

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or reenter an abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED
OMB No 1004-0135
Expires November 30, 2000

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2 Name of Operator

Yates Petroleum Corporation

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

3b. Phone No. (include area code)
(575) 748-1471

4 Location of Well (Footage, Sec., T., R., M., or Survey Description)

Surface: 30' FSL & 2310' FEL,
BHL: 330' FNL & 2310' FEL,
Section 3, T23S-R31E, Unit Letter (Surface O) (BHL B)

5. Lease Serial No

NM-81953

6 If Indian, Allottee or Tribe Name

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

8 Well Name and No

Glow Worm ALX Federal #19H

9. API Well No

30-015-37515

10 Field and Pool, or Exploratory Area

Los Mendanos; Delaware

11 County or Parish, State

Eddy, New Mexico

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input checked="" type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operations (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleation in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Yates Petroleum Corporation respectfully requests permission to change the hole and/or casing sizes as per attached:

R-111-P-POTASH
WIPP
Area

RECEIVED
SEP 12 2011
NMOCD ARTESIA

APPROVED
SEP 2 2011
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Thank-You.

14 I hereby certify that the foregoing is true and correct

Name (Printed/Typed)

Jeremiah Mullen

Title

Well Planner

Signature

Jeremiah Mullen

Date

August 11, 2011

THIS SPACE FOR FEDERAL OR STATE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice 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.	Office	

Title 18 U.S.C. Section 1001, 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

(Instructions on reverse)

CARLSBAD CONTROLLED WATER BASIN

Witness Surface &
Intermediate Casing

Accepted for record - NMOCD

Field Supervisor

SEP 20 2011

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

Glow Worm ALX Federal #19H

See
COA

Surface Casing set in 17 1/2" hole

Surface casing grade will be H-40/J55

0 ft to 820 ft		Make up Torque ft-lbs		Total ft =
O D	Weight	Grade	Threads opt. min mx	
13.375 inches	48 #/ft	J-55	ST&C	4,330 3,250 5,410
Collapse Resistance	Internal Yield	Joint Strength	Body Yield	Drift
740	2,370 psi	433,000 #	744,000 #	12.559

Cement design attached

Intermediate Casing set in 12 1/4" hole

Intermediate casing grade will be either J-55 or K-55

0 ft to 100 ft		Make up Torque ft-lbs		Total ft =
O.D	Weight	Grade	Threads opt. min mx	
9.625 inches	40 #/ft	J-55	LT&C	5,200 3,900 6,500
Collapse Resistance	Internal Yield	Joint Strength	Body Yield	Drift
2,570 psi	3,950 psi	520,000 #	630,000 #	8.75 SD

100 ft to 3,300 ft		Make up Torque ft-lbs		Total ft =
O.D	Weight	Grade	Threads opt. min mx	
9.625 inches	36 #/ft	K-55	LT&C	4,890 3,670 6,110
Collapse Resistance	Internal Yield	Joint Strength	Body Yield	Drift
2,020 psi	3,520 psi	489,000 #	564,000 #	8.765

3,300 ft to 4,125 ft		Make up Torque ft-lbs		Total ft =
O.D	Weight	Grade	Threads opt. min mx	
9.625 inches	40 #/ft	J-55	LT&C	5,200 3,900 6,500
Collapse Resistance	Internal Yield	Joint Strength	Body Yield	Drift
2,570 psi	3,950 psi	520,000 #	630,000 #	8.75 SD

Cement design attached

Production Casing

Drilled with an 8 3/4" hole to 8413' MD then reduce hole to 8 1/2" from 8413'-12,855' MD

0 ft to 7,600 ft		Make up Torque ft-lbs		Total ft =
O.D	Weight	Grade	Threads opt. min mx	
5.5 inches	17 #/ft	HCP-110	LT&C	4,620 3,470 5,780
Collapse Resistance	Internal Yield	Joint Strength	Body Yield	Drift
8,580 psi	10,640 psi	445,000 #	546,000 #	4.767

7,600 ft to 12,855 ft		Make up Torque ft-lbs		Total ft =
O.D	Weight	Grade	Threads opt. min mx	
5.5 inches	17 #/ft	L-80	LT&C	3,410 2,560 4,260
Collapse Resistance	Internal Yield	Joint Strength	Body Yield	Drift
6,290	7,740 psi	338,000 #	397,000 #	4.767

DV tools placed at 4500' and 7600'.

