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

5WD 5/23/ 777 S.R. 00

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 4, 2000



David Catanach State of New Mexico OIL CONSERVATION DIVISION 2040 S. Pacheco Street Santa Fe, NM 87505-5472

Dear Mr. Catanach,

Enclosed please find a copy of form C-108 (Application for Authority to Inject) for the proposed South Rock SWD #1 located in Unit L of Section 30-T23S-R25E, Eddy County, New Mexico.

Should you have any questions, please feel free to contact me at (505) 748-4174.

Sincerely,

albert R. Hali

Albert R. Stall Operations Engineer

ARS/th

Enclosure

2040 SOUTH PACHECO SANTA FE, NEW MEXICO 87505

rotivi C-108 Revised 4-1-98

SOUTH ROCK SWD #1

APPLICATION FOR AUTHORIZATION TO INJECT

/ I.	PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage Application qualifies for administrative approval? Yes No
√II.	OPERATOR:Yates Petroleum Corporation
	ADDRESS:105 South Fourth Street, Artesia, NM 88210
	CONTACT PARTY: Albert R. Stall PHONE: (505) 748-4174
J _{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?YesNo 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:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, 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.
¹⁷ 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).
v ≠X I.	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.
V∕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:
	NAME:
*	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:

III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
 - (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
 - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
 - (3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
 - (1) The name of the injection formation and, if applicable, the field or pool name.
 - (2) The injection interval and whether it is perforated or open-hole.
 - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
 - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
 - (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.



S. P. YATES CHAIRMAN OF THE BOARD JOHN A. YATES PRESIDENT

PEYTON YATES EXECUTIVE VICE PRESIDENT RANDY G. PATTERSON SECRETARY DENNIS G. KINSEY TREASURER

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

May 4, 2000

Tim Gum State of New Mexico OIL CONSERVATION DIVISION 811 South First Street Artesia, NM 88210

Dear Mr. Gum,

Enclosed please find a copy of form C-108 (Application for Authority to Inject) for the proposed South Rock SWD #1 located in Unit L of Section 30-T23S-R25E, Eddy County, New Mexico.

Should you have any questions, please feel free to contact me at (505) 748-4174.

Sincerely,

Ubut R Stall

Albert R. Stall Operations Engineer

OPERATOR: Yates Petroleum Corporation				
WELL NAME & NUMBER: South Rock SWD #1				
	Ţ	30		25E
	UNIT LETTER	SECTION	TOWNSHIP	GE
WELLBORE SCHEMATIC		WELL CONSTRUCTION DATA	CTION DATA	
		<u>Surface Casing</u>	asing	
f_{2}	Hole Size:	17-1/2"	Casing Size: 13-3/8" @ 405'	<u>@</u> 405'
	Cemented with:	400 sx.	or	ft ³
	Top of Cement:	Surface	Method Determined: Circulated	ulated
\sim		Intermediate Casing	Casing	
LALE BOOK	Hole Size:	12-1/2"	Casing Size: 9-5/8'' @ 2172'	2172
	Cemented with:	1350 sx.	or	ft ³
S ^{34°}) [(brins 30' Hung 4900 - 2380)	Top of Cement:	Surface	Method Determined: Cir	Circulated
		Production Casing	casing	
	Hole Size:	8-3/4"	Casing Size: 5-1/2" @ 10,870'	0,870'
() () () () () () () () () ()	Cemented with:	550 sx.	or	H ³
ed. / me 2 9100	Top of Cement:		Method Determined:	
- 1917 -	Total Depth:	10,870'		
$\left \begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $		Injection Interval	Interval	
	Open Hole	10,870 feet to 11,700 (Perforated or Onen Hole: indicate which)	to 11,700 feet	
OTD 12872' 0 10870' M/550 3X Ev. 474, UPERhale				

