

DATE IN 5/8/06	SUSPENSE 5/24/06	ENGINEER WILL JONES	LOGGED IN 5/8/06	TYPE SWD	APP NO. PTDSC 12848130
6/15/06			6/1/06		
ABOVE THIS LINE FOR DIVISION USE ONLY 1030					

## NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



### ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

#### Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]  
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]  
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

- [1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]
- [A] Location - Spacing Unit - Simultaneous Dedication  
☐ NSL ☐ NSP ☐ SD
- Check One Only for [B] or [C]
- [B] Commingling - Storage - Measurement  
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR
- [D] Other: Specify \_\_\_\_\_
- [2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply
- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B] ☐ Offset Operators, Leaseholders or Surface Owner
- [C] ☐ Application is One Which Requires Published Legal Notice
- [D] ☐ Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached
- [3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is accurate and complete to the best of my knowledge. I also understand that no action will be taken on this application until the required information and notifications are submitted to the Division.

**Note:** Statement must be completed by an individual with managerial and/or supervisory capacity.

Print or Type Name

Signature

Title

Date

e-mail Address

30-015-26625

APPLICATION FOR AUTHORIZATION TO INJECT

Mary AIV State #1

- I. PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage  
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: Yates Petroleum Corporation  
ADDRESS: 105 South 4<sup>th</sup> Street  
CONTACT PARTY: Margrethe Hotter PHONE: (505) 748-4165
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? Yes X No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Margrethe Hotter TITLE: Operations Engineer  
SIGNATURE: Margrethe F. Hotter DATE: 4/11/06  
E-MAIL ADDRESS: mhotter@ypcnm.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

**C-108 Application for Authorization to Inject  
Yates Petroleum Corporation  
Mary AIV St #1  
Unit G, 1980 FNL & 1980 FEL, Sec.36, T21S, R31E  
Eddy County, New Mexico**

- I. The purpose of completing this well is to make a disposal well for produced Delaware Sand water into the Delaware Sand formation.

Yates Petroleum Corporation plans to convert this well to a water disposal well into the Delaware Sand.

- II. Operator: Yates Petroleum Corporation  
105 South Fourth Street  
Artesia, NM 88210  
Margrethe Hotter (505) 748-4165
- III. Well Data: See Attachment A
- IV. This is not an expansion of an existing project.
- V. See attached map, Attachment B.
- VI. 8 wells within the area of review penetrate the proposed injection zone. (See Attachment C)
- VII. 1. Proposed average daily injection volume approximately 7500 BWPD. Maximum daily injection volume approximately 8800 BWPD.
2. This will be a closed system.
3. Proposed average injection pressure –unknown.  
Proposed maximum injection pressure –1323 psi.
4. Sources of injected water would be produced water from the Delaware Sand. (Attachment D)
- VIII. 1. The proposed injection interval is the portion of the Delaware Sand formation consisting of porous Sandstone from estimated depths of 6614'-8325'.

*Cherry + BRUSHY*

**Application for Authorization to Inject  
Mary AIV St #1**

**-2-**

- 2. There are no fresh water zones overlying or underlying the proposed injection formations. The closest fresh water source is about 4 miles to the south west in Sec.16, T22S, R30E, with a water depth of 448'.**
- IX. The proposed disposal interval may be acidized with 7-1/2% HCL acid, or proppant fractured.**
- X. Logs were filed at your office when the well was drilled.**
- XI. There are no windmills or fresh water wells within a one-mile radius of the subject location.**
- XII. Yates Petroleum Corporation has examined geologic and engineering data and has found that there is no evidence of faulting in the proposed interval. (Attachment G)**
- XIII. Proof of notice.**
  - A. Certified letters sent to the surface owner and offset operators attached (Attachment E)**
  - B. Copy of legal advertisement attached. (Attachment F)**
- XIV. Certification is signed.**

**Yates Petroleum Corporation  
Mary AIV St #1  
G-36-T21S-R31E  
Eddy County, New Mexico**

**Attachment A**

III. Well Data

- A.
1. Lease Name/Location  
Mary AIV St #1  
G-36-T21S-R31E  
1980' FNL & 1980' FEL
  2. Casing Strings:
    - a. Present well condition  
13 3/8", 54.5# J-55 @ 852 w/800 sx (circ)  
8 5/8", 32# S80/J-55 @ 4480' w/1800 sx (circ).  
5 1/2", 17#, 15.5# @ 8470' w/670 sx
    - b. Present Status:  
Non-commercial completion in Delaware at 6614'-6666', 6885'-6943', 6991'-7018', 7074'-7105', 7462'-7464', 8078'-8156', 8,272'-8,325".
  3. Proposed well condition:  
Casing same as above.  
3 1/2" 9.3 J55 or 2-7/8" 6.5 J55 plastic-coated injection tubing @ 6585'
  4. Propose to use Guiberson or Baker plastic-coated or nickel-plated packer set at 6585'.
- B.
1. Injection Formation: Delaware Sands
  2. Injection Interval will be through perforations from approximately 6614'-8325' gross interval.
  3. Well was originally drilled as a Delaware Sand oil well. Well will be Delaware Sand water disposal well (6614'-8325') when work is completed.
  4. Perforations: High porosity sands between 6614'-8325'.
  5. Next higher (shallower) oil or gas zone within 2 miles-None.  
Next lower (deeper) oil or gas zone within 2 miles-Atoka.

**WELL NAME:** Mary AIV State #1

**FIELD:** Livingston Ridge

**LOCATION:** 1,980' FNL & 1,980' FEL of Section 36-21S-31E

Eddy Co., NM

**GL:** 3,603' **ZERO:** 14' **KB:** 3,617'

**SPUD DATE:** 1/31/91 **COMPLETION DATE:** 4/8/91

**COMMENTS:** API No.: 30-015-26625

**CASING PROGRAM**

13-3/8" 54.5# J55 STC	<b>852'</b>
8-5/8" 32# S80/J55	<b>4,480'</b>
5-1/2" 17# J55 LTC 1,047'	
5-1/2" 15.5# J55 LTC 5,808'	
5-1/2" 17# J55 LTC 1,615'	<b>8,470'</b>
2-7/8" 6.5# J55 EUE	

17-1/2"  
Hole

11" Hole

7-7/8" Hole

13-3/8" @ 852' w/  
800 sx cmt (Circ)

8-5/8" @ 4,480' w/1,700 sx cmt  
(Circ)

TOC = 5,704'

Delaware Sand Perfs:  
6,614-6,666'

6,885-6,943'

6,991-7,018' (22)

7,074-7,105' (18)

DV Tool @ 7,400'

Delaware Sand Perfs:  
7,462-7,464'

8,078-8,156'

8,272-8,325'

FC: 8,426'  
TD: 8,470'

5-1/2" @ 8,470'  
1<sup>st</sup> Stage: 260 "H"  
2<sup>nd</sup> Stage: 410 "H"

**Before**

**TOPS**

Rustler 631'  
Delaware 4,456'  
Cherry Cny 5,489'  
Brushy Cny 7,206'  
BS 8,392'

**Not to Scale**

4/11/06

DC/Margarethe

**WELL NAME:** Mary AIV State #1 **FIELD:** Livingston Ridge  
**LOCATION:** 1,980' FNL & 1,980' FEL of Section 36-21S-31E Eddy Co., NM  
**GL:** 3,603' **ZERO:** 14' **KB:** 3,617'  
**SPUD DATE:** 1/31/91 **COMPLETION DATE:** 4/8/91  
**COMMENTS:** API No.: 30-015-26625

# **CASING PROGRAM**

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2-7/8" 6.5# J55 EUE	

**After**

# **TOPS**

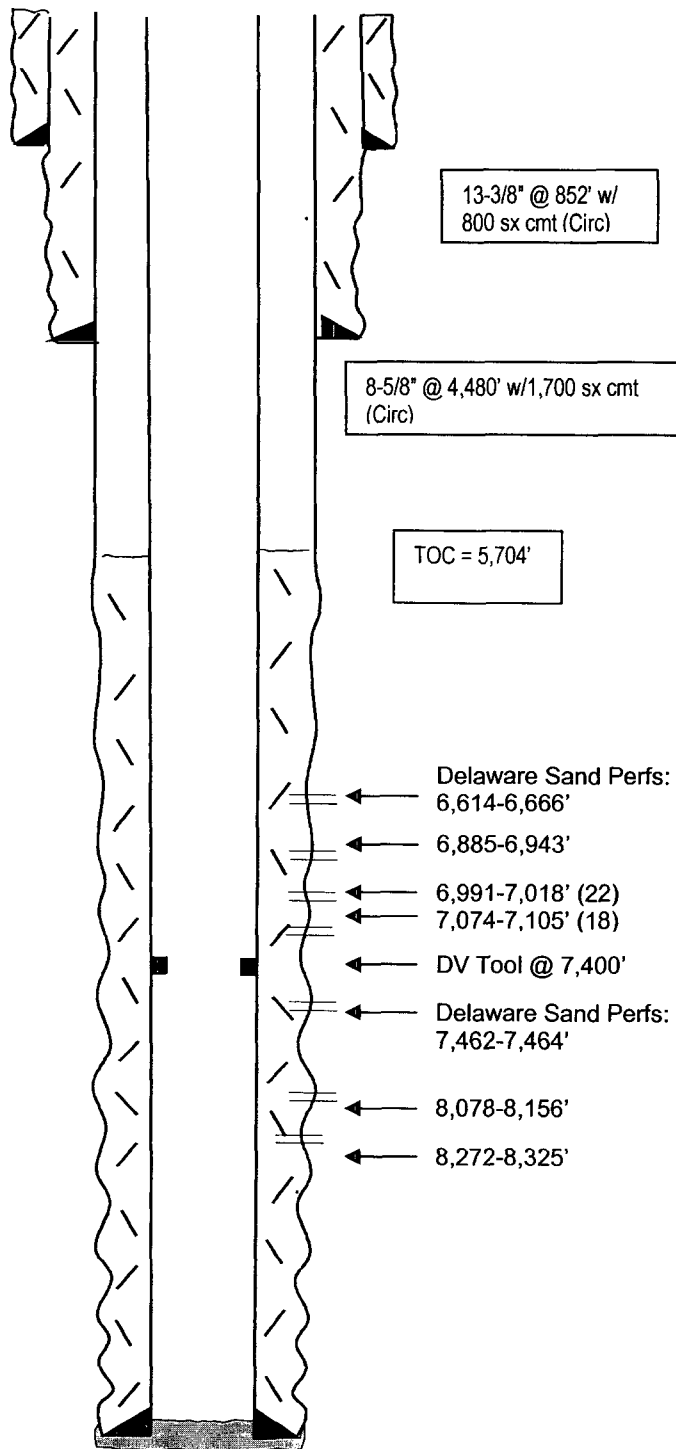
Rustler 631'  
 Delaware 4,456'  
 Cherry Cny 5,489'  
 Brushy Cny 7,206'  
 BS 8,392'

