

## NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

### **BILL RICHARDSON**

Joa Cal

Lori Wrotenbery n

anna Prukop binet Secretary		Director Oil Conservation Division
Oil Conservation Division 1220 S Francis Dr Santa Fe, NM 87505	n ·	
RE: Proposed; MC	  <u>X</u> 	
Gentlemen:		
I have examined the appli Yates Petroleum Corp		
Operator	State BD #1-M, 2-8s-31e Lease & Well No. Unit-S-T-R	30-005-10239 API #
And my recommendations	s are as follows:	
- OK		
		0
Yours very truly,		
Chris Williams Supervisor, District I	ny (F3X)	

OATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.

ABOVE THIS LINE FOR DIVISION USE ONLY

## NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -



1220 South St. Francis Drive, Santa Fe, NM 87505 **ADMINISTRATIVE APPLICATION CHECK!** 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] TYPE OF APPLICATION - Check Those Which Apply for [A] [1] Location - Spacing Unit - Simultaneous Dedication [A] □ NSL □ NSP □ SD Check One Only for [B] or [C] Commingling - Storage - Measurement ☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS OLM Injection - Disposal - Pressure Increase - Enhanced Oil Recovery [C] 🗂 WFX 🗌 PMX 🖫 SWD 🔲 IPI 🗌 EOR 🗌 PPR Other: Specify \_\_\_\_\_ [D] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply [2] Working, Royalty or Overriding Royalty Interest Owners [A] Offset Operators, Leaseholders or Surface Owner [B] Application is One Which Requires Published Legal Notice [C] Notification and/or Concurrent Approval by BLM or SLO [D] U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office For all of the above, Proof of Notification or Publication is Attached, and/or, [E] Waivers are Attached [F] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE [3] OF APPLICATION INDICATED ABOVE. CERTIFICATION: I hereby certify that the information submitted with this application for administrative [4] 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. James W. Pringle Print or Type Name Signature

e-mail Address

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
TREASUBER

December 3, 2002

Tim Gum State of New Mexico OIL CONSERVATION DIVISION 1301 W. Grand Artesia, NM 88210

Dear Mr. Gum,

Enclosed please find a copy of form C-108 (Application for Authority to Inject) for the proposed State BD #1 located in Unit M of Section 2-8S-31E, Chaves County, New Mexico.

Should you have any questions, please feel free to contact me at (505) 748-4182.

Sincerely,

James W. Pringle Operations Engineer

ames W. Pringle

JWP/cm

**Enclosure** 

100 E0 E0 MARTIN YATES, III 1912 - 1985 FRANK W. YATES 1936 - 1986



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SECRETARY
DENNIS G. KINSEY
TREASURER

December 18, 2002

Pride Energy P.O. Box 70195 Tulsa, Okalahoma 74170-1950

Re:State BD #1

Gentlemen;

Yates Petroleum Corporation has made an application with the Oil Conservation Division for administrative approval for a "Salt Water Disposal Well", the State BD #1 located in Unit M, Section 2 Township 8 South, Range 31 East, Chaves County, New Mexico.

Please find enclosed a copy of Form C-108 "Application for Authorization to Inject".

If you should have any questions please feel free to contact me at (505) 748-4182.

Sincerely,

ิ์ Yames W. Pringle Operations Engineer

ames W. Pringle

JWP/cm

Enclosure

	U.S. Postal Servic CERTIFIED M (Domestic Mail (	AIL RECEI	PT urance Coverage Provi∷ed)
4000			100
հեշհ	Postage  Certified Fee	\$	42
	Return Receipt Fee (Endorsement Required) Restricted Delivery Fee		Postmark Here
0 DE	(Endorsement Required)  Total Postage & Fees	\$	
1.5	Street, Apt, No.; or PO		\$0
2000	City, State, 21P+ 4		74170 1950
	PS Form 3800, May 2		See Reverse for Instructions

£7 150 64 W.∫ MARTIN YATES, III 1912 · 1985 FRANK W. YATES 1936 · 1986



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

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RANDY G. PATTERSON
SECRETARY
DENNIS G. KINSEY

December 3, 2002

State of New Mexico
Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505-5472

Dear Sir,

Enclosed please find a copy of form C-108 (Application for Authority to Inject) for the proposed State BD #1 located n Unit M of Section 2-8S-R31E, Chaves County, New Mexico.

Should you have any questions, please feel free to contact me at (505) 748-4182.