INJECTION WELL DATA SHEET

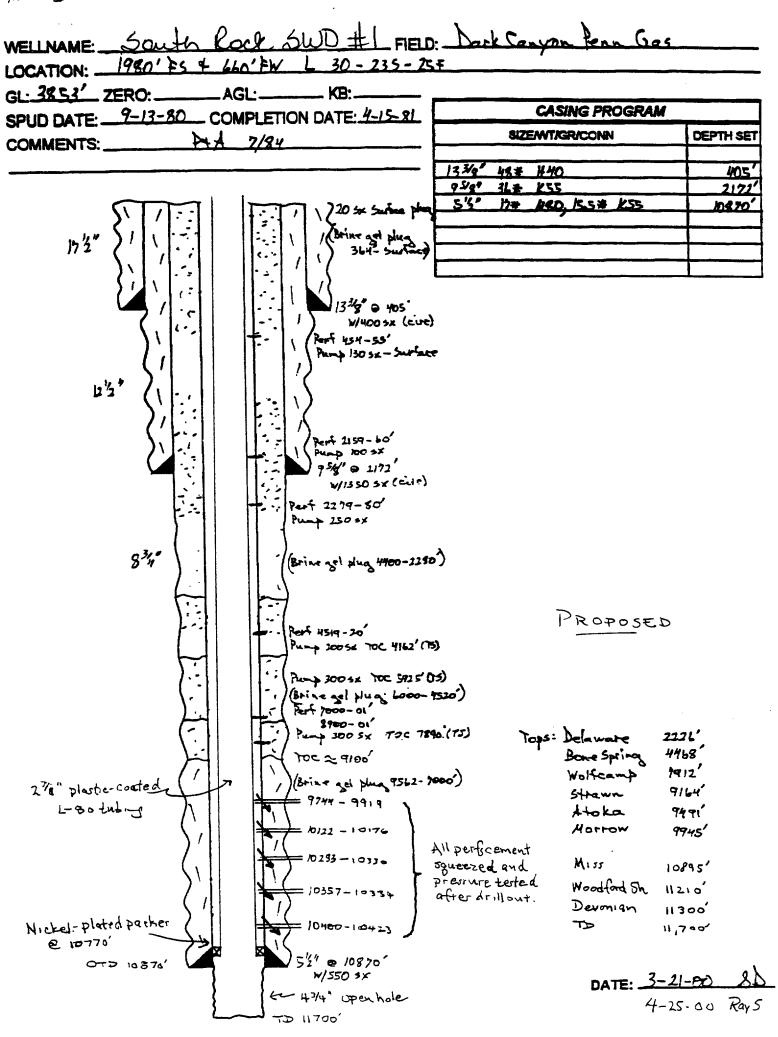
Tubing Size: 2-7/8" L-80	Lining Material: plastic-coated
Type of Packer: Guiberson Uni VI - Nickel-plated	
Packer Setting Depth: 10,770'	
Other Type of Tubing/Casing Seal (if applicable): N/A	
Additional Data	lditional Data
1 Is this a new well drilled for injection? If no, for what purpose was the well originally drilled? <u>Morrow test</u>	Aorrow test
2 Name of the Injection Formation: Mississippian-Devonian	nian
3 Name of Field or Pool (if applicable): None	
4 Has the well ever been perforated in any other zone(s)? List all such perforated	
intervals and give plugging detail, I.e. sacks of cement or plug(s) used.	g(s) used. 9744'-9914', 10,122'-10,176', 10,283'-10,330',
10,357-10,384', 10,400'-10,423'. Each set of perforations plugged w	set of perforations plugged w/CIBP. Plan to cement squeeze drillout and pressure
test during reentry operation.	
5 Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Morrow	or overlying the proposed

INJECTION WELL DATA SHEET

C-108 Application for Authorization to Inject YATES PETROLEUM CORPORATION South Rock SWD #1 L 30-23S-25E Eddy County, New Mexico