Stage I Cemented w/1335sx PVL (YLD 1 83 Wt 13) TOC= 7600'

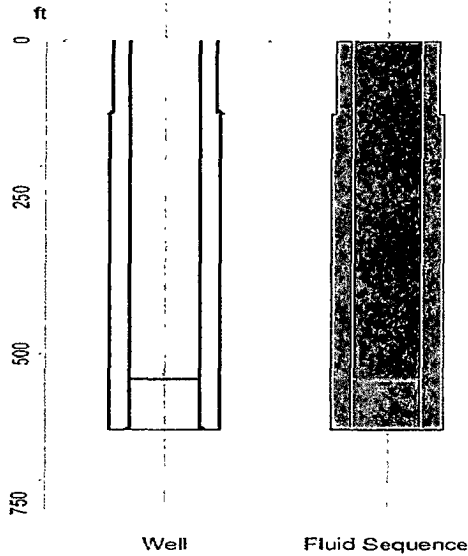
Stage II. Cemented w/530sx Lite Crete (YLD 2.66 Wt 9 9), tail w/100sx PVL (YLD 1 41 Wt 13) TOC= 4500'

Stage III Cemented w/800sx Lite Crete (YLD 2 66 Wt 9 9), tail w/100sx PVL (YLD 1 41 Wt 13) TOC= 0'

Surface Cement



WELL DATA



Well Data	
Job Type :	Casing Cementing
Total Depth (Measured) :	620.0 ft
True Vertical Depth (TVD) :	620.0 ft
BHST (Tubular Bottom Static Temperature) :	86 degF
BHCT (Tubular Bottom Circulating Temperature) :	80 degF

Open Hole		
Mean Diameter without Excess	Bottom Depth	Annular Excess
17.500 in	620.0 ft	100.0 %

Previous Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
20 in	94.0 lb/ft	J-55	LTC	1.99 ft ³ /ft	116.5 ft

Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
13 3/8 in	48.0 lb/ft	H-40	STC	0.88 ft ³ /ft	620.0 ft

IMPORTANT

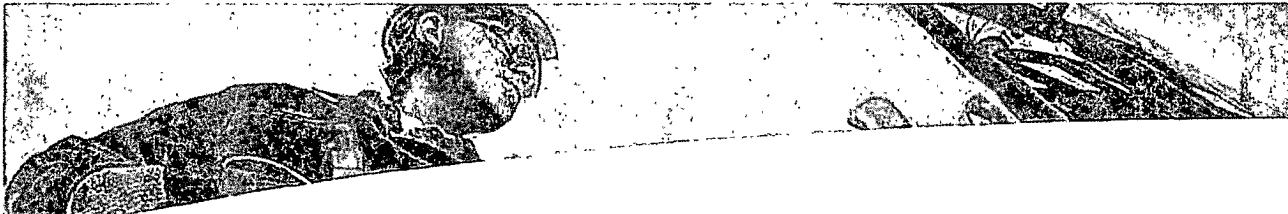
The well data shown on this page is based on information available when this treatment program was prepared. This data must be confirmed on location with the wellsite supervisor prior to the treatment. Any changes in the well data need to be reviewed for their impact on the treatment design.

Annular Capacity (without Excess) : Casing Bottom / Open Hole : 0.69 ft³/ft

Annular Capacity (without Excess) : Previous Casing Bottom / Casing : 1.02 ft³/ft

Fluid Placement			
Fluid Name	Volume bbl	Density lb/gal	Top of Fluid ft
Fresh Water	20.0	8.34	0.0
Cement Slurry	158.3	14.80	0.0
Fresh Water	84.8	8.34	0.0

Total Liquid Volume : 263.1 bbl



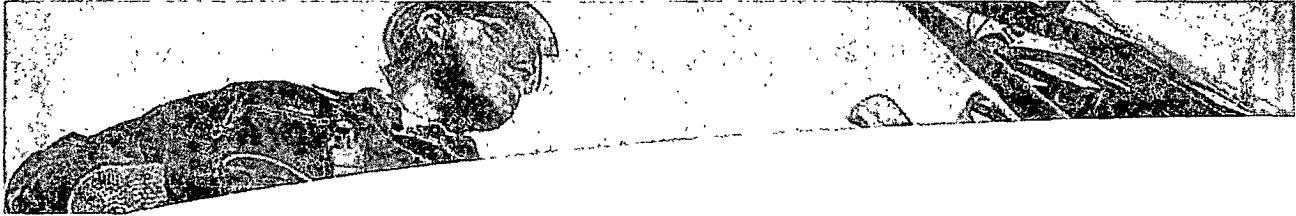
FLUID SYSTEMS

Fresh Water			
System	Water		
Density	8.34 lb/gal		
Total Volume	104.8 bbl		
Additives	Code	Description	Concentration

