



R-111-POTASH - 4.79

Form 3160/8]	FORM APPRO		
(August 2007)	_	1	MB NO. 1004		
UNITED STATES		5 Lease Serial	xpires: July 31	, 2010	
DEPARTMENT OF THE L	5 Lease Senai				
BUREAU OF LAND MANA		4 If 3-ding A	NM-81952 6. If Indian, Allottee or Tribe Name		
APPLICATION FOR PERMIT TO D		d. n indian, A		Mattle	
DIRECTIONAL DRII	-lu		N/A		
		7. If Unit or C		Name and No.	
Ia. Type of Work: x DRILL	REENTER	8. Lease Name	N/A		
b. Type of Well. X Oil Well Gas Well Other	Single Zone Multiple Zo		ma AIL Feder	-a) #1NH	
	Single Zone Withinfie Zo	9. API Well N		AI TIVIL	
2. Name of Operator	•	9. API WOLLN	o.		
Yates Petroleum Corporation	025575	30	ירוס נ	-37140	
3a. Address	3b. Phone No. (include area code)	10. Field and P	ool, or Explora	tory	
107 Court Pount Court Article NIM 99310	505 TAR 1ATT	T 1	- cot 12:-	Dalamana	
4. Location of well (Report location clearly and In accordance w	505-748-1471		ngston Ridge	nd Survey or Area	
At surface	the dry office requirements y	11, 545, 1	1111. 01 1516. 74		
	FWL. UL N, SESW	{ .	Section 7-T22S	LD31 V	
At proposed prod. zone	and the The Children		CLUON /-1220	FRUIL	
	980' FWL, UL C, NENW	12 County or 1	3	13. Stare	
14. Distance in miles and direction from the nearest town or post of	office.	12 County of 1	ransn	15. State	
The well is about 47 miles cast of	Carlsbad, NM.		idy	NM	
15. Distance from proposed*	16. No. of acres in lease	17. Spacing Unit dedic	ared to this wel	1	
location to nearest					
property of lease line, ft.	107.00		T-1115		
(Also to nearest drig, unit line, if any) 330' 8. Distance from proposed location*	1,07.96 19. Proposed Depth	20. BLM/ BIA Bond N	EZW2		
to nearest well, drilling, completed,	13. Hopeace Depart		o. on me		
applied for, on this lease, ft. None	7700' VD & 12115 MD	NATIONWI	DE BOND #N	MB000434	
1. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Aproximate date work will	stan* 23. Estim	sted duration		
3271' GL	ASAP	1			
74/1 00	24. Attachments				
Call		La casa la de la Santa de Carre			
ne following, completed in accordance with the requirements of C	Distrole Off and Oas Offeet No. 1 shaff f	be attached to this form;			
. Well plat certified by a registered surveyor.	4. Bond to cover the	operations unless covere	d by existing b	and on file(see	
. A Dolling Plan.	item 20 above).	,	,		
. A Surface Use Plan (if the location is on National Forest Systems					
SUPO must be filed with the appropriate Forest Service Office	1	collic information and/or	' plans as may l	be required by the	
	BLM				
Signature / A AA	Name (Printed/Typed)		Date (. 1-0	
- Corolla	<u> </u>	Cy Cowan		26 10X	
le				1.0	
Regulatory Agent				•	
ngvcd By (Signature)	Name (Printed/Typed)		Date	′	
William	William mer	- er	7/23	109	
STATE DIRECTOR	Office NM STA	YE OFFICE			
	Į.				
lication approval does not warrant or certify that the applicant	holds legal or equitable title to those rig	this in the subject lease v	ns bluow dolds	tutle the applicant to o	
ations thereon.	APF	PROVAL FOR	TAIOVI	TADO	
litions of approval, if any, are attached.					
8 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, mal	ce it a crime for any person knowingly a	and wilfully to make to a	лу фераптепт	or agency of the Unit	
s any false, fictitious or fraudulent statements or representation	as as to any matter within its jurisdiction	ort.			
tructions on page 2)		APPROVAL S	UBJEC	r to	
ATTACHED FOR	(II I II II III A TULIYO ID A CURA	GENERAL RE			
ALIMONED FOR	,				
UDITIONS OF APPROVAL		AND SPECIA	L 21116	TATIONS	
•	E	ATTACHED		* * *	

Form 3160-3 (August 2007) R-111-POTASH - WIPP

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

5. Lease Serial No

NM-81952

BUREAU OF LAND MANAGEMENT	NM-81952
CATION FOR PERMIT TO DRILL OR REENTER	6. If Indian, Allottee or Tribe Na