**Not to Scale**  
 4/11/06  
 DC/Margarethe

17-1/2"  
Hole

11" Hole

7-7/8" Hole



5-1/2" @ 8,470'  
 1<sup>st</sup> Stage: 260 "H"  
 2<sup>nd</sup> Stage: 410 "H"

Submit 3 Copies  
to Appropriate  
District Office

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-103  
Revised 1-1-89

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

APR 11 1991

O. C. D.

WELL API NO. 30-015-26625
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. LG 9280
7. Lease Name or Unit Agreement Name  Mary AIV State
8. Well No. 1
9. Pool name or Wildcat Livingston Ridge Delaware

SUNDRY NOTICES AND REPORTS ON WELLS  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A  
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT"  
(FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>	2. Name of Operator YATES PETROLEUM CORPORATION (505) 748-1471
3. Address of Operator 105 South 4th St., Artesia, New Mexico 88210	4. Well Location Unit Letter G : 1980 Feet From The North Line and 1980 Feet From The East Line Section 36 Township 21S Range 31E NMPM Eddy County
10. Elevation (Show whether DF, RKB, RT, GR, etc.) 3603' GR	

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data	
NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>
OTHER: <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
	CASING TEST AND CEMENT JOB <input type="checkbox"/>
	OTHER: 8-5/8" & 5-1/2" Casing, Perforate, Trt <input checked="" type="checkbox"/>

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.  
3-16-91. Ran 104 jts 8-5/8" 32# S-80 & J-55 casing set 4480. Guide shoe set 4480', float collar set 4441'. Cmt'd w/1500 sx "C" Lite, 10#/sx salt, 1/4#/sx Celloseal (yield 1.94, wt 12.9). Tail in w/200 sx "C", 1% CaCl2 (yield 1.32, wt 14.8). PD 4:47 AM 3-17-91. Bumped plug to 2100 psi, held OK. Circulated 300 sx. WOC. Drilled out 5:30 AM 3-18-91. WOC 24 hrs and 45 mins. NU and test to 1000 psi for 30 minutes. Reduced hole to 7-7/8", resumed drilling. TD 8470'. Reached TD 5:00 AM 3-27-91. Ran 198 jts 5 1/2" 17# & 15.5# J-55 LT&C casing set 8470'. Float shoe set 8470', float collar set 8426'. DV tool set 7400'. Cmt'd in 2 stages. Stage 1: 260 sx "H" w/5#/CSE, .7% CF-14, 10# Gilsonite (yield 1.45, wt 14.46). PD 5:00 PM 3-28-91. Circulate thru DV tool 2 hrs. Stage 2: 410 sx "H" w/5# CSE, .7% CF-14, 10#/sx Gilsonite (yield 1.46, wt 14.46). PD 8:10 PM 3-28-91 with 2250 psi for 15 minutes. Bumped plug to 1200 psi for 15 minutes. WOC 18 hrs. Drilled out DV tool at 7400'. Perforated 7074-7105' w/18 .41" holes as follows: 7074, 78, 80, 87, 90, 94, 96, 7104 and 7105'. Treated perms 7074-7105' w/2000 g. 7 1/2% NEFE acid. Frac'd perms w/7500g. 40# X-link gel + 22500# 20/40 sand. Perforated 6991-7018' w/22 - .41" holes as follows: 6991, 94, 95, 7000, 01, 06, 07, 08, 16, 17 and 7018',

I hereby certify that the information above is true and complete to the best of my knowledge and belief. (2 SPF). Acidized perms w/2000 g. 7 1/2% NEFE. Frac'd perms w/7500g. 40# X-link+22500# 20/40 sd. Production Supervisor DATE 4-9-91

SIGNATURE Juanita Goodlett

TYPE OR PRINT NAME Juanita Goodlett

TELEPHONE NO. 505/748-1471

(This space for State Use)

ORIGINAL SIGNED BY  
MIKE WILLIAMS

APPROVED BY SUPERVISOR, DISTRICT II

CONDITIONS OF APPROVAL, IF ANY:

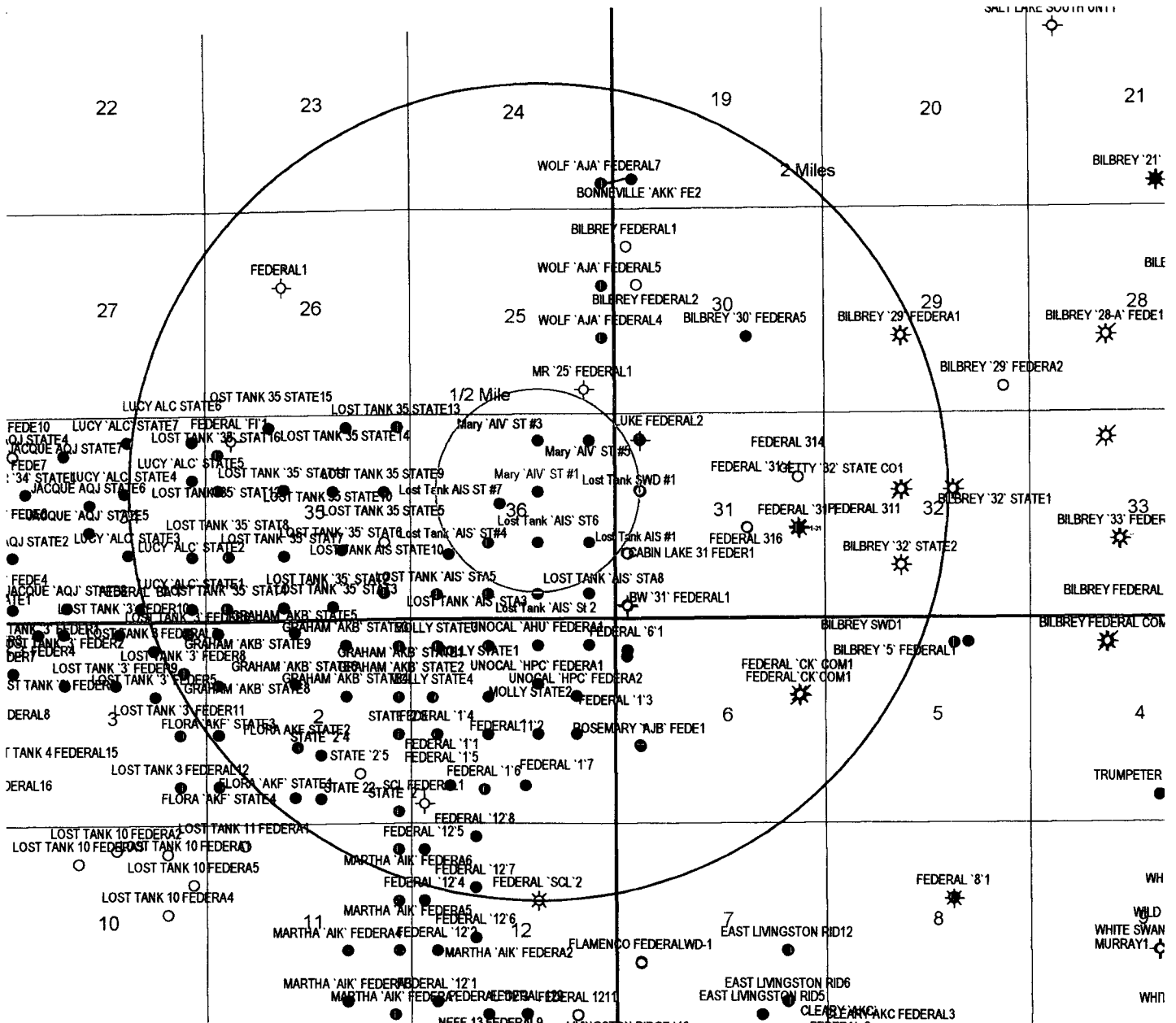
TITLE DATE

APR 10 1991

Attachment B



# ATTACHMENT B



<b>YATES PETROLEUM</b>		
MARY AIV STATE #1		
Author:		Date:
Debbie Chavez		14 April, 2006
M. Hotter		