Sincerely,

James W. Pringle Operations Engineer

JWP/cm

**Enclosure** 

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

### Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

FORM C-108 Revised 4-1-98

	APPLICATION FOR AUTHORIZATION TO INJECT State BD #1						
I.	PURPOSE: Secondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? Yes No						
II.	OPERATOR:						
	ADDRESS: 105 South 4th Street, Artesia, New Mexico 88210						
	CONTACT PARTY: James W. Pringel PHONE: (505) 748-4182						
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.	Additional sheets may be attached if necessary.  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:						
	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected;</li> <li>Whether the system is open or closed;</li> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,</li> <li>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.).</li> </ol>						
*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: James W. Pringle TITLE: Operations Engineer						
	NAME: James W. Pringle TITLE: Operations Engineer SIGNATURE: DATE: December 2, 2002						
*	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:						

## C-108 Application for Authorization to Inject Yates Petroleum Corporation State BD #1 Unit M Sec. 2, T8S, R31E

Chaves County, New Mexico

- I. The purpose of completing this well is to make a disposal well for produced Canyon water into the Canyon.
- II. Operator:

**Yates Petroleum Corporation** 

105 South Fourth Street

Artesia, NM 88210

Sam Brandon (505) 748-4281

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 400 BWPD. Maximum daily injection volume approximately 500 BWPD.
  - 2. This will be a closed system.
  - 3. Proposed average injection pressure 1600 psi. Proposed maximum injection pressure 2000 psi.
  - 4. Sources of injected water would be produced water from the San Andres. (Attachment C & D)
- VIII. The proposed injection interval is San Andres 3,900'-4,100'.

Underground water sources of drinking water are in the Alluvial fill from surface to 300'.

IX. The proposed disposal interval may be acidized with 15-20% HCL acid.

K-Hobbs

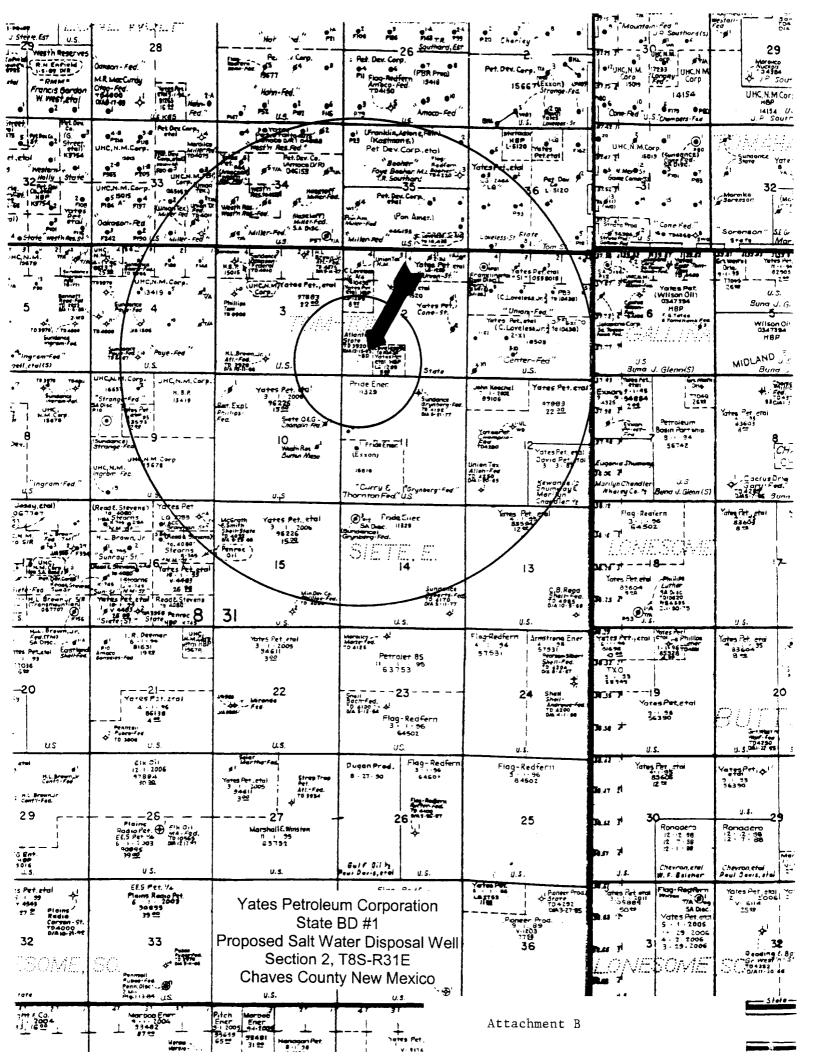
- X. Logs will be filed at your office. Any new logs run after completing will also be submitted to your office.
- XI. There are two windmills that exists within a one mile radius of the subject location. Chemical analysis' of the water from these wells are attached. (Attachment C &D)
- XI. Available 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. (Attachment E)
- XII. Proof of notice.
  - A. Certified letters sent to the surface owner are attached. (Attachment F)There are no offset operators.
  - B. Copy of legal advertisement attached. (Attachment G)
- XIV. Certification is signed.