UNITED STATES DEPARTMENT OF THE INTERIOR

APPLICATION FOR PERMIT TO I	6. If Indian, Allottee or Tribe Name					
DIRECTIONAL DR	N/A					
,	7. If Unit or CA	Agreement, N	lame and No.			
1a. Type of Work x DRILL	N/A					
			1	8. Lease Name		
1b. Type of Well: X Oil Well Gas Well Other		Single ZoneMultiple Zo	one	Llan	na AIL Feder	al #10H
2. Name of Operator			Ì	9 API Well No	•	
Yates Petroleum Corporation	n 02557	75		30	-015-	-3719(
3a. Address		ne No. (include area code)		10. Field and Poo	ol, or Explorat	ory
105 South Fourth Street, Artesia, NM 88210		505-748-1471		Livin	gston Ridge I)elaware
4. Location of well (Report location clearly and In accordance	with any S	State requirements *)		11. Sec, T., R.,	M, or Blk. An	d Survey or Area
At surface	F35578 VII	Y NI OTONY				
330' FSL & 1980'	FWL. U	L N, SESW		Se	ction 7-T22S-	R31E
At proposed prod zone 330' FNL &	1980' <u>F</u> W	VL, UL C, NENW				
14. Distance in miles and direction from the nearest town or post	office*	-		12. County or Pa	ırısh	13 State
The well is about 47 miles east of	f Carlsba	d, NM.		Edd	ly	NM
15. Distance from proposed*						
location to nearest	-		ļ			
property or lease line, ft	.		 -			
(Also to nearest drlg. unit line, if any) 330'.		. 1,07.96	20 DIX	A/ BIA Bond No.	E2W2	
18 Distance from proposed location* to nearest well, drilling, completed,	['	19. Proposed Depth	20. BLN	/I/ BIA Bond No.	on file	
applied for, on this lease, ft None	l	7700' VD & 12115 MD	ļ	NATIONWIDE BOND #NMB000434		
21 Elevations (Show whether DF, KDB, RT, GL, etc.)	2	22 Aproximate date work will	start*	23. Estimat		
3271' GL		ASAP	,	-		
3211 GL		24. Attachments				
The following, completed in accordance with the requirements of			ne attache	ed to this form:		
The following, completed in accordance with the requirements of	Olishore	On and Gas Order No. 1 Shan t	oc attache	a to this form		
1. Well plat certified by a registered surveyor		4 Bond to cover the o	operation	s unless covered	by existing bo	nd on file(see
2. A Drilling Plan.		ıtem 20 above)				
3. A Surface Use Plan (if the location is on National Forest Sys						
SUPO must be filed with the appropriate Forest Service Office	citic info	rmation and/ or p	olans as may b	e required by the		
	T	BLM				
25 Signature (S MM	Name (F	Printed/ Typed)	Cy Cov	1	Date	26/08
Title	1			I		00/00
Regulatory Agent						•
Approved By (Signature)	Name (F	Printed/ Typed)			Date	
Title	Office					
STATE DIRECTOR		NM STATE OFF	ICE			
Application approval does not warrant or certify that the applicant	holds leg	gal or equitable title to those rig	hts in the	subject lease wh	ich would enti	tle the applicant to c

operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Fitle 18 U S C Section 1001 and Title 43 U S C Section 1212, make it a crime for any person knowingly and wilfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

* (Instructions on page 2)

CARLSBAD CONTROLLED WATER BASIN SEE ATTACHED FUR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

DISTRICT I 1826 M. French Br., Hobbs, NM 88840

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102 Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 68210
DISTRICT III

1000 Rio Brazos Rd., Axtec, NM 87410

DISTRICT IV 1220 S. St. Francis Dr., Santa Pe, NM 87505 OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Cabin (ool Name
30-015-30	7,90 8435	Livingston-R	ool Name NC Hidge Delaware
Property Code		Property Name	Well Number
37765	LLAMA	ALL FEDERAL COM	10H
OGRID No.		Operator Name	Elevation
025575	YATES	PETROLEUM CORP.	3271'