Attachment B

Mary AIV State No. 1  
Form C-108

Tabulation of data on wells within area of review

Well Name	Operator	Type	Spud	Total Depth	Producing Zone	Perforations	Completion Information
Mary AIV State #3 660' FNL & 1980' FEL Sec. 36-21S-31E	Yates Petroleum Corp	Oil	5/20/1991	8500	Delaware	7103-7140', 7013-35', 8080-8127', 7705-07' 7462-64', 7361-72', 6647-83' ✓	13 3/8" @ 850'. Cmtd w/ 750 sx. 8 5/8" @ 4442' Cmtd w/ 1700 sx. 5 1/2" @ 8500' Cmtd w/ 1000 sx. TOC @ 4470
Mary AIV State #5 660' FNL & 330' FEL Sec. 36-21S-31E	Yates Petroleum Corp	Oil	12/13/1991	8565'	Delaware	6695-6712', 6798-6802', 6940-54', 7072-75', 8238-47', 8434-43' ✓	13 3/8" @ 850'. Cmtd w/ 850 sx. 8 5/8" @ 4260'. Cmtd w/ 1600 sx. 5 1/2" @ 8557'. Cmtd w/ 1450 sx. TOC @ Surface
Lost Tank AIS St #1 1980' FSL & 660' FEL Sec. 36-21S-31E	Yates Petroleum Corp	Oil	12/7/1991	8550'	Delaware	7148-7208', 8382-8406' ✓	13 3/8" @ 869'. Cmtd w/ 850 sx. 8 5/8" @ 4270'. Cmtd w/ 1675 sx. 5 1/2" @ 8550'. Cmtd w/ 1525 sx. TOC @ Surface
Lost Tank AIS St #4 1980' FSL & 1980' FWL Sec. 36-21S-31E	Yates Petroleum Corp	Oil	11/19/1991	8450'	Delaware	6978-83', 7051-82', 8277-94' ✓	13 3/8" @ 850'. Cmtd w/ 850 sx. 8 5/8" @ 4175'. Cmtd w/ 2225 sx. 5 1/2" @ 8450'. Cmtd w/ 1675 sx. TOC @ Surface
Lost Tank AIS St #6 1980' FSL & 1980' FEL Sec. 36-21S-31E	Yates Petroleum Corp	Oil	11/5/1991	8610'	Delaware	7057-97', 8299-8346', 8449-68' CIBP @ 8425' + 35' cmt ✓	13 3/8" @ 868'. Cmtd w/ 850 sx 8 5/8" @ 4240'. Cmtd w/ 1600 sx. 5 1/2" @ 8610'. Cmtd w/ 1850 sx. TOC @ Surface
Lost Tank AIS St #7 2310' FNL & 2310' FWL Sec. 36-21S-31E	Yates Petroleum Corp	Oil	5/21/2003	8500'	Delaware	8288-8306', 8322-26', 7508-16', 7664-68', 7794-97', 7860-64', 6834-52', 6868-74', 6940-50' ✓	13 3/8" @ 865'. Cmtd w/ 700 sx. 8 5/8" @ 4220'. Cmtd w/ 1585 sx. 5 1/2" @ 8500'. Cmtd w/ 980 sx. TOC @ 5533'
Lost Tank AIS St #10 1650' FSL & 990' FWL Sec. 36-21S-31E	Yates Petroleum Corp	Oil	2/20/2003	8508'	Delaware	6780-6810', 6840-48', 7042-50', 7818-28', 8240-56' ✓	13 3/8" @ 850'. Cmtd w/ 700 sx. 8 5/8" @ 4200'. Cmtd w/ 1300 sx. 5 1/2" @ 8508'. Cmtd w/ 1550 sx. TOC @ 5494'
Lost Tank SWD #1 1980' FNL & 660' FWL Sec. 31-21S-32E	Penroc Oil Corporation	SWD	11/12/1991	8364'	Delaware	5296-6012' CIBP @ 6350'. Cmtd w/ 4 sx ✓	13 3/8" @ 829'. Cmtd w/ 750 sx. 8 5/8" @ 4302'. Cmtd w/ 1050 sx. 5 1/2" @ 8103'. Cmtd w/ 1595 sx. TOC @ Surface

**TRETOLITE®****Chemicals and Services**
 16010 Barker's Point Lane • Houston, Texas 77079  
 713 558-5200 • Telex: 4620346 • FAX: 713 589-4737

 Reply to: P.O. Box FF  
 Artesia, New Mexico 88210  
 (505) 746-3588 Phone  
 (505) 746-3580 Fax
**WATER ANALYSIS REPORT**
 Company : YATES PETROLEUM  
 Address : ARTESIA, NM  
 Lease : MARY  
 Well : BATTERY  
 Sample Pt. : HEATER

 Date : 10/24/91  
 Date Sampled : 10/24/91  
 Analysis No. : 009

ANALYSIS	mg/L	* meq/L
-----	----	-----
1. pH	5.5	
2. H <sub>2</sub> S	0	
3. Specific Gravity	1.190	
4. Total Dissolved Solids	285759.5	
5. Suspended Solids		
6. Dissolved Oxygen		
7. Dissolved CO <sub>2</sub>		
8. Oil In Water		
9. Phenolphthalein Alkalinity (CaCO <sub>3</sub> )		
10. Methyl Orange Alkalinity (CaCO <sub>3</sub> )		
11. Bicarbonate HCO <sub>3</sub>	49.0	HCO <sub>3</sub> 0.8
12. Chloride Cl	179133.0	Cl 5053.1
13. Sulfate SO <sub>4</sub>	200.0	SO <sub>4</sub> 4.2
14. Calcium Ca	28240.0	Ca 1409.2
15. Magnesium Mg	6479.5	Mg 533.1
16. Sodium (calculated) Na	71633.0	Na 3115.8
17. Iron Fe	0.0	
18. Barium Ba	25.0	
19. Strontium Sr	0.0	
20. Total Hardness (CaCO <sub>3</sub> )	97200.0	

**PROBABLE MINERAL COMPOSITION**

*milli equivalents per Liter	Compound	Equiv wt	X meq/L	= mg/L
-----	-----	-----	-----	-----
1409 *Ca <----- *HCO <sub>3</sub>	Ca(HCO <sub>3</sub> ) <sub>2</sub>	81.0	0.8	65
----- /----->	CaSO <sub>4</sub>	68.1	4.2	283
533 *Mg -----> *SO <sub>4</sub>	CaCl <sub>2</sub>	55.5	1404.2	77920
----- <-----/	Mg(HCO <sub>3</sub> ) <sub>2</sub>	73.2		
3116 *Na -----> *Cl	MgSO <sub>4</sub>	60.2		
-----	MgCl <sub>2</sub>	47.6	533.1	25377
Saturation Values Dist. Water 20 C	NaHCO <sub>3</sub>	84.0		
CaCO <sub>3</sub> 13 mg/L	Na <sub>2</sub> SO <sub>4</sub>	71.0		
CaSO <sub>4</sub> * 2H <sub>2</sub> O 2090 mg/L	NaCl	58.4	3115.8	182089
BaSO <sub>4</sub> 2.4 mg/L				

**REMARKS:**

----- L. MALLETT / MLAB / FILE

Petroliite Oilfield Chemicals Group

Respectfully submitted,  
STEVE TIGERT

# Permian Treating Chemicals

## WATER ANALYSIS REPORT

*Handwritten signature*

### SAMPLE

Oil Co. : Yates Petroleum  
Lease : Lost Tank "AIS" St.  
Well No.: # 7  
Location:  
Attention:

Date Sampled : 20-October-2003  
Date Analyzed: 03-November-2003  
Lab ID Number: Nov0303.001- 10  
Salesperson :

File Name : F:\ANALYSES\Nov0303.001

### ANALYSIS

1. Ph 5.720
2. Specific Gravity 60/60 F. 1.218
3. CACO3 Saturation Index @ 80F 2.449  
@140F 2.889

#### Dissolved Gasses

4. Hydrogen Sulfide Not Present
5. Carbon Dioxide Not Determined
6. Dissolved Oxygen Not Determined

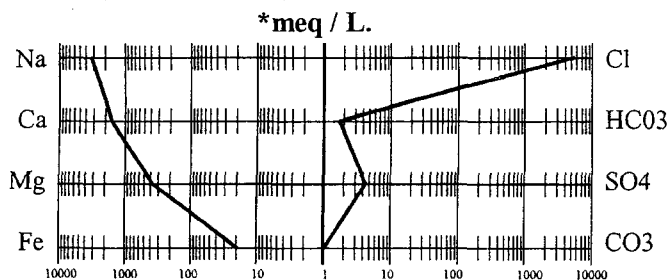
#### Cations

- |              |                    |          |          |          |
|--------------|--------------------|----------|----------|----------|
| 7. Calcium   | (Ca++)             | 31,062   | / 20.1 = | 1,545.37 |
| 8. Magnesium | (Mg++)             | 4,315    | / 12.2 = | 353.69   |
| 9. Sodium    | (Na+) (Calculated) | 71,091   | / 23.0 = | 3,090.91 |
| 10. Barium   | (Ba++)             | Below 10 |          |          |

#### Anions

- |                                      |         |            |          |          |
|--------------------------------------|---------|------------|----------|----------|
| 11. Hydroxyl                         | (OH-)   | 0          | / 17.0 = | 0.00     |
| 12. Carbonate                        | (CO3=)  | 0          | / 30.0 = | 0.00     |
| 13. Bicarbonate                      | (HCO3-) | 103        | / 61.1 = | 1.69     |
| 14. Sulfate                          | (SO4=)  | 200        | / 48.8 = | 4.10     |
| 15. Chloride                         | (Cl-)   | 176,960    | / 35.5 = | 4,984.79 |
| 16. Total Dissolved Solids           |         | 283,731    |          |          |
| 17. Total Iron                       | (Fe)    | 338        | / 18.2 = | 18.54    |
| 18. Total Hardness as CaCO3          |         | 95,335     |          |          |
| 19. Resistivity @ 75 F. (Calculated) |         | 0.001 /cm. |          |          |

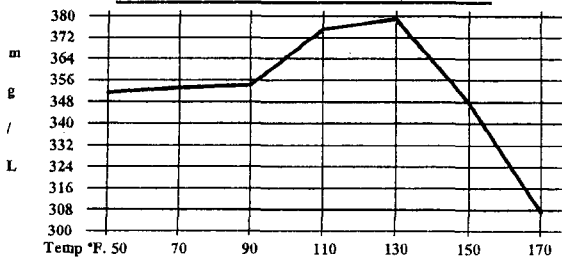
#### LOGARITHMIC WATER PATTERN



#### PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X	*meq/L =	mg/L.
Ca(HCO3)2	81.04		1.69	137
CaSO4	68.07		4.10	279
CaCl2	55.50		1,539.59	85,447
Mg(HCO3)2	73.17		0.00	0
MgSO4	60.19		0.00	0
MgCl2	47.62		353.69	16,843
NaHCO3	84.00		0.00	0
NaSO4	71.03		0.00	0
NaCl	58.46		3,091.51	180,730

#### Calcium Sulfate Solubility Profile





# ATTACHMENT E

COMPLETE THIS SECTION ON DELIVERY

For delivery info

OF

Postage

Certified

Return Receipt for  
(Endorsement Required)

Restricted Delivery for  
(Endorsement Required)

Total Postage

Sent To

Street, Apt. No.  
or PO Box No.  
City, State, Zip

PS Form 3800, June

- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Penroc Oil Corporation  
P.O. Box 2769  
Hobbs, NM 88241

Mary AI V St #1

2. Article Number

(Transfer from service label)

7006 0100 0003 9638 6896

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

Hobbs, NM 88241

Gentlemen;

Enclosed please find a copy of form C-108 (Application for Authority to Inject) on Yates Petroleum Corporation Mary AIV St #1 located in Unit G, Section 36-T21S-R31E of Eddy County New Mexico.

