

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



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

SWD 5/23/00
777

S. P. YATES
CHAIRMAN OF THE BOARD
JOHN A. YATES
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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. Stall
Operations Engineer

ARS/th

Enclosure

RECEIVED
MAY - 8 2000
STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

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
- ✓ 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: Albert R. Stall TITLE: Operations Engineer
SIGNATURE: Albert R. Stall DATE: 5/4/00
- * 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.

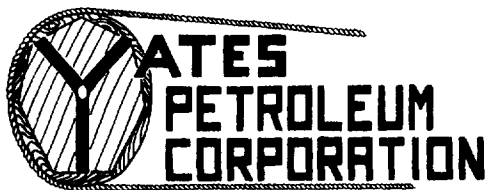
Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (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.

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



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

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DENNIS G. KINSEY
TREASURER

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,

Albert R. Stall
Operations Engineer

INJECTION WELL DATA SHEET

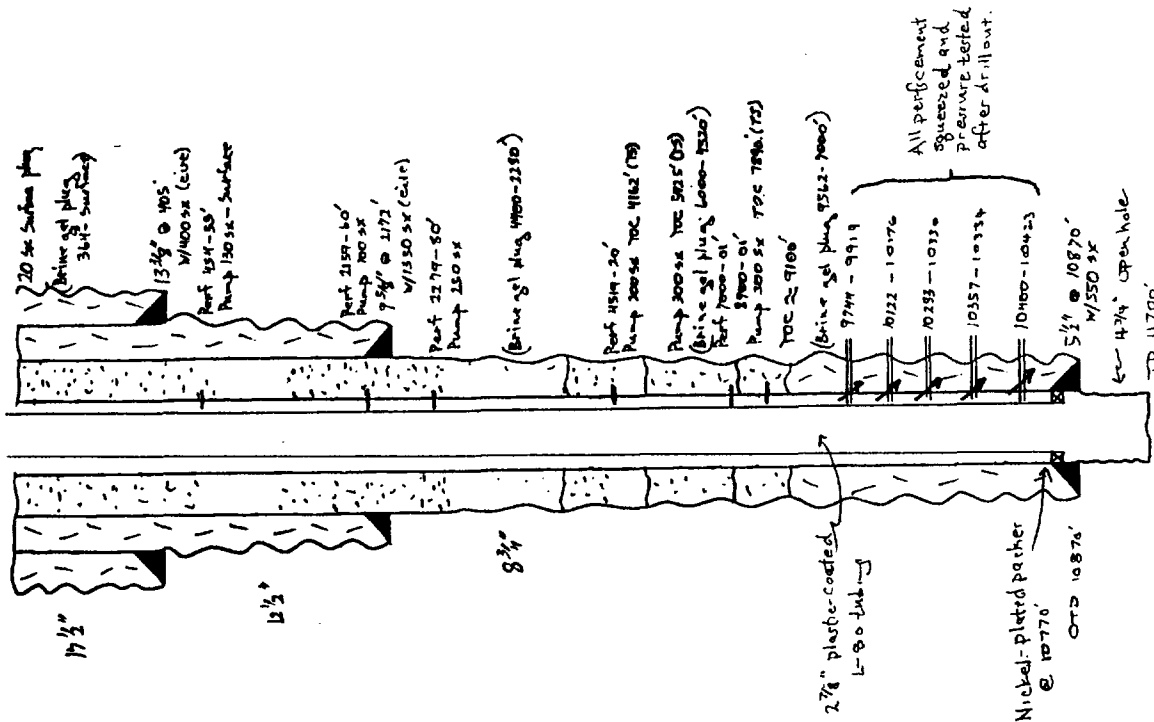
OPERATOR: Yates Petroleum Corporation

WELL NAME & NUMBER: South Rock SWD #1

WELL LOCATION: 1980'FSL & 660'FWL

UNIT LETTER L SECTION 30 TOWNSHIP 23S RANGE 25E

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17-1/2" Casing Size: 13-3/8" @ 405'

Cemented with: 400 sx. or ft³

Top of Cement: Surface Method Determined: Circulated

Intermediate Casing

Hole Size: 12-1/2" Casing Size: 9-5/8" @ 2172'

Cemented with: 1350 sx. or ft³

Top of Cement: Surface Method Determined: Circulated

Production Casing

Hole Size: 8-3/4" Casing Size: 5-1/2" @ 10,870'

Cemented with: 550 sx. or ft³

Top of Cement: Method Determined: _____

Total Depth: 10,870'

Open Hole 10,870 feet to 11,700 feet
(Perforated or Open Hole; indicate which)

Injection Interval

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

1 Is this a new well drilled for injection? Yes X No
If no, for what purpose was the well originally drilled? Morrow test

2 Name of the Injection Formation: Mississippian-Devonian

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. 9744'-9914', 10,122'-10,176', 10,283'-10,330', 10,357'-10,384', 10,400'-10,423'. Each set of perforations plugged w/CIBP. Plan to cement squeeze drillout and pressure test during reentry operation.