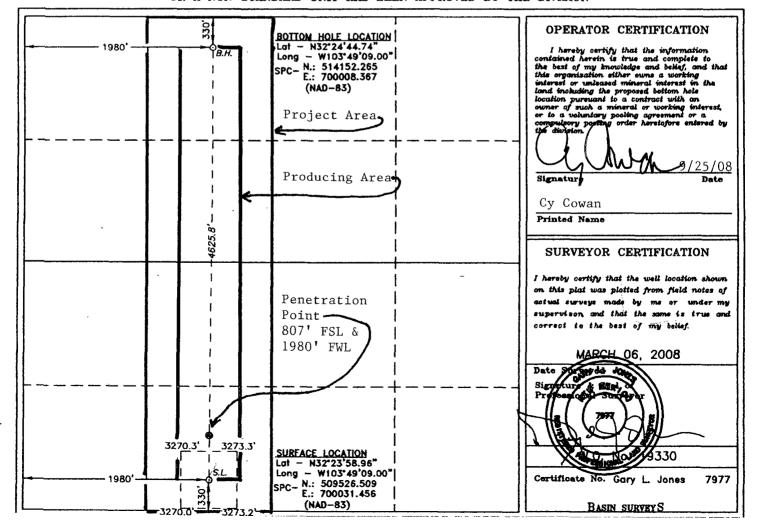
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Peet from the	Rast/West line	County
N	7	22 S	31 E		330	SOUTH	1980	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Peet from the	East/West line	County
C	7	22 S	31 E		330	NORTH	1980 -	WEST	EDDY
Dedicated Acres	Joint o	r Infill C	Consolidation (Code Or	der No.				

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



YATES PETROLEUM CORPORATION Liama ALL Federal #10H

330' FSL and 1980' FWL, SHL 330' FNL and 1980' FWL, BHL Section 7-T22S-R31E Eddy County, New Mexico

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

Rustler	480' TVD None
Base of Salt	3850' TVD None
Bell Canyon	3910' TVD Oil
Cherry Canyon	4820' TVD Oil
Brushy Canyon	6120' TVD Oil
Brushy Canyon Marker	7506' TMD Oil
Brushy Sand Target	7973' TMD Oil
TD	12115' TMD

^{**}This well will be drilled vertically to approx. 7223'. At 7223' well will be kicked off and directionally drilled at 12 degrees per 100' with a 8 ¾" hole to 12,115' MD and 7700' TVD where 5 ½' casing will be set and cemented. Penetration point of producing zone will be encountered at 807' FSL & 1980' FWL, 7-22S-31E. Deepest TVD in the well is 7700.46' in the lateral. No pilot hole.

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

Water: 350'+/-Oil or Gas: See above

3. Pressure Control Equipment: BOPE will be installed on the 13 3/8" and then the 9 5/8" casing and rated for 3000 BOP systems will be consistent with API RP 53. Yates request that a variance be given to test the BOP on the surface casing to 1000 psi using the rig pumps. 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	Grade	Coupling	Interval Leng	th
17 1/2"	13 3/8"	48#	H-40	ST&C	0-510'	510'
12 1/4"	9 5/8"	40#	J-55	ST&C	0-100'	100'
12 1/4"	9 5/8"	36#	J -55	ST&C	100-3300'	3200'
12 ¼"	9 5/8"	40#	J- 55	ST&C	3300-3950	650'
8 3/4"	5 ½"	17#	HCP-110	LT&C	0'-12115'	12115'

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

B. CEMENTING PROGRAM: € See COA

Surface casing: Lead with 225 sx C Lite(Wt 12.5 Yld 1.96) Tail in w/225 sx Class "C" + 2% CaCl2 (Wt 14.8 YLD 1.34). TOC surface.

Intermediate Casing: Lead in with 1065 sx C Lite (Wt 12.6 Yld 2.0). Tail in w/250 sx C (Wt 14.8 Yld 1.34). TOC surface.

Production Casing: Stage I TOC 5600'; 2350 sx Pecos VILt (Wt 13.0 Yld 1.41).

Stage II DV tool placed approx. 5600' TVD on production casing. TOC Surface. Lead with 950 sx LiteCrete (Wt 9.90 Yld 2.78). Tail in with 100 sx PecosVILt (Wt 13.0 Yld 1.41)

5. MUD PROGRAM AND AUXILIARY EQUIPMENT:

Interval	Type	Weight	Viscosity	Fluid Loss
0-510'	Fresh Water	8.60-9.20	32-34	N/C
510'-3950'	Brine Water	10.00-10.20	28-28	N/C
3950'-12115'	Cut Brine	8.50-8.80	28-29	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:

Samples: Every 10' from surface casing to TD.

Logging: Platform HALS: CMR.
Coring: Sidewall cores as warranted.

DST's: As warranted.

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

Anticipated BHP: Depths are TVD.

From: 0 TO: 510' Anticipated Max. BHP: 245 PSI From: 510' TO: 3950' Anticipated Max. BHP: 2100 PSI From: 3950' TO: 7700' Anticipated Max. BHP: 3525 PSI

No abnormal pressures or temperatures are anticipated.