Should you have any questions, please feel free to contact me at (505) 748-4165.

Sincerely,

*Margrethe F. Hotter*

Margrethe F. Hotter  
Area Engineer

Enclosure

Signature

*AP*

B. Received by (Printed Name)

Argir Alex

C. Date of Delivery

D. Is delivery address different from item 1?

If YES, enter delivery address below:

☐ Yes

☐ No

3. Service Type

☐ Certified Mail

☐ Express Mail

☐ Registered

☐ Return Receipt for Merchandise

☐ Insured Mail

☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

S. P. YATES  
CHAIRMAN OF THE BOARD  
JOHN A. YATES  
PRESIDENT  
PEYTON YATES  
EXECUTIVE VICE PRESIDENT  
RANDY G. PATTERSON  
SECRETARY  
DENNIS G. KINSEY  
TREASURER

**U.S. Postal Service**  
**CERTIFIED MAIL**  
 (Domestic Mail Only, No International)

For delivery information visit **usps.com**

**OFFICE**

Postage \$  
 Certified Fee  
 Return Receipt Fee (Endorsement Required)  
 Restricted Delivery Fee (Endorsement Required)

Total Fee

Sent To **Jim Amos**  
 Bureau of Land Management  
 620 E. Greene Street  
 Carlsbad, New Mexico 88220-6292

PS Form 3800, June 2002

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Jim Amos  
 Bureau of Land Management  
 620 E. Greene Street  
 Carlsbad, New Mexico 88220-6292

Mary AIV St #1

2. Article Number  
 (Transfer from service label)

7006 0100 0003 9638 6902

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

620 E. Greene St  
 Carlsbad, New Mexico 88220-6292

Dear Mr. Amos,

Enclosed please find a copy of form C-108 (Application for Authority to Inject) on Yates Petroleum Corporation Mary AIV St #1 located in Unit G, Section 36-T21S-R31E of Eddy County New Mexico.

Should you have any questions, please feel free to contact me at (505) 748-4165.

Sincerely,

*Margrethe F. Hotter*  
 Margrethe F. Hotter  
 Area Engineer

Enclosure

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *[Signature]*

☐ Agent  
☐ Addressee

S. P. YATES  
 CHAIRMAN OF THE BOARD  
 JOHN A. YATES  
 PRESIDENT  
 PEYTON YATES  
 EXECUTIVE VICE PRESIDENT  
 'DY G. PATTERSON  
 SECRETARY  
 ENNIS G. KINSEY  
 TREASURER

B. Received by (Printed Name)

*[Signature]*

C. Date of Delivery

9-24

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

**U.S. Postal Service**  
**CERTIFIED MAIL**  
*Domestic Mail Only*

For delivery information  
**OFFICIAL**

Postage \$  
 Certified Fee  
 Return Receipt Fee (Endorsement Required)  
 Restricted Delivery Fee (Endorsement Required)

Total \$

Sent To  
 State of New Mexico  
 Commissioner of Public Lands  
 P.O. Box 1148  
 Santa Fe, NM 87504-1148

Street, Apt. or PO Box  
 City, State

PS Form 3811, February 2004

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr Pete Martinez  
 State of New Mexico  
 Commissioner of Public Lands  
 P.O. Box 1148  
 Santa Fe, NM 87504-1148

2. Article Number

(Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

☐ Agent

☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

☐ Certified Mail

☐ Express Mail

☐ Registered

☒ Return Receipt for Merchandise

☐ Insured Mail

☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

7004 1350 0005 3317 9727

S. P. YATES  
 CHAIRMAN OF THE BOARD  
 JOHN A. YATES  
 PRESIDENT  
 PEYTON YATES  
 EXECUTIVE VICE PRESIDENT  
 ANDY G. PATTERSON  
 SECRETARY  
 DENNIS G. KINSEY  
 TREASURER

Apr PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

Mr. Pete Martinez  
 State of New Mexico  
 Commissioner of Public Lands  
 P.O. Box 1148  
 Santa Fe, New Mexico 87504-1148

Re: Mary AIV State #1

Dear Mr. Martinez:

Enclosed please find a copy of form C-108 (Application for Authority to Inject) on Yates Petroleum Corporation Mary AIV State #1 located in Unit G, Section 36-T21S-R31E of Eddy County, New Mexico.

If you have any questions or need additional information, please call me at (505) 748-4165.

Sincerely,

*Margrethe F. Hotter*

Margrethe F. Hotter  
 Area Engineer

Enclosures

**U.S. POSTAL SERVICE**  
**CERTIFIED MAIL**  
 (Domestic Mail Only)  
 For delivery information  
**OFF**

Postage  
 Certified Fee  
 Return Receipt Fee (Endorsement Required)  
 Restricted Delivery Fee (Endorsement Required)  
 Total Post

Sent To  
 Pogo Producing Company  
 P.O. Box  
 Houston, TX  
 Street, Apt. or PO Box  
 City, State

PS Form 3800, June 2002

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Pogo Producing Company  
 P.O. Box 2504  
 Houston, TX 77252-2504  
 Mary AIV St #1

2. Article Number  
 (Transfer from service label)

7006 0100 0003 9638 6889

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 X GEE ☐ Agent ☐ Addressee

B. Received by (Printed Name) **APR 27 2006** Date of Delivery

D. Is delivery address different from item 1? ☐ Yes ☐ No  
 If YES, enter delivery address below:

3. Service Type  
☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

S. P. YATES  
 CHAIRMAN OF THE BOARD  
 JOHN A. YATES  
 PRESIDENT  
 PEYTON YATES  
 EXECUTIVE VICE PRESIDENT  
 RANDY G. PATTERSON  
 SECRETARY  
 DENNIS G. KINSEY  
 TREASURER

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540


Houston, TX 77252-2504

Gentlemen;

Enclosed please find a copy of form C-108 (Application for Authority to Inject) on Yates Petroleum Corporation Mary AIV St #1 located in Unit G, Section 36-T21S-R31E of Eddy County New Mexico.

Should you have any questions, please feel free to contact me at (505) 748-4165.

Sincerely,

  
 Margrethe F. Hotter  
 Area Engineer

Enclosure



# ATTACHMENT F

## Affidavit of Publication

NO. 19239

STATE OF NEW MEXICO

County of Eddy:

Gary D. Scott being duly

sworn, says: That he is the Publisher of The

Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and county and state, and that the here to attached

### Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for 1 Consecutiv week/days on the same day as follows:

First Publication April 30 2006


Second Publication

Third Publication

Fourth Publication

  
Subscribed and sworn to before me this

2nd Day May 2006

  
Notary Public, Eddy County, New Mexico

My Commission expires September :23, 2007

Copy of

### LEGAL NOTICE

#### Legal Notice

Yates Petroleum Corporation, 105 south Fourth Street, Artesia, NM 88210, has filed form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for an injection well. The proposed well the Mary AIV St #1 located 1980' FNL & 1980' FEL, Unit G, Section 36, Township 21 South, Range 31 East of Eddy County, New Mexico, will be used for saltwater disposal. Produced waters from the Delaware Sand will be re-injected into the Delaware Sand at a depth of 6614'-8325' with a maximum pressure of 1323 psi and a maximum rate of 8800 BWPD.

All interested parties opposing the aforementioned must file objections or requests for a hearing with the Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505-5472, within 15 days. Additional information can be obtained by contacting Margrethe Hotter at (505) 748-4165.

C-108 Application for Authorization to Inject  
Yates Petroleum Corporation  
Mary AIV St #1  
Unit 6, Section 36  
T21S-R31E  
Eddy County, New Mexico

Available engineering and geological data have been examined and no evidence of open faults of hydrologic connection between the disposal zone and any underground sources of drinking water has been found.

Ray Podany

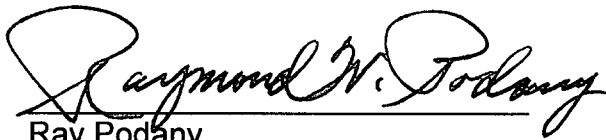
Geologist  
Yates Petroleum Corporation  
Published in the Artesia Daily Press, Artesia, N.M. April 30, 2006.

Legal 19239

**Attachment G**

C-108 Application for Authorization to Inject  
Yates Petroleum Corporation  
Mary AIV St #1  
Unit 6, Section 36 T21S-R31E  
Eddy County, New Mexico

Available engineering and geological data have been examined and no evidence of open faults of hydrologic connection between the disposal zone and any underground sources of drinking water has been found.

A handwritten signature in black ink, reading "Raymond W. Podany". The signature is written in a cursive style with a large, looping "R" and "P".

Ray Podany  
Geologist  
Yates Petroleum Corporation

4/21/2006  
Date

MARTIN YATES, III  
1912 - 1985  
FRANK W. YATES  
1936 - 1986



105 SOUTH FOURTH STREET  
ARTESIA, NEW MEXICO 88210-2118  
TELEPHONE (505) 748-1471

S. P. YATES  
CHAIRMAN OF THE BOARD  
JOHN A. YATES  
PRESIDENT  
PEYTON YATES  
EXECUTIVE VICE PRESIDENT  
RANDY G. PATTERSON  
SECRETARY  
DENNIS G. KINSEY  
TREASURER

April 21, 2006

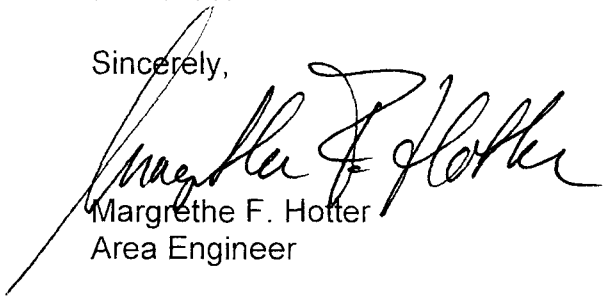
William Jones  
New Mexico Energy & Minerals Department  
Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, New Mexico 87505

Dear Mr. Jones,

Enclosed please find a copy of form C-108 (Application for Authority to Inject) on Yates Petroleum Corporation Mary AIV St #1 located in Unit G, Section 36-T21S-R31E of Eddy County New Mexico.

Should you have any questions, please feel free to contact me at (505) 748-4165.