### Yates Petroleum Corporation State BD #1 M-2-8S-R26E

### **Attachment A**

- III. Well Data
- A. 1. Lease Name/Location State BD #1 M-2-8S-31E 660' FSL & 660' FWL
  - 2. Casing Strings:
    - a. Proposed well condition:
      See Attachment A-Proposed Status
      8 5/8" 24#, J-55, ST&C @ 334' (circ)
      5 ½" 15.50#, J-55, ST&C @ 4,125'
      2 7/8" plastic-coated tubing w/nickel plated Guiberson Uni VI packer @ 3,850' +/-
  - 3. Propose to use Guiberson or Baker plastic-coated or nickel-plated packer set at 3,850'+/-.
- B. 1. Injection Formation: San Andres.
  - 2. Injection interval into cased hole perforation 3,900'-4,100'.
  - 3. Well was originally drilled as an exploratory San Andres well. Well will be a San Andres water disposal well when work is completed.
  - 4. Next higher (shallower) oil or gas zone within 2 miles—None. Next lower (deeper) oil or gas zone within 2 miles—None.



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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

: YATES PETROLEUM : ARTESIA, NM Date : 12/9/02 Company Address Date Sampled : UNKNOWN Lease : WINDMILL
Well : 11/2MI W. ST BD #1 SWP
Sample Pt. : UNKNOWN Analysis No. : 00541

	ANALYSIS		mg/L		* meq/L
1.	pH 7.1				
2.	H2S 0				
З.	Specific Gravity 1.010	)			
4.	Total Dissolved Solids		6206.4		
5.	Suspended Solids		NR		
6.	Dissolved Oxygen		NR		
-	Dissolved CO2		NR		
	Oil In Water		NR		
	Phenolphthalein Alkalinity				
1C.	Methyl Orange Alkalinity (	CaCO3)			
11.	Bicarbonate	HCO3	195.0	HC03	3.2
12.	Chloride	Cl	2982.0	Cl	84.1
13.	Sulfate	504	80C.C	SO4	16.7
	Calcium	Ca	360.0		10.0
	Magnesium	Мg	121.7	• •	10.0
	Sodium (calculated)	Na	1747.2	Na	76.0
	Iron	Fe	0.5		
	Barium	Ba	NR		
	Strontium	Sr	NR		
20.	Total Hardness (CaCO3)		1400.0		

#### PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt	X meq/L	= mg/1
++				
18  *Ca < *HCO3   3	Ca (HCO3) 2	61.0	3.2	259
	CaSO4	68.1	14.8	1005
10  *Mg> *SO4   17	CaCl2	55.5		
/	Mg (HCO3) 2	73.2		
76  *Na> *Cl   84	Mg\$Q4	60.2	1.9	114
+	MgC12	47.6	8.1	387
Saturation Values Dist. Water 20 C	NaHCO3	84.0		
CaCO3 13 mg/L	Na2504	71.0		
CaSO4 * 2H2O 2090 mg/2	NaCl	58.4	76.0	4441
BaS04 2.4 mg/L				

REMARKS:

F ...

## SCALE TENDENCY REPORT

Company : LYATES PETROLEUM Date : 12/9/02
Address : ARTESIA, NM Date Sampled : UNKNOWN
Lease : WINDMILL Analysis No. : 00541
Well : 11/2MI W. ST BD #1 SW9 Analyst : A. MILLER

Sample Pt. : UNKNOWN

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

S.I. = 0.0 at 70 deg. F or 21 deg. C S.I. = 0.1 at 90 deg. F or 32 deg. C S.I. = 0.1 at 110 deg. F or 43 deg. C S.I. = 0.1 at 130 deg. F or 54 deg. C S.I. = 0.2 at 150 deg. F or 66 deg. C

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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

S	=	2244	at	70	deg.	F	OI	21	deg	C
s	=	2287	at	90	deg.	F	cr	32	deg	С
3	=	2301	at	110	deg,	F	CI	43	deg	С
S	=	2286	at	130	deg.	F	or	54	deg	С
\$	=	2261	at	150	deg.	F	or	66	deg	Ċ

