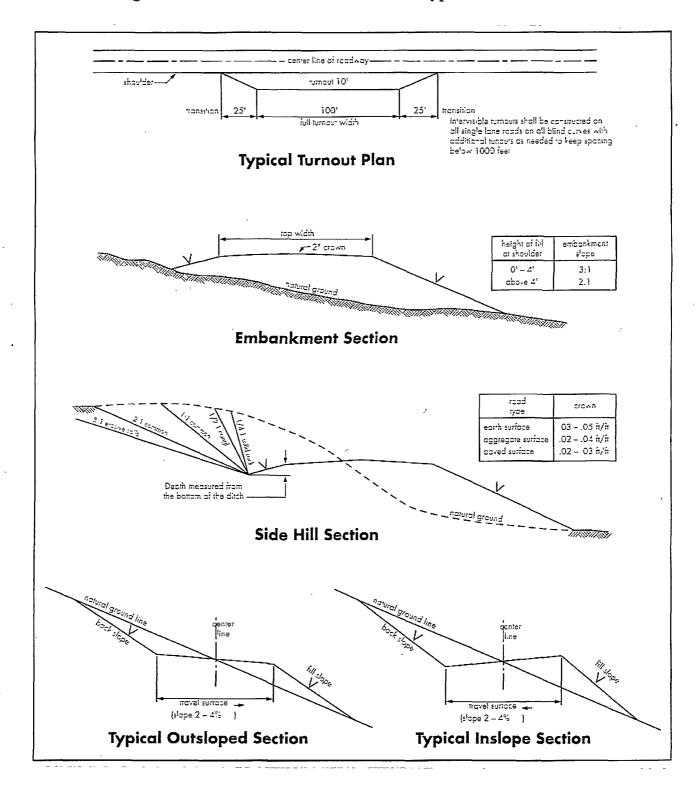
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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



V. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

- 1. Call the Roswell Field Office, 2909 West Second St., Roswell, NM 88201. During office hours call (575) 627-0205 or after office hours call (575) 910-6024. Engineer on call during office hours call (575) 627-0275 or after office hours call (575) 626-5749.
- 2. The BLM is to be notified a minimum of 24 hours in advance for a representative to witness:
 - a. Spudding well
 - b. Setting and/or Cementing of all casing strings

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

BOPE Tests

- 3. 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.
- 4. Include the API Number assigned to well by NMOCD on the subsequent report of setting the first casing string.
- 5. The operator will accurately measure the drilling rate in ft/min to set the base of the usable water protection casing string(s) opposite competent rock. The record of the drilling rate along with the caliper-gamma ray-neutron well log run to surface will be submitted to this office as well as all other logs run on the borehole 30 days from completion
- 6. Operator is using a closed loop mud system to drill to the base of the usable water protection casing string(s). The water should be fresh and the drilling mud non-toxic. Any polymers used for sweeps and such will be water based and non-toxic.

B. CASING

- 1. The 13 3/8 inch usable water protection casing string(s) shall be set at approximate depth range of 140 ft to 240 ft. The operator should be able to find in the above range at least one competent bed thick enough (i.e. 15 to 25 ft or greater) to set usable protection string.
- a. If cement does not circulate to the surface, the Roswell Field Office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
- b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin or 500 pounds compression strength, whichever is greater. (This is to include the lead cement).

- 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 compression strength, whichever is greater.
- d. If cement falls back, remedial action will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the <u>9-5/8</u> inch intermediate casing is <u>sufficient</u> to circulate to the <u>surface</u>. If cement does not circulate see B.1.a-d above.
- 3. The minimum required fill of cement behind the <u>7</u> inch production casing is <u>sufficient to tie</u> <u>back 500 feet above the uppermost perforation in the pay zone</u>. If cement does not circulate, a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
- 4. There is no required fill of cement behind the $\frac{4-1/2}{2}$ inch production casing since a Peak Systems Iso-Pak liner will be used for lateral and will not require cementing.
- 5. 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.
- 6. All casing shall be new or reconditioned and tested casing and meet API standards for new casing. The use of reconditioned and tested casing shall be subject to approval by the authorized officer. Approval will be contingent upon the wall thickness of any casing being verified to be at least 87-1/2 per cent of the nominal wall thickness of new casing.

C. PRESSURE CONTROL

- 1. Before drilling below the <u>13-3/8</u> inch surface casing shoe, the blowout preventer assembly shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve. Before drilling below the <u>9-5/8</u> inch intermediate casing shoe, the blowout preventer assembly shall consist of a minimum of One Annular Preventer, Two Ram-Type Preventers, and a Kelly Cock/Stabbing Valve.
- 2. Before drilling below the 13-3/8 inch surface casing shoe, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2000 psi. Before drilling below the 9-5/8 inch intermediate casing shoe, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 3000 psi.
- 3. The BOPE shall be installed before drilling below the <u>13-3/8</u> inch surface casing and the <u>9-5/8</u> inch intermediate casing and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.
- a. The BLM Roswell Field office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- b. The tests shall be done by an independent service company.

- c. 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. 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 BLM Roswell Field Office at 2909 West Second Street, Roswell, New Mexico 88201.
- e. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- f. Testing must be done in a safe workman like manner. Hard line connections shall be required.

VI. PRODUCTION

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, <u>Juniper Green</u> (Standard Environmental Color Chart June 2008).

VRM Facility Requirement

Low-profile tanks not greater than eight-feet-high shall be used.

VII. 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. Earthwork for interim and final reclamation must be completed within 6 months of well completion or well plugging (weather permitting). The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used in road repairs, fire walls or for building other roads and locations. In addition, 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.

Seed Mixture for SD-3 Sandy Ecological Site:

Common Name	,	Pounds of Pure
and Preferred Variety	Scientific Name	Live Seed Per Acre
Black grama	(Bouteloua eriopoda)	3.00 lbs.
or Blue grama,	(Bouteloua gracilis)	
Sideoats grama	(Bouteloua curtipendula)	2.00 lbs.
Sand dropseed	(Sporobolus cryptandrus)	1.50 lbs.
or Mesa dropseed	(S. flexuosus)	
or Spike dropseed	(S. contractus)	
Desert or Scarlet	(Sphaeralcea ambigua)	1.00 lb.
Globemallow or	(S. coccinea)	
Croton	(Croton spp.)	<u>1.00 lb.</u>
TOTAL POUNDS PURE L	IVE SEED (pls) PER ACRE	8.50 lbs.

Certified Weed Free Seed. If one species is not available, increase all others proportionately. Use no less than 4 species, including 1 forb. No less than 8.5 pounds pls per acre shall be applied

VIII. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

- a) Upon abandonment of the well and/or when the access road is no longer in service, a Notice of Intent for Final Abandonment with the proposed surface restoration procedure must be submitted for approval.
- b) Upon abandonment of the well, all casing shall be cut-off at the base of the cellar or 3-feet below final restored ground level (whichever is deeper). A 4-inch pipe, 10 feet in length, shall be installed 4 feet above ground and embedded in cement. The following information shall be permanently inscribed on the dry hole marker: Well name and number, the name of the operator, the lease serial number, the surveyed location (the quarter-quarter section, section, township and range or other authorized survey designation acceptable to the authorized officer; such as metes and bounds).
- c) d. Surface Reclamation must be completed within 6 months of well plugging. If the operator proposes to modify the plans for surface reclamation approved on the APD, the operator must attach these modifications to the Subsequent Report of Plug and Abandon using Sundry Notices and Reports on Wells, Form 3160-5.