Sincerely,

  
Margrethe F. Hotter  
Area Engineer

Enclosure

2006 MAY 8 PM 12 43

MARTIN YATES, III  
1912 - 1985  
FRANK W. YATES  
1936 - 1986



105 SOUTH FOURTH STREET  
ARTESIA, NEW MEXICO 88210-2118  
TELEPHONE (505) 748-1471

S. P. YATES  
CHAIRMAN OF THE BOARD  
JOHN A. YATES  
PRESIDENT  
PEYTON YATES  
EXECUTIVE VICE PRESIDENT  
RANDY G. PATTERSON  
SECRETARY  
DENNIS G. KINSEY  
TREASURER

MAY 26 PM 12 51

May 24, 2006

Will Jones  
State of New Mexico  
OIL CONSERVATION DIVISION  
1220 South Saint Francis Drive  
Santa Fe, NM 87505

Re: Mary AIV State #1

Dear Mr. Jones,

Please find enclosed the additional information that you requested for the C-108 for the Mary AIV State #1.

If you have any questions or need additional information, please call me at (505) 748-4361.

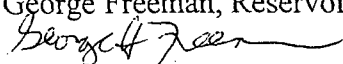
Sincerely,

Debbie Chavez  
Engineering Technician

Enclosures

May 23, 2006

To: Margrethe Hotter

From: George Freeman, Reservoir Engineering Supervisor, Yates Petroleum Corp.  


Copies: Pinson McWhorter, Dave Boneau, Carolyn Yates, Ray Stall

Subject: Reservoir Engineering Comments on Proposed SWD in Mary AIV St. #1

Cumulative production through March 2006 from the Mary AIV St. #1 is 61,000 stbo, 59,000 mcf and 229,000 bw, which represents a reservoir volume of 320,000 bbl. Future water injection into the productive interval up to this cumulative amount could be considered to be refilling the volume drained by the same well. Cumulative water injection above this amount would be expected to partially fill the volume drained by other surrounding wells.

Yates Petroleum Corporation operates the six wells which directly offset the Mary #1. These wells all produce from the same intervals proposed for SWD. The cumulative production from the six wells is 232,000 stbo, 705,000 mcf and 1,500,000 bw, equivalent to 2,100,000 bbl. reservoir volume.

Water injection into the drainage area of the six wells would increase the reservoir pressure and cause the total fluid production rates to increase. The effect that this would have on the ultimate oil and gas recovery is uncertain but would probably be positive, based on a limited amount of special core analysis data that shows a favorable mobility ratio. Eventually the water cuts of the producing wells would increase.

Since the water that is proposed for disposal is produced from the same formation, water compatibility should not be an issue.

Please let me know if you need more information.

GHF

**Jones, William V., EMNRD**

---

**From:** Jones, William V., EMNRD  
**Sent:** Friday, May 19, 2006 4:21 PM  
**To:** 'Margrethe Hotter'  
**Cc:** Ezeanyim, Richard, EMNRD; Barton, Van, EMNRD  
**Subject:** RE: SWD application: Mary AIV State Well No. 1 30-015-26625

**Tracking:** **Recipient**                      **Read**  
                   'Margrethe Hotter'  
                   Ezeanyim, Richard, EMNRD Read: 5/22/2006 8:25 AM  
                   Barton, Van, EMNRD

Hello Margrethe:

Sorry to have used the term "waste" water. I have been around government too long I think. EPA calls salt water disposal, disposal of oil field waste water. I know you are only re-injecting the yukky Delaware water.

The reason I am asking for a reservoir engineer's opinion on this is one of my duties here is to prevent waste of oil and gas in the reservoirs. If the Delaware is producing in this area and you are wanting to inject water into the Delaware then it is possible the salt water will cause "waste of oil and gas resources". Reservoir engineers look at not only the comparison of intervals that are being used (is the injection perforations at the same depths as the producing intervals in offset wells) but also they look at mobility ratios which compares the permeability and viscosity of the injected water with the permeability and viscosity of the oil in the Delaware. In other words, will the injected water, "water-out" the Delaware or will it be neutral or will it actually help sweep oil to one of the producing wells?

Heads up on another subject: Please have one of your field people check the bradenhead of this well for any continuous flow. Since you have an offset injection well in the Bell Canyon (permitted in 1992) that may be hitting your wellbore and moving up, it is possible that you have a bradenhead problem, even if it is not your fault.

I will write the permit such that any problem of the bradenhead be solved prior to injection.

Thank You,

William V. Jones                      Engineering Bureau                      Oil Conservation Division                      Santa Fe

---

**From:** Margrethe Hotter [mailto:mhotter@YPCNM.COM]  
**Sent:** Friday, May 19, 2006 4:01 PM  
**To:** Jones, William V., EMNRD  
**Subject:** RE: SWD application: Mary AIV State Well No. 1 30-015-26625

Hello Mr. Jones,

I am sorry, but I have to bother you with a question.

In your question to our reservoir engineer you ask:" .... what effect injecting waste water into....".

I have been asked to clarify with you, if you with waste water mean produced water? This is the first water disposal well I am involved with so I may have not been too clear. The plan is to bring water in from some of our other leases in the area to dispose into this well, but all the produced water will be from the same Delaware formation. We will not take water from other operators (it is hard enough finding enough disposal for our own Delaware water) nor will we dispose water from other formations.

5/24/2006

If you have time to clarify that I would truly appreciate it.

Have a wonderful weekend!!!!

Regards,

Margrethe Hotter

-----Original Message-----

**From:** Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]

**Sent:** Wednesday, May 10, 2006 3:16 PM

**To:** Margrethe Hotter

**Subject:** RE: SWD application: Mary AIV State Well No. 1 30-015-26625

Margrethe:

Thank you for your immediate attention to this.

Also, thanks for the explanation of the Bell Canyon - I am not experienced in the Delaware, so any new knowledge is great.

I will wait for your proof of notice and engineer's explanation.

Regards,

William V. Jones

Engineering Bureau

Oil Conservation Division

Santa Fe

---

**From:** Margrethe Hotter [mailto:mhotter@YPCNM.COM]

**Sent:** Wednesday, May 10, 2006 1:57 PM

**To:** Jones, William V., EMNRD

**Cc:** Ezeanyim, Richard, EMNRD; Duran-Saenz, Theresa, EMNRD; Arrant, Bryan, EMNRD; Sanchez, Daniel J., EMNRD

**Subject:** RE: SWD application: Mary AIV State Well No. 1 30-015-26625

Hello Mr. Jones,

1), 2), 3a)

I will find who the nearest Potash Lessee is, notify them and send proof of notice to Santa Fe. I will at the same time send a CBL on the 5 ½" casing and an explanation letter from our reservoir engineer concerning the effect injecting produced water into the formation.

3b).

The interval 4570-4700 is in the Bell Canyon formation. We have never produced from or injected into this interval. Penroc's disposal well that is within the AOI, the Lost Tank SWD #1 got the approval to dispose into this interval, 4615'-6012' on May 27<sup>th</sup> 1992 (Administrative order SWD-475), but according to the public information available they only perforated and is injecting into the interval 5296'-6012'.

Thank you,

Margrethe Hotter

-----Original Message-----

**From:** Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]

**Sent:** Wednesday, May 10, 2006 9:55 AM

**To:** Margrethe Hotter

**Cc:** Ezeanyim, Richard, EMNRD; Duran-Saenz, Theresa, EMNRD; Arrant, Bryan, EMNRD; Sanchez, Daniel J., EMNRD

**Subject:** SWD application: Mary AIV State Well No. 1 30-015-26625

Hello Ms. Hotter:

The Division received your application on 8 May 2006, reviewed the application and has the following comments and requests:

- 1) This location is in the "Potash Area" as defined in division order R-111-P. You have notified the BLM already. However, since this well is being proposed for conversion to injection, please notify the nearest Potash Lessee of this fact. Send proof of that notice to Santa Fe.
- 2) Please check for a temperature survey or CBL on the 5-1/2 inch casing. If one exists, please send a "copy" to the Santa Fe Office.
- 3) Consult your geologist or engineer for the following:
  - a) Yates operates several Delaware producing wells in this general interval within one half mile. Please send an explanation (signed by a reservoir engineer) of what effect injecting waste water into this same gross interval will have on that production.
  - b) There is an interval from approximately 4570 to 4700 in this well that seems to have different log characteristics: higher porosity, lower short resistivity, some washouts. What formation is over that depth and is it ever produced or injected into? In this well and in most of the AOR wells, that interval is above the cement top.

As per Division rules, the 15 day suspense period must start after the application is considered "complete".

Comment for Bryan:

Looks like the mud log in this imaged well file may belong to another well? There is definitely a resistivity log in this well file that appears to be from a different well.

Thank You,

William V. Jones

Engineering Bureau

Oil Conservation Division

Santa Fe



**U.S. Postal Service**  
**CERTIFIED MAIL**  
 (Domestic Mail Only, No Inland)

For delivery information visit [usps.com](http://usps.com)

**OFFICE**

Postage \$ \_\_\_\_\_  
 Certified Fee \_\_\_\_\_  
 Return Receipt Fee (Endorsement Required) \_\_\_\_\_  
 Restricted Delivery Fee (Endorsement Required) \_\_\_\_\_  
 Total Po \_\_\_\_\_

Sent To  
 Tom McGuire  
 Intrepid Mining  
 P.O. Box 101  
 Carlsbad, New Mexico

Street, Apt. or PO Box  
 City, State

PS Form 3800, June 2002

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. ~~Also~~ complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Tom McGuire  
 Intrepid Mining NM LLC  
 P.O. Box 101  
 Carlsbad, New Mexico 88220

2. Article Number  
 (Transfer from service label)

Mary AIV St #1

7006 0100 0003 9638 6872

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1540

Tom McGuire  
 Intrepid Mining NM LLC  
 P.O. Box 101  
 Carlsbad, New Mexico 88220

Dear Mr. McGuire,

Enclosed please find a copy of form C-108 (Application for Authority to Inject) on Yates Petroleum Corporation Mary AIV St #1 located in Unit G, Section 36-T21S-R31E of Eddy County New Mexico.

Should you have any questions, please feel free to contact me at (505) 748-4165.