Hobbs ED

Respectfully submitted, A. MILLER



## MILLER CHEMICALS, INC.

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### WATER ANALYSIS REPORT

Company : YATES PETROLEUM Date : 12/9/02 : ARTESIA, NM Address Date Sampled : UNKNOWN Lease : WINDMILL
Well : 1 MI N.E. ST BD SWD Analysis No. : 00542

Sample Pt. : UNKNOWN

	ANALYSIS			mg/L		* $meq/L$
1.	PH	7.1				
2.	H25	0			•	
3.	Specific Gravity	1.010				
4.	Total Dissolved Solis	ds		6063.8		
5.	Suspended Solids			NR		
6.	Dissolved Oxygen			NR		
7.	Dissolved CO2			NR		
8.	Oil In Water			NR		
9.	Phenolphthalein Alka	linity (C	CaCO3)			
10.	Methyl Orange Alkali	nity (CaC	:03)			
11.	Bicarbonate		HC03	390.0	FCO3	6.4
12.	Chloride		Cl	3408.0	Cl	96.1
13.	Sulfate		S04	75.0	SO4	1.6
14.	Calcium		Ca	200.0	Ca	10.0
15.	Magnesium		Mg	194.4	Mg	16.0
16.	Sodium (calculated)		Na	1795.8	Na	78.1
17.	Iron		Fe	0.5		
18.	Barium		Ba	NR		
19.	Strontium		Sr	NR		
20.	Total Hardness (CaCO	3)		1300.0		

#### PROBABLE MINERAL COMPOSITION

				~ · · · ·	
*milli equivalents per Lite		Compound	Equiv wt 2	s megaritica	mg/L
+	++				
10  *Ca < *HCO3	61	Ca (HCO3)2	81.0	6.4	518
\>		CaSO4	68.1	1.6	106
16! *Mg> *SO4	1 . 2	CaCl2	55.5	2.0	112
/		Mg (HC03) 2	73.2		
78! *Na> *C1	961	MgSO4	60.2		
++	++	MgCl2	47.6	16.0	762
Saturation Values Dist. Wat	er 20 C	NaHC03	84.0		
CaC03 13 m	g/L	Na2504	71.0		
CaSO4 * 2H2O 2090 m	g/L	NaCl	58.4	78.1	4565
BaSO4 2.4 m	q/L		•		

REMARKS:

## SCALE TENDENCY REPORT

Company : YATES PETROLEUM Date : 12/9/02
Address : ARTESIA, NM Date Sampled : UNKNOWN
Lease : WINDMILL Analysis No. : 00542
Well : 1 MI N.E. ST BD SWD Analyst : J. MILLER
Sample Pt. : UNKNOWN

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

S.I. = 0.1 at 70 deg. F or 21 deg. C S.I. = 0.1 at 90 deg. F or 32 deg. C S.I. = 0.2 at 110 deg. F or 43 deg. C S.I. = 0.2 at 130 deg. F or 54 deg. C S.I. = 0.3 at 150 deg. F or 66 deg. C