Lost Circulation Zones Anticipated: None

H2S Zones Anticipated: H2S is anticipated. H2S plan is attached.

8. ANTICIPATED STARTING DATE:

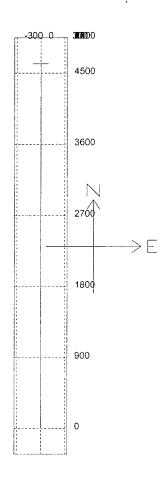
Plans are to drill this well as soon as possible after receiving approval. It should take approximately 60 days to drill the well with completion taking another 45 days.

PARAMIDSANA	alinctination :	t#Azimuth#	ANT VIDUAL	N#/SEE	EFAVEUR	HAND LESSAN	auToolFace.	ARE REF[HS/GN]	No. of the same of
0	0	0	0	0	0	0			
480.00	0	0	480.00	0	0	0			RUSTLER
3,850.00	0	0	3,850 00	0	0	0			BASE OF SALT
3,910.00	0	0	3,910 00	0	0	0			BELL CANYON
4,820 00	0	0	4,820 00	0	0	0			CHERRY CANYON
6,120.00	0	0	6,120 00	0	0	0			BRUSHY CANYON
7223	. 0	0.80 0	7223	0	. 0 .	12	" " () " .	GN GN	KOP
7225	0.24	0	7225	0	0	12	0	HS	
7250	3 24	0	7249.99	0 76	0	12	0	HS	
7275	6.24	0	7274 9	2 83	0	12	0	HS	
7300	9.24	0	7299 67	62	0	12	0	HS	
7325	12.24	0	7324.23	10.85	0	12	0	HS	
7350	15.24	0	7348 51	16.79	0	12	0	HS	
7375	18.24	0	7372.45	23 99	0	12	0	HS	
7400	21.24	. 0	7395 97	32.43	0	12	0	HS	
7425	24.24	0	7419 03	42 1	0	12	0	HS	
7450	27.24	0	7441 55	52.95	0	12	0	HS	
7475	30.24	0	7463 46	64 97	0	12	0	HS	
7500	33.24	0	7484.72	78.12	0	12	0	HS	
7506.3	34	0	7490	81.61	0	12	. 0	HS	BRUSHY CANYON MARKER
7525	36.24	0	7505 26	92 37	0	12	0	HS	
7550	39.24	0	7525.03	107 67	0	12	0	HS	
7575	42 24	0	7543.97	123 98	0	12	0	HS	
7600	45.24	0	7562 03	141 26	0	12	0	HS	
7625	48.24	0	7579 16	159 47	0	12	0	HS	
7650	51 24	0	7595.32	178 54	0	12	0	HS	
7675	54 24	0	7610 45	198 44	0	12	0	HS	
7700	57.24	0	7624 52	219 1	0	12	0	HS	
7725	60 24	0	7637.49	240 47	. 0	12	0	HS	
7750	63.24	0	7649 33	262 48	0	12	- 0	HS	
7775	66.24	0	7660	285 09	0	12	0	HS	
7800	69.24	0	7669 46	308 23	0	12	0	HS	
7825	72 24	0	7677 71	331 82	0	12	0	HS	
7850	75 24	0	7684 71	355.82	0	12	0	HS	
7875	78 24	0	7690 44	380 15	0	12	0	HS	
7900	81 24	0	7694 9	404 75	0	12	0	HS	
7925	84 24	0	7698 05	429 55	0	12	0	HS	
7950	87 24	0	7699 91	454 47	0	12	0	HS	
7973 05	90.01	. 0	7700.46	477.52	0	0		1000 400	BRUSHY SAND
12115.54	90.01	0	7700	4620	0	0			LATERAL TD

Well will be drilled vertically to approx. 7223' At 7223' well will be kicked off and directionally drilled at 12 degrees per 100' with a 8 3/4" hole to 12,115' MD 7,700' TVD where 5 1/2" casing will be set and cemented Penetration point of producing zone will be encountered at 807' FSL and 1980' FWL, 7-22S-31E Deepest TVD in the well is 7700.46' in the lateral NO PILOT HOLE