Sincerely,

*Margrethe F. Hotter*

Margrethe F. Hotter  
 Area Engineer

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

*Mary AIV St #1*

B. Received by (Printed Name)

☐ Agent  
☐ Addressee  
☐ Date of Delivery  
☐ No  
☐ Yes

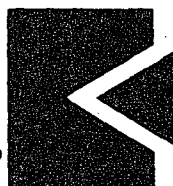
D. Is delivery address different from item 1?  
 If YES, enter delivery address below

3. Service Type

- ☐ Certified Mail ☐ Express Mail
- ☐ Registered ☐ Return Receipt for Merchandise
- ☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

P. YATES  
 MAN OF THE BOARD  
 IN A. YATES  
 PRESIDENT  
 /TON YATES  
 IVE VICE PRESIDENT  
 / G. PATTERSON  
 SECRETARY  
 NIS G. KINSEY  
 TREASURER



# WEDGE WIRELINE INC.

Wedge Energy Group

## CEMENT BOND / GAMMA RAY LOG

FILING NO.						
COMPANY <u>YATES PETROLEUM</u>						
WELL <u>MARY "A" STATE #1</u>						
FIELD <u>WILDCAT</u>						
COUNTY <u>EDDY</u> STATE <u>NEW MEXICO</u>						
LOCATION: <u>1980' ENCL 1980' FEL</u>						
SEC. <u>36</u> TWP. <u>21-S</u> RGE. <u>31-E</u>						
OTHER SERVICES: <u>Perf:</u>						
PERMANENT DATUM: <u>G.L.</u> ELEV. <u>3603'</u>						
LOG MEASURED FROM <u>K.B.</u> 14 FT. ABOVE PERM. DATUM						
DRILLING MEASURED FROM <u>K.B.</u> ELEV. <u>3617'</u>						
D.F. <u>3616'</u>						
G.L. <u>3603'</u>						
Date	<u>4-3-91</u>	Type Fluid in Hole	<u>WATER</u>			
Run No.	<u>ONE</u>	Dens.	<u>N/A</u>			
Depth—Driller	<u>8470'</u>	Max. Rec. Temp.	<u>N/A</u>			
Depth—Logger	<u>8407'</u>	Est. Cement Top	<u>~ 5700'</u>			
Btm. Log Interval	<u>8404'</u>	Equip. Location	<u>6319-42 40005</u>			
Top Log Interval	<u>5500'</u>	Recorded By	<u>P. SAGGERS</u>			
Open Hole Size	<u>7 7/8</u>	Witnessed By	<u>M. ALLEN</u>			
CASING REC.	Size	Wt Ft	Grade	Type Joint	Top	Bottom
Surface String	<u>8 5/8</u>				<u>548F</u>	<u>4480'</u>
Prot. String	<u>5 1/2</u>				<u>548F</u>	<u>E.D.</u>
Prod. String						
Liner						
PRIMARY CEMENTING DATA						
STRING	Surface	Protection	Production	Liner		
Vol. of cement	<u>NOTED: LOGGED 43/1000 PSI</u>					
Type of cement	<u>LOG CORRECTED TO OPEN HOLE LOG</u>					
Additive	<u>DATED 3-27-91. CORRELATED @ 7050'</u>					
Additive by %						
Retarder						
Retarder by %						
Wt. of slurry						
Water loss						
Drill. mud type						
Drilling mud wt.						

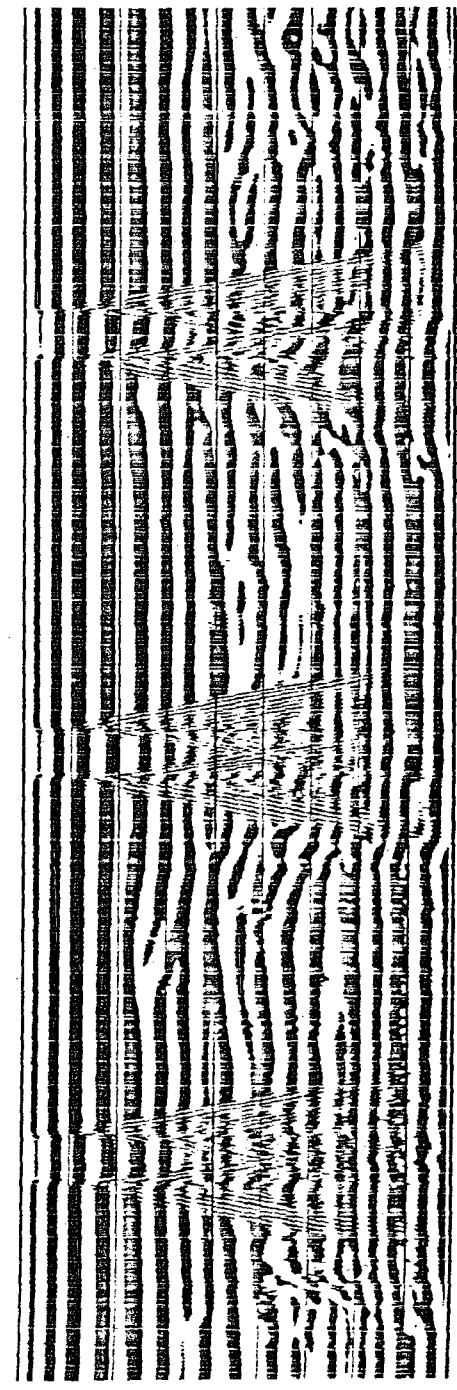
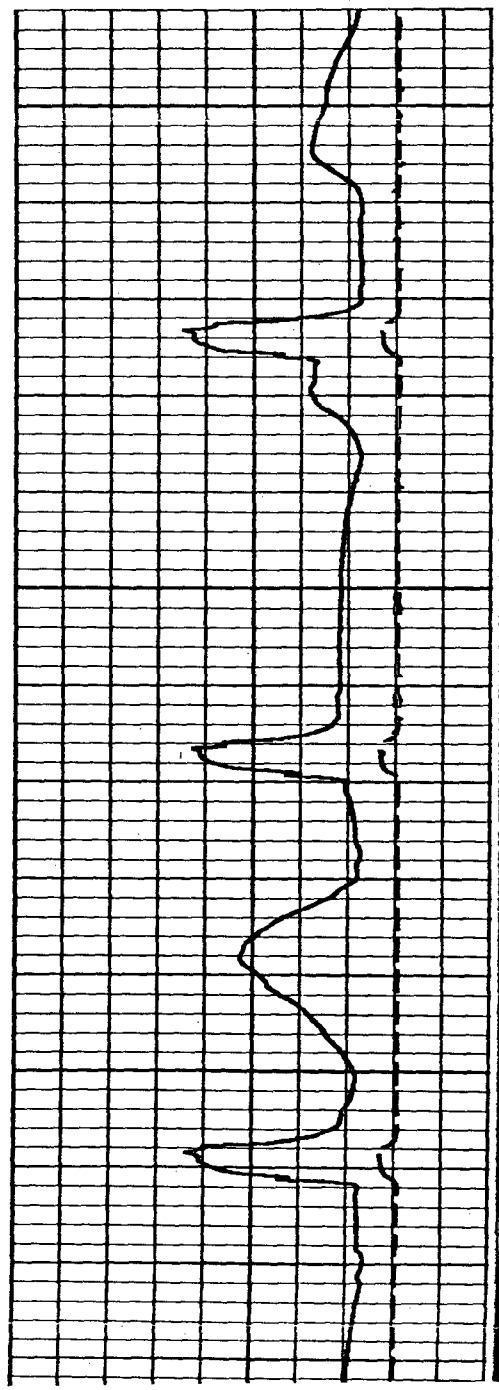
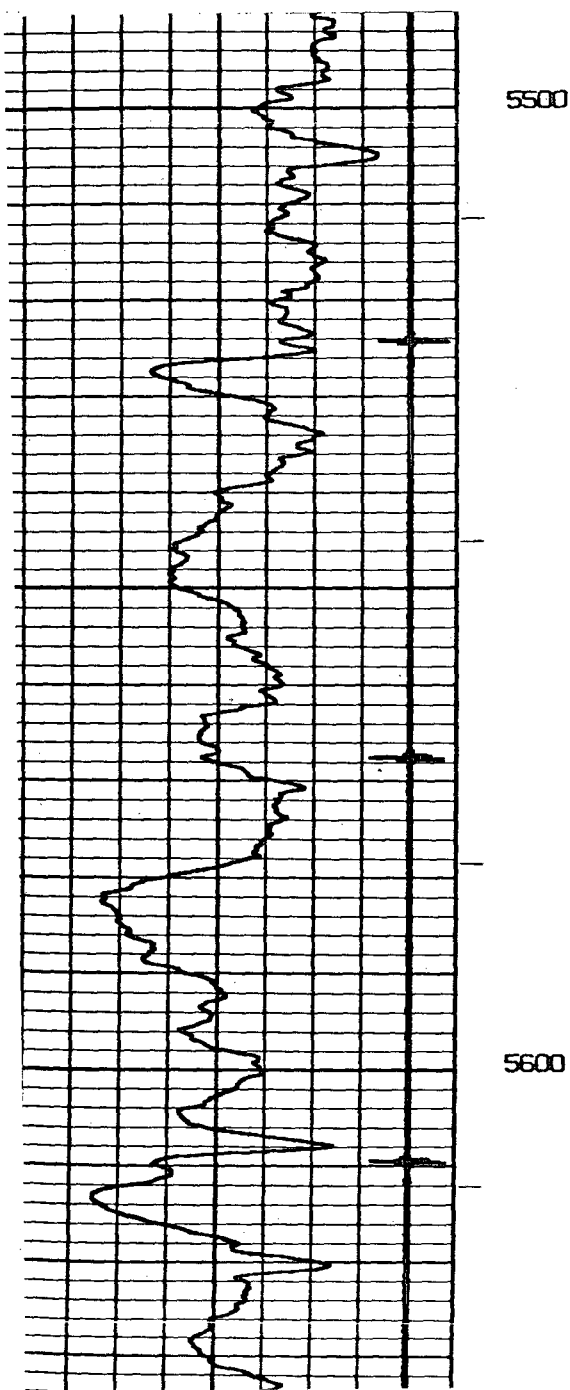
COMPRESSIVE STRENGTH (p.s.i.)				Curing Temp.)	
Time Elapsed	Surface	Protective	Production	Liner	
24 hrs.		°F	°F	°F	°F
48 hrs.		°F	°F	°F	°F
72 hrs.		°F	°F	°F	°F