- 1. The purpose of completing this well is for disposal of produced Morrow water into the Mississippian/Devonian.
- II. Operator: Yates Petroleum Corporation 105 South Fourth Street Artesia, NM 88210 Albert R. Stall (505) 748-4174
- III. Well Data: See Attachment A
- IV. This is not an expansion of an existing project.
- V. See attached map, Attachment B.
- VI. There are no wells within the area of review penetrating the proposed injection zone.
- VII. 1. Proposed average daily injection volume approximately 1,500 BWPD. Maximum daily injection volume approximately 5,000 BWPD.
 - 2. This will be a closed system.
 - 3. Proposed average injection pressure--unknown. Proposed maximum injection pressure--6522 psi.
 - 4. Sources of injected water would be produced water from the Morrow. (Attachment C)
 - 5. See Attachment D.
- VIII. The injection interval is Mississippian/Devonian from 10,870'-11,700'.
 Underground sources of drinking water are in the Yates Seven Rivers formations from surface to 500'.
- IX. The proposed disposal interval may be acidized with 15-20% HCL acid.
- X. Logs were filed at your office when the well was drilled.
- XI. There are no windmills that exists within a one-mile radius of the subject location.
- XII. Available engineering and geologic data have been examined, and no evidence of open faults or hydrologic connection between the disposal zone and any underground sources of drinking water has been found.
- XIII. Proof of notice
 - A. Surface owners and offset operators have been notified. (Attachment E)
 - B. Copy of legal advertisement attached. (Attachment F)
- XIV. Certification is signed.





X Dev WELLNAME: South Rock SWD #1 FIELD: Dark Canyon Penn Gas 980' FS 660' FW ¢ 30 - 235 - 257 LOCATION: GL: 3853' ZERO: AGL:-____ KB:. 9-13-80 COMPLETION DATE: 4-15-81 CASING PROGRAM SPUD DATE: _ SIZE/WT/GR/CONN DEPTH SET APA 7/84 COMMENTS: _ 133/2" 48* H40 405 9518* 34+ K.55 2172 <u>5%'</u> 140, 15.5* K55 17* 10470 720 5x Surve plue 17'2" (Bring get plug) 364- surface 1 Cut HATO 364 . 33/2" @ 405" (* W/400 sx (eire) ·., Ref 454-55' Pump 130 sx - Surface 12'2" Pert 2159-60' Cmt Ature 2115 Ł Pump 100 sx -9 548" @ 1172' Gut Ahr @2175 ×. W/1350 5x (cut) . 2 Perf 2279-80' 2.4 Pump 250 \$x 834 (Brine get plug 4400-2290) Cat Atas @ 4425' Perf 4519-20' DEFORE Pump 2005x TOC 4162'(75) Pump 300 5x TOC 5925' (15) Cat Alas a 6802' (Brine gel plug 6000-4520) Perf 7000-01 8900-01 Colder @ \$801 Pump 300 5x TOC 7890 (TS) X Tops: Delaware 2226' Bone Spring 4468 700 2 9100' 1912 Wolfcamp CIBP@ 9603' (Brine get plug 9562-7000') + 35'cm 9164' Strawn = 9744 - 9919 0000 048C Atoka 9491 ١ HOTTOW = 10122 - 10176 9945 CLAPS 10240' = 10293 - 10330 CIBPO 10340' ١ = 10357-10384 CIBPO 10372' = 10400-10423 5/2" @ 10870'

W/550 3×

- SKETCH NOT TO SCALE -

TD 10870'

DATE: 3-21-00 80

YATES PETROLEUM CORPORATION South Rock SWD #1 L Sec 30-T23S-R25E

Attachment A Page 1

III. Well Data

- A. 1. Lease Name/Location: South Rock SWD #1 L 30-23S-25E 1980'FSL & 660'FWL
 - Casing Strings: Proposed Well Condition: 13-3/8" 48# H40 at 405' 9-5/8" 36# K55 at 2172' 5-1/2" 17# N80, 15.5# K55 at 10,870' 2-7/8" L-80 plastic-coated tubing @ 10,770'
 - Propose to use Guiberson or Baker plastic-coated or nickel-plated packer set at 10,770'
- B. 1. Injection Formation: Mississippian/Devonian
 - 2. Injection interval into open hole 10,870'-11,700'
 - 3. Well was originally drilled as an exploratory Morrow well. Well will be a Mississippian/Devonian water disposal well when work is completed.
 - 4. Next higher (shallower) oil or gas zone within 2 miles: Morrow Next lower (deeper) oil or gas zone within 2 miles: None