3D³ Directional Drilling Planner - 3D View

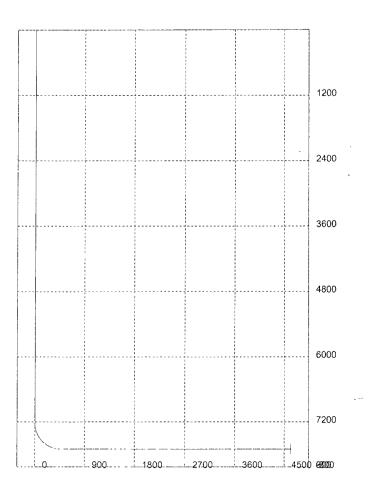
Company: Yates Petroleum Corporation Well: Llama ALL Federal #10H



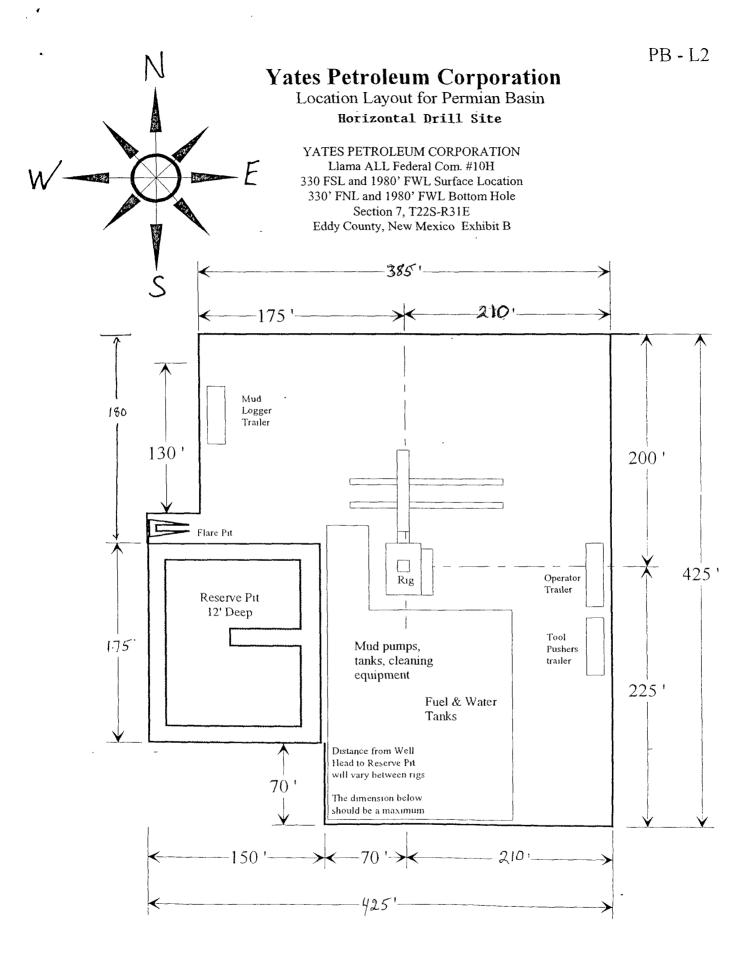
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3D³ Directional Drilling Planner - 3D View

Company: Yates Petroleum Corporation Well: Llama ALL Federal #10H



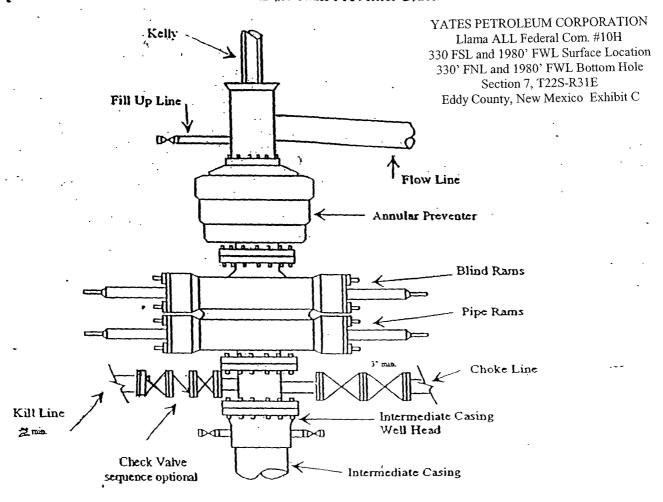
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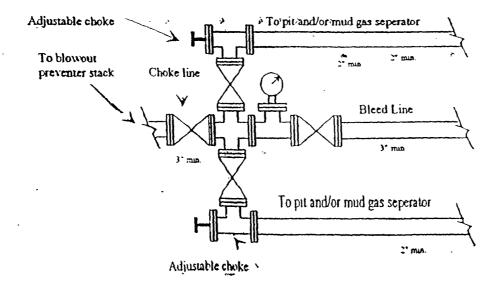


