

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

FORM APPROVED
B No. 1004-0135
Expires November 30, 2000

C15K

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Yates Drilling Company

3a. Address

105 South 4th St., Artesia, NM

3b. Phone No. (include area code)

505-746-0308

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

1980' FSL & 1980' FEL Section 18-21S-27E

5. Lease Serial No.

NMNM0375257

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.

Avalon Federal #2

9. API Well No.

30-015-21491

10. Field and Pool, or Exploratory Area

Burton Flat Morrow

11. County or Parish, State

Eddy, NM

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 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 checked="" type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (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 recompleat 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 recompleat 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.)

This well produces approximately 1 barrel produced water per day from the Morrow formation. Water is stored in a 210 barrel fiberglass tank. Water will be trucked by OK Hot Oil Service to the AID State SWD well, NM B-4456. Attached is a water analysis for the produced water.

**APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS ATTACHED**



RECEIVED
2001 DEC 17 PM 1 04
BUREAU OF LAND MGMT.
CARLSBAD FIELD OFFICE

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Karen J. Leishman

Title Engineering Technician

Signature

Karen J. Leishman

Date 12-14-01

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by (ORIG. SGD.) ALEXIS C. SWOBODA

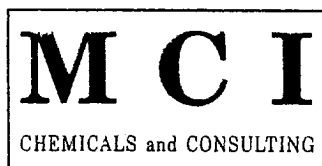
PETROLEUM ENGINEER

Title

Date JAN 18 2002

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



MILLER CHEMICALS, INC.

Post Office Box 298
 Artesia, N.M. 88211-0298
 (505) 746-1919 Artesia Office
 (505) 393-2893 Hobbs Office
 (505) 746-1918 Fax

WATER ANALYSIS REPORT

Company : YATES DRILLING CO. Date : 12-11-01
 Address : Date Sampled : 12-11-01
 Lease : AVALON FEDERAL Analysis No. :
 Well : #2
 Sample Pt. : WELLHEAD

ANALYSIS		mg/L		* meq/L
-----		----		-----
1. pH	6.7			
2. H2S	0			
3. Specific Gravity	1.010			
4. Total Dissolved Solids		13898.7		
5. Suspended Solids		NR		
6. Dissolved Oxygen		NR		
7. Dissolved CO2		NR		
8. Oil In Water		NR		
9. Phenolphthalein Alkalinity (CaCO3)				
10. Methyl Orange Alkalinity (CaCO3)				
11. Bicarbonate	HCO3	170.0	HCO3	2.8
12. Chloride	Cl	8094.0	Cl	228.3
13. Sulfate	SO4	350.0	SO4	7.3
14. Calcium	Ca	200.0	Ca	10.0
15. Magnesium	Mg	243.0	Mg	20.0
16. Sodium (calculated)	Na	4791.7	Na	208.4
17. Iron	Fe	50.0		
18. Barium	Ba	NR		
19. Strontium	Sr	NR		
20. Total Hardness (CaCO3)		1500.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter		Compound	Equiv wt X meq/L	=	mg/L
-----+	-----+				
10 *Ca <----- *HCO3	3	Ca (HCO3) 2	81.0	2.8	226
----- /----->	-----	CaSO4	68.1	7.2	490
20 *Mg -----> *SO4	7	CaCl2	55.5		
----- <-----/	-----	Mg (HCO3) 2	73.2		
208 *Na -----> *Cl	228	MgSO4	60.2	0.1	6
-----+	-----+	MgCl2	47.6	19.9	947
Saturation Values Dist. Water 20 C		NaHCO3	84.0		
CaCO3 13 mg/L		Na2SO4	71.0		
CaSO4 * 2H2O 2090 mg/L		NaCl	58.4	208.4	12180
BaSO4 2.4 mg/L					

REMARKS:

SCALE TENDENCY REPORT

Company	: YATES DRILLING CO.	Date	: 12-11-01
Address	:	Date Sampled	: 12-11-01
Lease	: AVALON FEDERAL	Analysis No.	:
Well	: #2	Analyst	: STEVE TIGERT
Sample Pt.	: WELLHEAD		

STABILITY INDEX CALCULATIONS
(Stiff-Davis Method)
CaCO₃ Scaling Tendency

S.I. =	-0.8	at	70 deg. F	or	21 deg. C
S.I. =	-0.8	at	90 deg. F	or	32 deg. C
S.I. =	-0.8	at	110 deg. F	or	43 deg. C
S.I. =	-0.7	at	130 deg. F	or	54 deg. C
S.I. =	-0.7	at	150 deg. F	or	66 deg. C

CALCIUM SULFATE SCALING TENDENCY CALCULATIONS
(Skillman-McDonald-Stiff Method)
Calcium Sulfate

S =	3099	at	70 deg. F	or	21 deg C
S =	3172	at	90 deg. F	or	32 deg C
S =	3207	at	110 deg. F	or	43 deg C
S =	3199	at	130 deg. F	or	54 deg C
S =	3173	at	150 deg. F	or	66 deg C

Respectfully submitted,
STEVE TIGERT