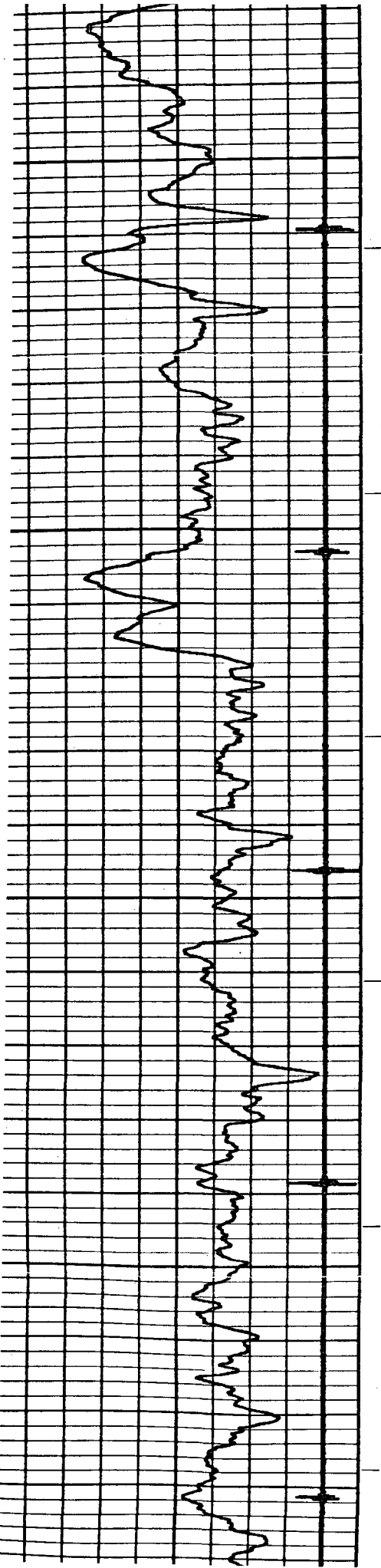
PRIMARY CEMENTING PROCEDURE				Bond Equipment Data	
	Hour — date	Hours from start of operation	Run No.	Type standoff	<u>ROUNDER</u>
Started pumping cement				Logging speed	<u>RECORDED</u>
Plug on bottom				Sig. Sen.	<u>100</u>
Release pressure				Out. Gain	<u>30</u>
Start Cement Bond Log				T-R Spacing	<u>3'-5'</u>
Finish Cement Bond Log				Tool Type	<u>C3 3</u>
Preceding fluid	Volume	bbls.	Pipe reciprocated during Pumping:	Yes	No
Returns: Full	Partial	None	Pipe reciprocated after plug down:	Yes	min., No

GAMMA RAY / 100 API-UNITS/DIV.	Depth	AMPLITUDE CURVE		200 MICRO SECONDS 1200	
		MILLIVOLTS	100		
CASING COLLAR		X5	20	ALL READINGS ARE ON TRUE DEPTH	
60 SEC. TIME MARKS		4/2 TRANSIT TIME	20		

Finish Cement bond Log		Tool Type <b>CS 3</b>	
Preceding fluid _____	Volume _____ bbls.	Pipe reciprocated during Pumping: Yes _____ No _____	
Returns: Full _____ Partial _____	None _____	Pipe reciprocated after plug down: Yes _____ min., No _____	

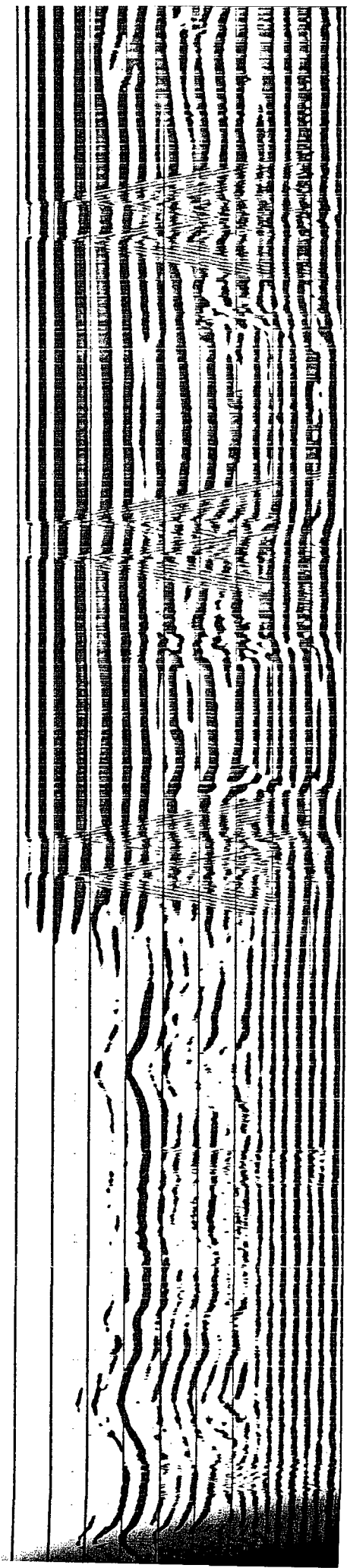
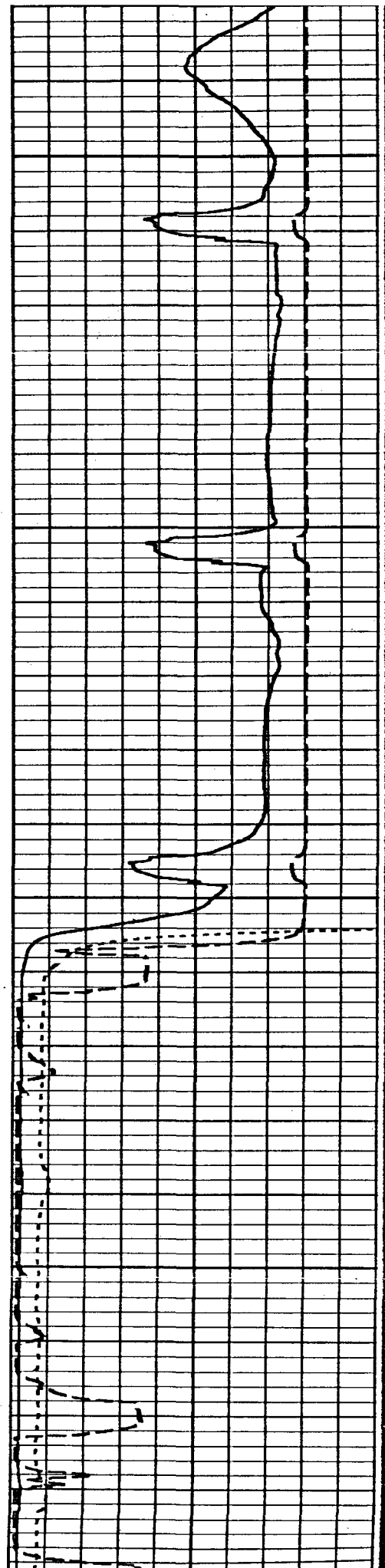
0 <b>GAMMA RAY</b> 100 100 API-UNITS/DIV.	Depth	<b>AMPLITUDE CURVE</b>		200 <b>MICRO SECONDS</b> 1200
		0 MILLIVOLTS 100 0 X5 20		
<b>CASING COLLAR</b> ↘	60 SEC. TIME MARKS	410 <b>TRANSIT TIME</b> 210		<b>ALL READINGS ARE ON TRUE DEPTH</b>

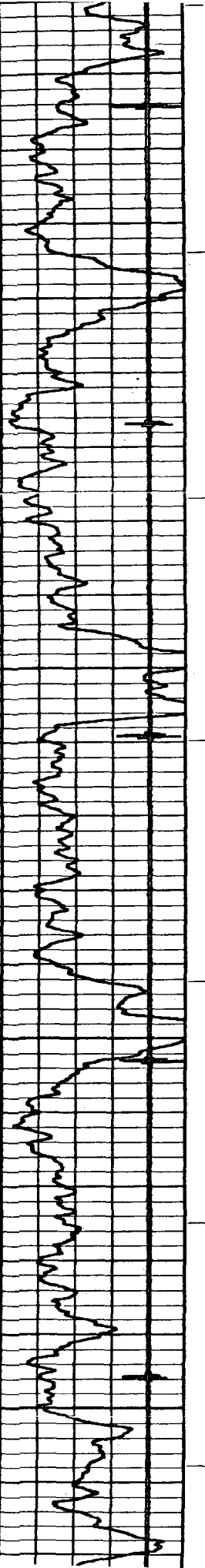




5600

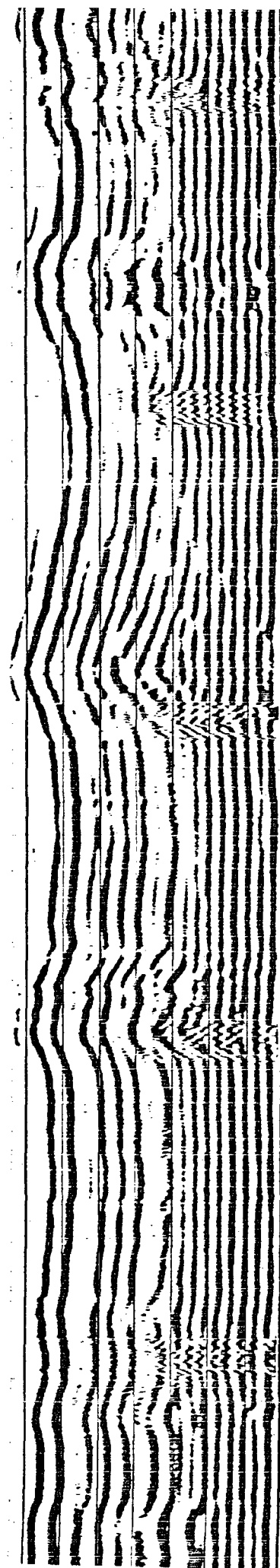
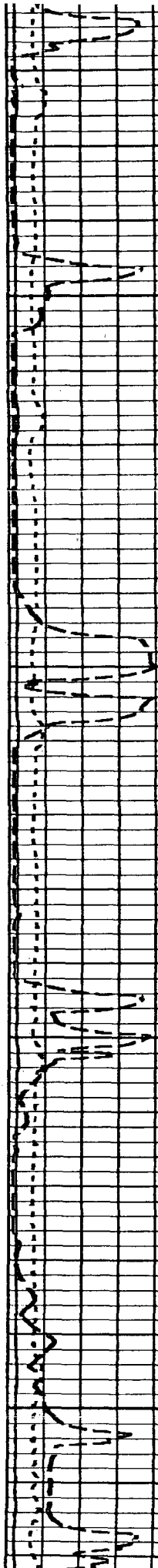
5700