Yates Petroleum Corporation

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

105 S. Fourth Street Artesia, NM 88210

Hydrogen Sulfide (H₂S) Contingency Plan

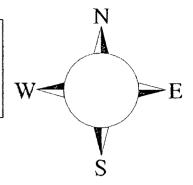
For

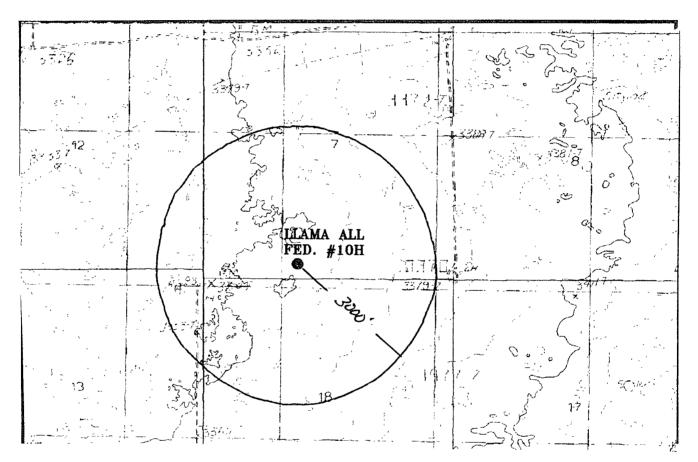
Llama ALL Federal #10

330' FSL, 1980' FWL, Surface Hole 330' FNL, 1980' FWL, Bottom Hole Section 7, T-22S, R-31E Eddy County NM

Llama ALL Federal #10 Location

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H₂S, including warning signs, wind indicators and H₂S monitor.





Assumed 100 ppm $ROE = 3000^{\circ}$ 100 ppm H2S concentration shall trigger activation of this plan.

Emergency Procedures

In the case of a release of gas containing H₂S, the first responder(s) must isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

All responders must have training in the detection of H_2S , measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H_2S monitors and air packs in order to control the release. Use the "buddy system' to ensure no injuries during the response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentr- ation
Hydrogen Sulfide	H_2S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

YPC personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. YPC Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Yates Petroleum Corporation Phone Numbers

YPC Office	(575) 748-1471
Paul Ragsdale/Operations Manager	(575) 748-4520
	(575) 748-4210
Wade Bennett/Prod Superintendent	
Mike Lankin/Drilling	(575) 748-4222
Paul Hanes/Prod. Foreman/Roswell	(575) 624-2805
Tim Bussell/Drilling Superintendent	(575) 748-4221
Artesia Answering Service	(575) 748-4302
(During non-office hours)	
Agency Call List	
Eddy County (505)	
Artesia	
State Police	746-2703
City Police	
Sheriff's Office	
Ambulance	911
Fire Department	746-2701
LEPC (Local Emergency Planning Committee)	746-2122
NMOCD	748-1283
Carlsbad	
State Police	885_3137
City Police	
Sheriff's Office	
Ambulance	
Fire Department	
LEPC (Local Emergency Planning Committee)	
US Bureau of Land Management	
8	
New Mexico Emergency Response Commission (Santa Fe)	(505)476-9600
24 HR	
New Mexico State Emergency Operations Center	,
National Emergency Response Center (Washington, DC)	(800) 424-8802
Other	
D (0 C) HVO 1 000 000 (201) 001 000	
Boots & Coots IWC1-800-256-9688 or (281) 931-8884	
Cudd Pressure Control(915) 699-0139 or (915) 563-3356 Halliburton(505) 746-2757	
B. J. Services(505) 746-3569	
D. J. Services(303) /40-3309	
Flight For Life -4000 24th St, Lubbock, TX(806) 743-9911
Aerocare -Rr 3 Box 49f, Lubbock, TX	

Med Flight Air Amb 2301 Yale Blvd SE #D3, Albuq, NM(505) 842-4433 S B Air Med Svc 2505 Clark Carr Loop SE, Albuq, NM(505) 842-4949

MULTI-POINT SURFACE USE AND OPERATIONS PLAN YATES PETROLEUM CORPORATION

Llama ALL Federal #10H
330' FSL and 1980' FWL, SHL
330' FNL and 1980' FWL. BHL
Section 7-T22S-R31E
Eddy 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.