S Morsante Pictural Data 1175 US	2 	St. 7.1 Mil. 11 Stock Tonk Unit	Part The ROCK T	ADUIGNIU OF COMMENT VI Post Tax - Post ADU VI TALOTES - 7-1-73 0197817 Mice Blars other Three Three F ANK US	Amoco	41 00 01 02 4 3 5 01 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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YATES PETROLEUM CORPORATION South Rock SWD #1

Proposed Salt Water Disposal Well Sec 30-T23S-R25E 1980'FSL & 660'FWL Eddy County, New Mexico

Attachment B

ATTACHMENT C Page 1



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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

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		_	 	 	 	_	_	_

Company Addres: Lease Well Sample	S : ARTESIA, NM : OPUNTIA "ATG"		Date Date Sampled Analysis No.		
	ANALYSIS		mg/L		* meq/L
-		F 0			~~~~~~
1. 2.	рн H2S	5.8 0			
3.	Specific Gravity	1.080			
4.	Total Dissolved Solid		136584.4		
5.	Suspended Solids	5	150584.4 NR		
6.	Dissolved Oxygen		NR		
7.	Dissolved CO2		NR		
8.	Oil In Water		NR		
9.	Phenolphthalein Alkal	inity (CaCO3)			
10.	Methyl Orange Alkalin				
11.	Bicarbonate	нсоз	220.0	HCO3	3.6
12.	Chloride	Cl	83650.0	Cl	2359.7
13.		SO4	25.0	SO4	0.5
14.		Ca	8600.0	Ca	429.1
	Magnesium	Mg	491.5	Mg	40.4
16.	Sodium (calculated)	Na	43547.9	Na	1894.2
17.	Iron	Fe	50.0		
	Barium	Ba	0.0		
	Strontium	Sr	0.0		
20.	Total Hardness (CaCO3)	23500.0		

PROBABLE MINERAL COMPOSITION

			-		
*milli equivalents per Lit		Compound	Equiv wt	X meq/L	= mg/L
++	++				
429 *Ca < *HCO3	4	Ca(HCO3)2	81.0	3.6	292
>		CaSO4	68.1	0.5	35
40 *Mg> *SO4	1	CaCl2	55.5	425.0	23584
</td <td> </td> <td>Mg (HCO3) 2</td> <td>73.2</td> <td></td> <td></td>		Mg (HCO3) 2	73.2		
1894 *Na> *Cl	23601	MgSO4	60.2		
++	++	MgC12	47.6	40.4	1925
Saturation Values Dist. Wa	ter 20 C	NaHCO3	84.0		
	mg/L	Na2SO4	71.0		
CaSO4 * 2H2O 2090	mg/L	NaCl	58.4	1894.2	110698
BaSO4 2.4	mg/L				

REMARKS: 0 % KCL PRESENT

ATTACHMENT C Page 2

SCALE TENDENCY REPORT

Company	: YATES PETROLEUM	Date : 2/17/00
Address	: ARTESIA, NM	Date Sampled : 2/13/00
Lease	: OPUNTIA "ATG"	Analysis No. : 00117
Well	: #1	Analyst : A. MILLER
Sample Pt.	: TANK	

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

S.I.	#	-0.2	at	60	deg.	F	or	16	deg.	С
S.I.	: 2	-0.2	at	80	deg.	F	or	27	deg.	С
S.I.	#	-0.1	at	100	deg.	F	or	38	deg.	С
S.I.	#	-0.0	at	120	deg.	F	or	49	deg.	С
S.I.	#	0.0	at	140	deg.	F	or	60	deg.	С