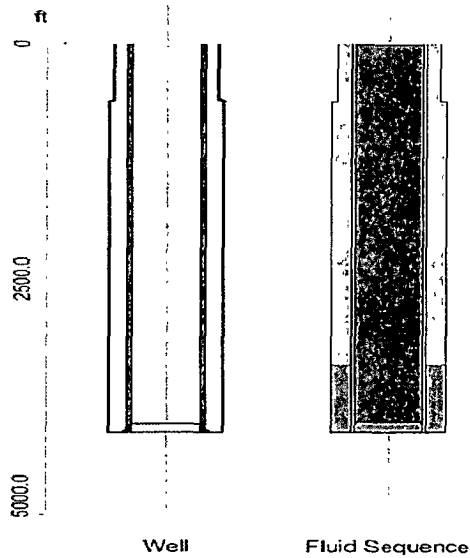
Cement Slurry (670 sacks, 94 lb per sack of Blend)			
System	Conventional		
Density	14.80 lb/gal		
Yield	1.35 ft ³ /sk		
Mixed Water	6 184 gal/sk		
Mixed Fluid	6 184 gal/sk		
Total Volume	158.3 bbl		
Expected Thickening Time	70 Bc at 03 12 hr mn		
Additives	Code	Description	Concentration
	C	Cement	94 lb/sk WBWOB
	D130	Lost Circulation Control Agent	0 lb/sk WBWOB
	D042	Extender	3 lb/sk WBWOB
	D046	Anti Foam	0.2 % BWOB
	S001	CaCl ₂	1.0 % BWOB

Some of the chemicals specified in this program may have toxic properties. All personnel should be familiar with the inherent dangers and appropriate safeguards to prevent accidental injury. Use of the chemicals may be governed by certain laws and regulations and should only be used in accordance with such. Please refer to the MSDS sheets for the recommended safety precautions and required minimum personal protective equipment.

Intermediate Cement



WELL DATA



Well Data	
Job Type :	Casing Cementing
Total Depth (Measured) :	4125.0 ft
True Vertical Depth (TVD) :	4125.0 ft
BHST (Tubular Bottom Static Temperature) :	118 degF
BHCT (Tubular Bottom Circulating Temperature) :	94 degF

Open Hole		
Mean Diameter without Excess	Bottom Depth	Annular Excess
12.250 in	4125.0 ft	100.0 %

Previous Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
13 3/8 in	48.0 lb/ft	H-40	STC	0.88 ft ³ /ft	620.0 ft

Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
9 5/8 in	40.0 lb/ft	K-55	BTC	0.43 ft ³ /ft	4125.0 ft

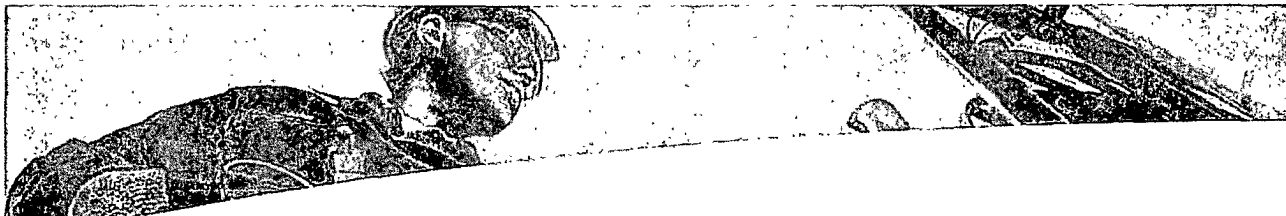
IMPORTANT

The well data shown on this page is based on information available when this treatment program was prepared. This data must be confirmed on location with the wellsite supervisor prior to the treatment. Any changes in the well data need to be reviewed for their impact on the treatment design.