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 47 miles east of Carlsbad, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

DIRECTIONS:

Go East of Carlsbad on Highway 62-180 to Hwy 31. Turn south on Hwy 31 and go to Hwy 128 (Jal Highway). Turn east and go approx. 10.7 miles to the WIPP road. Turn left on WIPP Rd. and go approx. 4.6 miles to just past a cattle guard. Turn left here on a pipe line road and go approx. 1.5 miles. There will be a compressor and a lease road going to the right. Turn right here and follow lease road approx. 1.5 to the Llama ALL Federal #1 well location. Continue going east on lease road for approx. 0.4 of a mile to the southwest corner of the proposed well location.

PLANNED ACCESS ROAD:

- A. There will be no new access road as the existing lease road goes to the southwest
- B. Existing roads will be maintained in the same or better condition than is presently exist.

3. LOCATION OF EXISTING WELL:

- A. There is no 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.

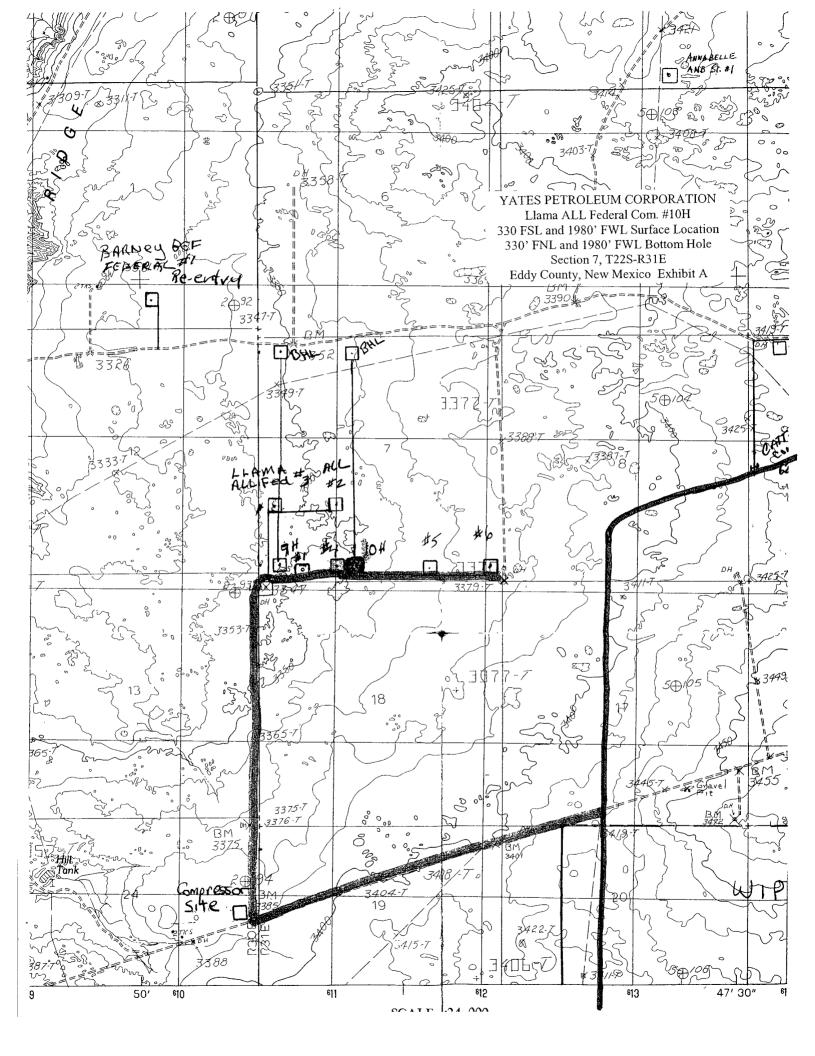
4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A There are production facilities on this lease at the present 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 electric power can be obtained 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

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PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME: YATES PETROLEUM CORPORTION
LEASE NO.: NM-81952
WELL NAME & NO.: Llama AIL Federal Com. #9H
SURFACE HOLE FOOTAGE: 330' FSL & 430' FWL
BOTTOM HOLE FOOTAGE LOCATION: Section 7, T. 22 S., R 31 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.

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🔲 Archaeology, Paleontology, and Historical Sites
Noxious Weeds
Special Requirements
Lesser Prairie Chicken
Ground-level Abandoned Well Marker
Construction
Notification
Topsoil
Reserve Pit
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Roads
Road Section Diagram
Drilling
☑ Production (Post Drilling)
Well Structures & Facilities
Reserve Pit Closure/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)

No surface use is allowed during the following time periods; unless otherwise specified, this stipulation does not apply to operation and maintenance of production facilities.