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

S	×	1666	at	60	deg.	F	or	16	deg C
S	3	1843	at	80	deg.	F	or	27	deg C
s	=	1959	at	100	deg.	F	or	38	deg C
S	=	2013	at	120	deg.	F	or	49	deg C
S	=	2052	at	140	deg.	F	or	60	deg C

Respectfully submitted, A. MILLER

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H.		TTACHMENT D	Or TORY	•	. •
/	BALLI	N DIVISION LAB	LCZS		
		TESLA DISTRICT			
	LABO	RATORY REPO	ıT	No	<u>31-90 · · · · · · · · · · · · · · · · · · ·</u>
TO Mr. Harve	y Apple	······		Date_Septer	nber 20, 199
Yates Pet	roleum Corporation		•		
105_South	Fourth Street		Thereof, ner 5 copy them The angress writes ap	ef 4466 percented to de provid of 45embery many	a and norther 4 ner pay 5 Ichiad waters total accur gement, 6 may however, Iy pay person ar concorn 6
Artesia,	NM 88210		engingers shared rec	nund anzy (den pari)d Ann ann ait den andi	y siy paraon a concom a Abunan Sarucaa
Submitted by Danny	y Panzer		Date Rec.	September	20, 1990
Well No. State D	11	Depth_10963	<u> </u>	Formation	Bliss Sand
Field	· · · · · · · · · · · · · · · · · · ·	County		Source	
-					
Resistivity	0.052				
Specific Gravity	1.1706			<u></u>	
pH	6.5	- <u> </u>	•		
Calcium	29,025	- <u> </u>	•		•
Magnesium	392		<u></u>	یہ۔۔۔۔ وی اور	
Chlorides	157,000				
Sulfates	700				
Bicarbonates	305				
Soluble Iron	500		<u></u>		
_KCL	.52			•	---
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Respectfully submitted

Analyst: Eric Jacobson - Field Engineer

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HALLIBURTON SERVICES

ATTACHMENT E

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105 SOUTH FOURTH STREET ARTESIA, NEW MEXICO 88210 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 4, 2000

Nadel and Gussman 601 N. Marienfeld Suite 508 Midland, TX 79701

Gentlemen:

Enclosed please find a copy of form C-108 (Application for Authorization to Inject) on the South Rock SWD #1 located in Unit L of Section 30-T23S-R25E of Eddy County, New Mexico.

Should you have any questions, please feel free to contact me at (505) 748-4174.

Sincerely,

albert R. Stal

Albert R. Stall Operations Engineer

ARS/th

Enclosures



105 SOUTH FOURTH STREET ARTESIA, NEW MEXICO 88210 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 4, 2000

Artesia Daily Press 503 W. Main Artesia, NM 88210

Gentlemen:

Yates Petroleum Corporation desires to place a public notice in your newspaper for one day. The notice is enclosed.

Please place this notice in your paper on Sunday, May 7, 2000, and forward a copy of it along with your billing as soon as possible to:

Yates Petroleum Corporation 105 South Fourth Street Artesia, NM 88210 Attn: Albert R. Stall

If you have any questions, please contact me at 748-4174. Thank you for your cooperation in this matter.

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Sincerely,

Albert R ATall

Albert R. Stall Operations Engineer

ARS/th

Enclosure

ATTACHMENT F

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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 "South Rock SWD #1" located 1980'FSL & 660'FWL of Section 30, Township 23 South, Range 25 East of Eddy County, New Mexico, will be used for salt water disposal. Disposal waters from the Morrow will be re-injected into the Mississippian-Devonian at a depth of 10,870'-11,700' with a maximum pressure of 6522 psi and a maximum rate of 5,000 BWPD.

All interested parties opposing the aforementioned must file objections or requests for a hearing with the Oil Conservation Division, 2040 S. Pacheco Street, Santa Fe, NM 87505-5472, within 15 days. Additional information can be obtained by contacting Albert R. Stall at (505) 748-4174.