5900

6000

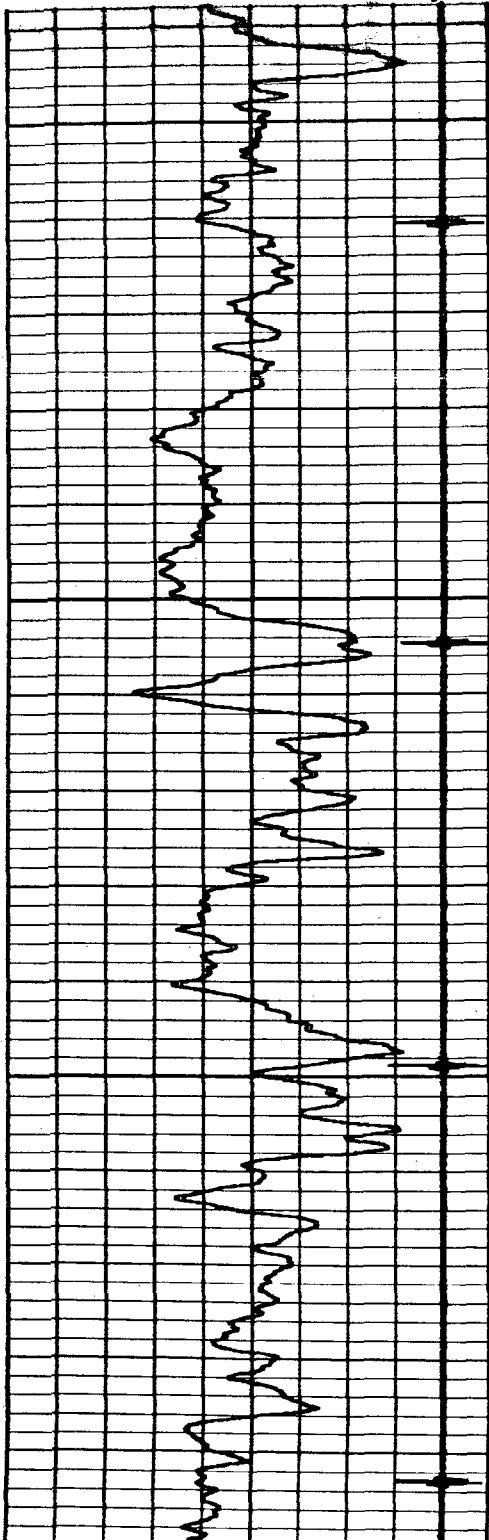


↑ LOGGED w/ 1000,

0 GAMMA RAY 100	Depth	AMPLITUDE CURVE		200 MICRO SECONDS
10 API-UNITS/DIV.		0 MILLIVOLTS 100	0 X5 20	
CASING COLLAR →	60 SEC TIME MARKS	410 TRANSIT TIME 210		ALL READINGS ARE ON TRUE DEPTH

LOGGED w/ OPSI

11' DEEP

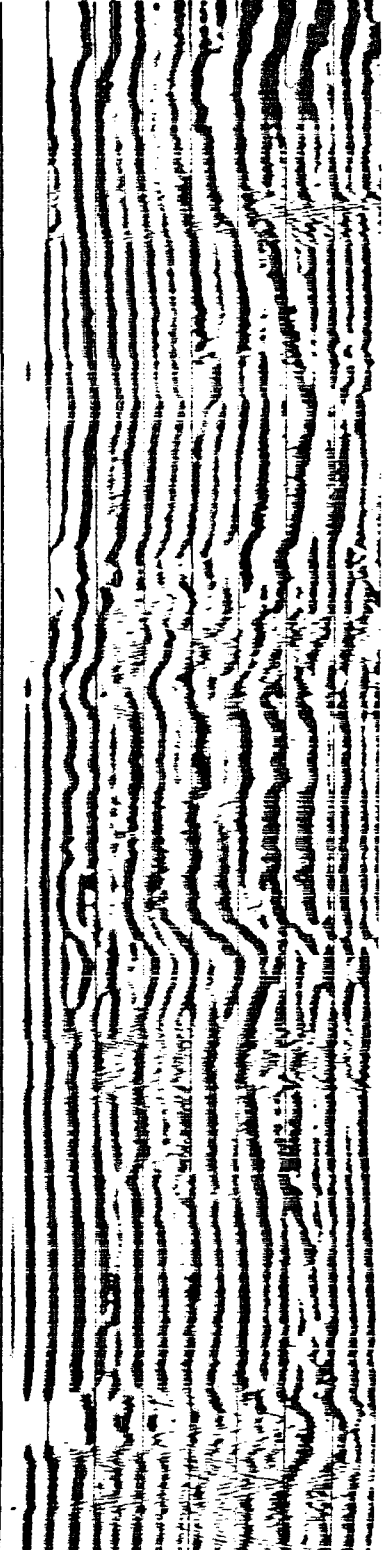
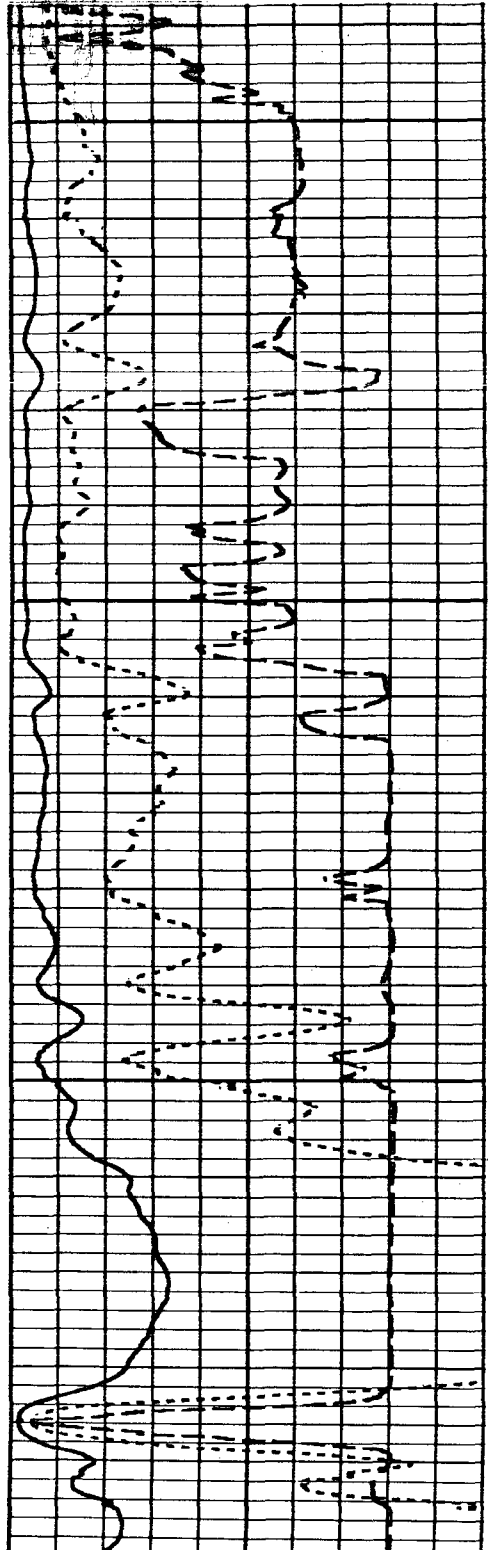


8200

11' DEEP

8300

REPEAT SECTION



# Injection Permit Checklist

SWD Order Number

1030

Dates: Division Approved

District Approved

Well Name/Num:

May ATV State #1

Date Spudded:

1/31/91

API Num: (30-)

015-26625

County:

Eddy

Footages

1980 FNL 1980 FEL

Sec

36

Tsp

21S

Rge

31E

Operator Name:

Yates Petroleum Corporation

Contact

Margrethe Hotter

Operator Address:

105 South 4th St, ARTESIA NM 88210

	Hole/Pipe Sizes	Depths	Cement	Top/Method
Surface	17 1/2 13 3/8	852	800	CIRC
Intermediate	11"	858	1700	CIRC
Production	7 7/8 5 1/2	8470	260/410 = 670	3,704' CBL
Last DV Tool		7400		
Open Hole/Liner				
Plug Back Depth				

Diagrams Included (Y/N): Before Conversion

✓

After Conversion

✓

Checks (Y/N): ELogs in Imaging

Well File Reviewed

Intervals:	Depths	Formation	Producing (Yes/No)
Salt/Potash			
Capitan Reef			
In Reef, Cliff House, Etc:			
Formation Above			
Top Inj Interval	6614	Cherry Palms	Yes
Bottom Inj Interval	8325	Brushy	Yes
Formation Below		Bone Springs	

Water Analysis Included (Y/N): Fresh Water

None

Injection Zone

Disposal Waters

Yes

Affirmative Statement Included (Y/N):

Yes

Surface Owner

ESLOR

Mineral Owner(s)

✓

Checks (Y/N): Newspaper Notice

✓

Well Table

✓

Adequate Well Table

✓

Adequate Certified Notice: Surface Owner

✓

AOR Owners

✓

CID/Potash/Others

must notify

AOR Num Active Wells

8

Repairs?

✓

Producing in Injection Interval

Yes

AOR Number of P&A Wells

0

Diagrams Included?

✓

Repairs Required?

✓

Data to Generate New AOR Table

N

New Table Generated? (Y/N)

	STR	E-W Footages	N-S Footages
Wellsite			
Northeast			
North			
Northwest			
West			
Southwest			
South			
Southeast			
East			

Conditions of Approval:

1. Disclaimer of Damage To Prod. Well in case of well failure
2. Send TSO or CBL or Cals
- 3.

RBDMS Updated (Y/N)

UIC Form Completed (Y/N)

This Form completed