For the purpose of: Protecting Lesser Prairie-Chickens

- 1. Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.
- 2. Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

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) 234-5972 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 of the well pad. The topsoil to be stripped is approximately 8 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. RESERVE PITS

The reserve pit shall be constructed and closed in accordance with the NMOCD rules.

The reserve pit shall be constructed 175' X 150' on the North side of the well pad.

The reserve pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The reserve pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. 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 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.

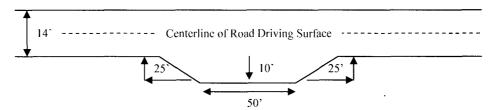
Ditching

Ditching shall be required 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:

Standard Turnout - Plan View

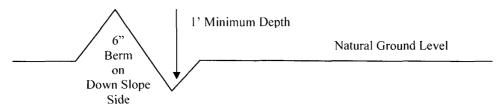


Drainage

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

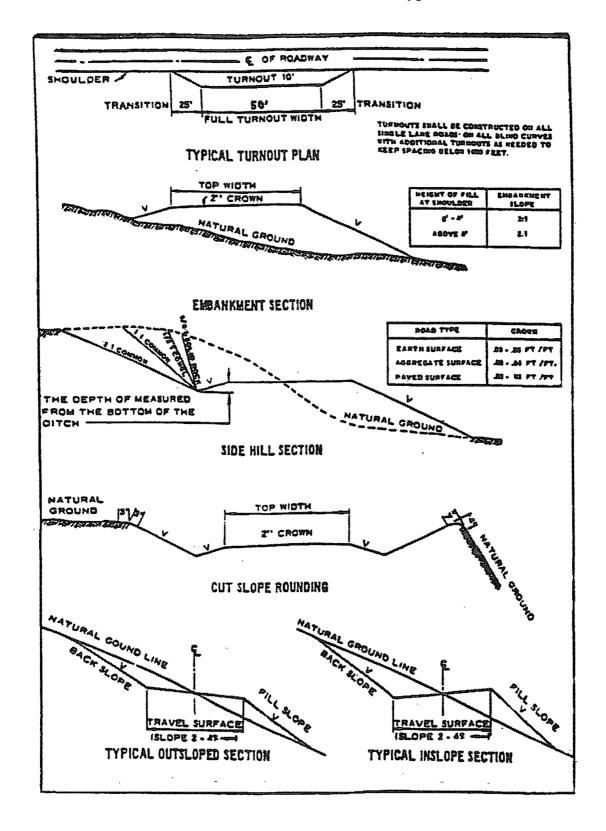
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Delaware** formation. **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.
- 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 are located, this does not include the dog house or stairway area.
- 4. Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface. The logs shall be run at a speed which allows the logs to be legible and no faster than manufacturer of the logging tools recommended speed. (R-111-P area only)

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

Wait on cement (WOC) time 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. 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.

Possible lost circulation in the Delaware and Bone Spring formations. Possible brine/water flows in the Salado and Castile Groups.

- 1. The 13-3/8 inch surface casing shall be set at approximately 510 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 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 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:

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
 - a. First stage to DV tool, cement shall:
 - Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job.
 - b. Second stage above DV tool, cement shall:
 - Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job.
- 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.
- 5. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

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. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. 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.
 - d. 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.
 - e. Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.

D. DRILL STEM TEST

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

E. WIPP Requirements

The proposed well is located within 330' of the WIPP Land Withdrawal Area boundary. As a result, Yates Petroleum Corporation is required to submit daily logs and deviation survey information to the Department of Energy per requirements of the Joint Powers Agreement. Information from this well will be included in the Quarterly Drilling Report. Information will also be provided to the New Mexico Oil Conservation Division after drilling activities have been completed. Any future entry into the well for purposes of completing additional drilling will require supplemental information.

Yates Petroleum Corporation can email the required information to Ms. Susan McCauslin at susan.mccauslin@wipp.ws or fax to her attention at 575-234-6003.

WWI 110308

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

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions 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 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.

B. RESERVE PIT CLOSURE

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:

Seed Mixture for LPC Sand/Shinnery 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 <u>no</u> 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	<u>lb/acre</u>
Plains B	ristlegrass 5lbs/A
Sand Blu	uestem 5lbs/A
Little Bl	uestem 3lbs/A
Big Blue	estem 6lbs/A
Plains C	oreopsis 2lbs/A
Sand Dre	opseed 1lbs/A
**Four-winged Saltbush	5lbs/A

^{*} This can be used around well pads and other areas where caliche cannot be removed.

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed (Insert Seed Mixture Here)

^{*}Pounds of pure live seed:

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.