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

 S =
 1951 at 70 deg. For 21 deg C

 S =
 1991 at 90 deg. For 32 deg C

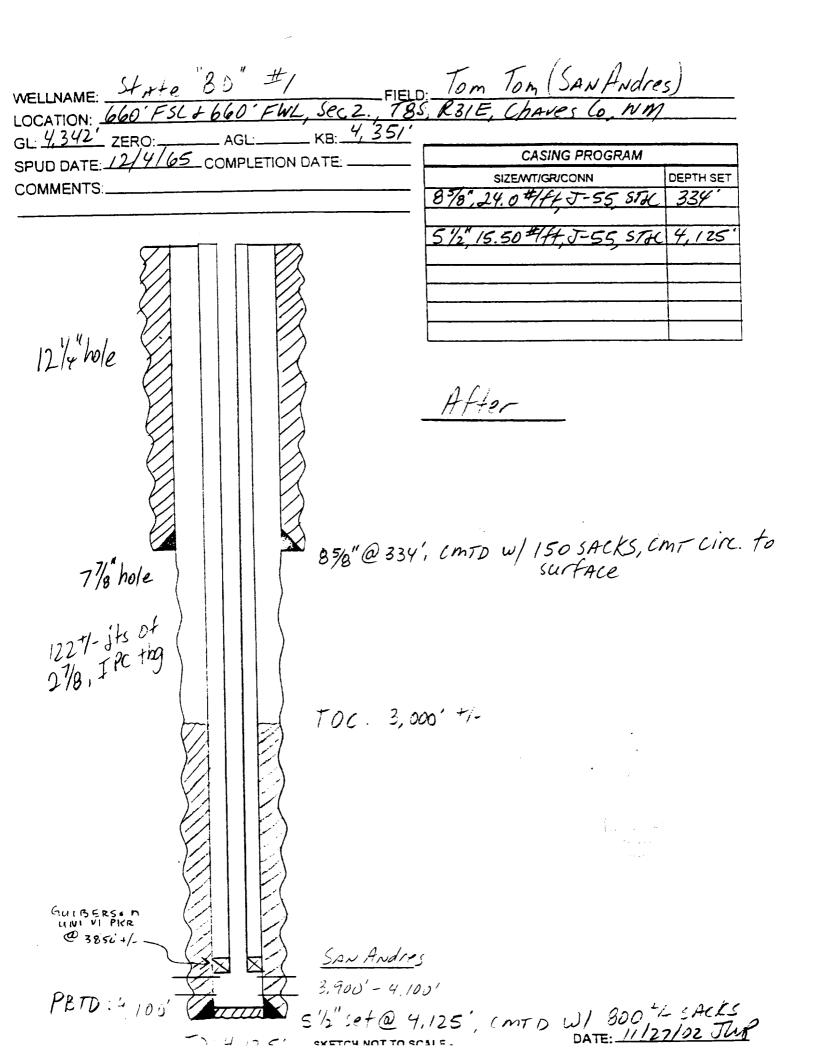
 S =
 2004 at 110 deg. For 43 deg C

 S =
 1989 at 130 deg. For 54 deg C

 S =
 1964 at 150 deg. For 66 deg C



Respectfully submitted, J. MILLER



WELLNAME: State BD" #1  LOCATION: 660'FSLJ 660'FWL, SE  CL. 4342' ZEBO: AGL: KB: 4	FIELD: Tom Tom (San Andres)
LOCATION: 660'FSL + 660'FWL, SE	c2, TBS, R31E, Chaves CO NM.
SPUD DATE: 12/4/65 COMPLETION DATE:	SIZEMTIGRICONN DEPTH SET
COMMENTS:	8 78", 24.0 4/4 J-55 STH 334'
10 sack place 30 This This	
10 sac 1 ag 30'	
10.0 ppg	
121/4 hole mup	before
167'	1 10 2211 15 TO SACKS CMT
25 CALY 1 10 3 210 11/1/1/18 898	'set@334' cmTD w/ 150 sacks, cm7 circ to surface
368	CIRC 40 Jul 144
7/9"hole \ 10.0 pps	
100.5	
25 SACK plug 1590 1111111	
1960' MUD	
25 SACK plug 2060 (17/1/1/1)	
) (	
( 10 3 ppg )	
) mup (	,
	11st 9967
3/30	JAN 2000 Received
25 5 3ck glug 3230 (1111111)	Hobbs COD
10.0 Pp5	
40 Sirck 2 ug 3,960 (1777777)	
4030	11/27/02 Tlef

TN // /ST/ - SKETCH NOT TO SCALE -

DATE: 1/1/02 700

### Attachment E

C-108 application for Authorization to Inject Yates Petroleum Corporation State BD #1 Section 2, T8S-R31E Chaves County, New Mexico

Available engineering and geologic 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.

H. Tim Miller

12-18-02

Tim Miller Geologist Yates Petroleum Corporation

Date

#### AFFIDAVIT OF PUBLICATION

### COUNTY OF CHAVES STATE OF NEW MEXICO

I, Fran Saunders Legals Clerk

Of the Roswell Daily Record, a daily newspaper published at Roswell, New Mexico, do solemnly swear that the clipping hereto attached was published in the regular and entire issue of said paper and not in a supplement thereof for a period of:

one time

beginning with the issue dated

December

8th

2002

and ending with the issue dated

......

For Sounders

December

8th

2002

Sworn and subscribed to before me

This 12th day of December 2002

My Commission expires July 25, 2006

(SEAL)

#### Publish December 8, 2002

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 State BD #1 located 660' FSL & 660' FWL of Section 2, Township 8 South, Range 31 East of Chaves County. New Mexico, will be used for salt water disposal. Disposal waters from the San Andres will be re-injected into the San Andres at a depth of 3,900'-4,100' with a maximum pressure of 2000 psi and a maximum rate of 500 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 James W. Pringle at (505) 748-4182.

## **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 State BD #1 located 660' FSL & 660' FWL of Section 2, Township 8 South, Range 31 East of Chaves County, New Mexico, will be used for salt water disposal. Disposal waters from the San Andres will be re-injected into the San Andres at a depth of 3,900'-4,100' with a maximum pressure of 2000 psi and a maximum rate of 500 BWPD.

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