Annular Capacity (without Excess) : Casing Bottom / Open Hole : 0.31 ft³/ft
 Annular Capacity (without Excess) : Previous Casing Bottom / Casing : 0.38 ft³/ft

Fluid Placement			
Fluid Name	Volume bbl	Density lb/gal	Top of Fluid ft
Fresh Water	20.0	8.34	0.0
Lead Slurry - 12.9ppg	352.7	12.90	0.0
Tail Slurry - 14.8ppg	86.0	14.80	3408.5
Fresh Water	306.7	8.34	0.0

Total Liquid Volume : 765.4 bbl



FLUID SYSTEMS

Fresh Water			
System	Water		
Density	8.34 lb/gal		
Total Volume	326.7 bbl		
Additives	Code	Description	Concentration

Lead Slurry - 12.9ppg (1010 sacks, 94 lb per sack of Blend)			
System	Conventional		
Density	12.90 lb/gal		
Yield	1.97 ft ³ /sk		
Mixed Water	10.689 gal/sk		
Mixed Fluid	10.689 gal/sk		
Total Volume	352.7 bbl		
Expected Thickening Time	70 Bc at 04:52 hr:mn		
Additives	Code	Description	Concentration
	C	Cement	94 lb/sk WBWOB
	D020	Extender	4.0 % BWOB
	D046	Anti Foam	0.2 % BWOB
	D042	Extender	3 lb/sk WBWOB
	D130	Lost Circulation Control Agent	0 lb/sk WBWOB

Tail Slurry - 14.8ppg (360 sacks, 94 lb per sack of Blend)			
System	Conventional		
Density	14.80 lb/gal		
Yield	1.35 ft ³ /sk		
Mixed Water	6.189 gal/sk		
Mixed Fluid	6.189 gal/sk		
Total Volume	86.0 bbl		
Expected Thickening Time	70 Bc at 04:40 hr:mn		
Additives	Code	Description	Concentration
	C	Cement	94 lb/sk WBWOB
	D046	Anti Foam	0.2 % BWOB
	D042	Extender	3 lb/sk WBWOB
	D130	Lost Circulation Control Agent	0 lb/sk WBWOB
	D201	Retarder	0.3 % BWOB

Some of the chemicals specified in this program may have toxic properties. All personnel should be familiar with the inherent dangers and appropriate safeguards to prevent accidental injury. Use of the chemicals may be governed by certain laws and regulations and should only be used in accordance with such. Please refer to the MSDS sheets for the recommended safety precautions and required minimum personal protective equipment.

OPERATOR'S NAME:	Yates Petroleum
LEASE NO.:	NMNM81953
WELL NAME & NO.:	Glow Worm ALX 19H
SURFACE HOLE FOOTAGE:	30' FSL & 2310' FEL
BOTTOM HOLE FOOTAGE:	330' FNL & 2310' FEL
LOCATION:	Section 3, T. 23 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

I. 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

R-111-P-POTASH

☒ **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 **Salado** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values 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 are located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing 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 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.

R-111-P potash / WIPP

Possible lost circulation in the Delaware and Bone Spring formations.

Possible water flows in the Salado, Castile, Delaware and Bone Spring formations.

1. The **13-3/8** inch surface casing shall be set at approximately **575** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
Fresh water mud to be used to setting depth.
 - 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. **Per R-111-P potash regulations, this casing is to be set a minimum of 100' below the salt and not more than 600' below the salt. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to R-111-P potash.**

Pilot Hole Plug:

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 shall be Class H and a minimum of 180' in length. Operator can set one Class H plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug.

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

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

Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

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 to surface. If cement does not circulate, contact the appropriate BLM office.

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 **2000 (2M)** 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 **3000 (3M)** psi.
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.
 - 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. **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. 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.

F. 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 drilling reports, logs and deviation survey information to the Bureau of Land Management and the Department of Energy per requirements of the Joint Powers Agreement until a total vertical depth of 7,000 feet is reached. These reports will have at a minimum the rate of penetration and a clearly marked section showing the deviation for each 500 foot interval. Operator may be required to do more frequent deviation surveys based on the daily information submitted and may be required to take other corrective measures. 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. Upon completion of the well, the operator shall submit a complete directional survey. 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 Mr. Mel Balderrama at melvin.balderrama@wipp.ws or fax to his attention at 575-234-6062.

EGF 090211