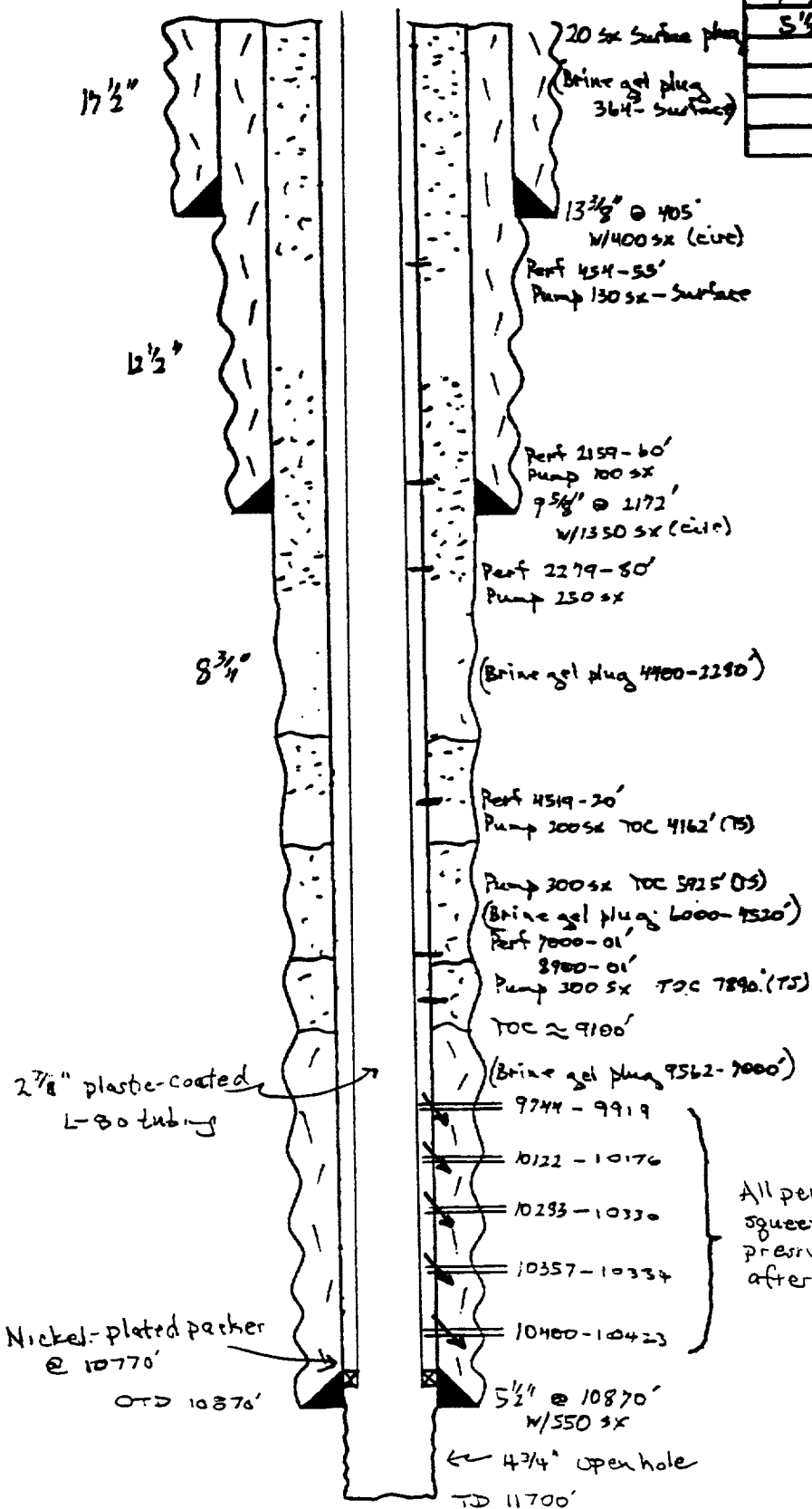
5 Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Morrow

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

- I. 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.

WELLNAME: South Rock SWD #1 FIELD: Dark Canyon Penn Gas
 LOCATION: 1980' ES & 660' FW L 30-235-25F
 GL: 3853' ZERO: _____ AGL: _____ KB: _____
 SPUD DATE: 9-13-80 COMPLETION DATE: 4-15-81
 COMMENTS: DA 7/84

| CASING PROGRAM | |
|---------------------------|-----------|
| SIZE/WT/GR/CONN | DEPTH SET |
| 13 3/8" 48# H40 | 405' |
| 9 5/8" 36# K55 | 2172' |
| 5 1/2" 17# H80, 15.5# K55 | 10870' |
| | |
| | |
| | |



PROPOSED

| | |
|----------------|--------|
| Tops: Delaware | 2226' |
| Bone Spring | 4468' |
| Wolfcamp | 7912' |
| Strawn | 9164' |
| Atoka | 9491' |
| Harrow | 9945' |
| Miss | 10895' |
| Woodford Sh | 11210' |
| Devonian | 11300' |
| TD | 11700' |

All performent
 squeezed and
 pressure tested
 after drill out.

DATE: 3-21-80 SD
4-25-00 Ray S

* Dev

WELLNAME: South Rock SWD #1 FIELD: Dark Canyon Penn Gas

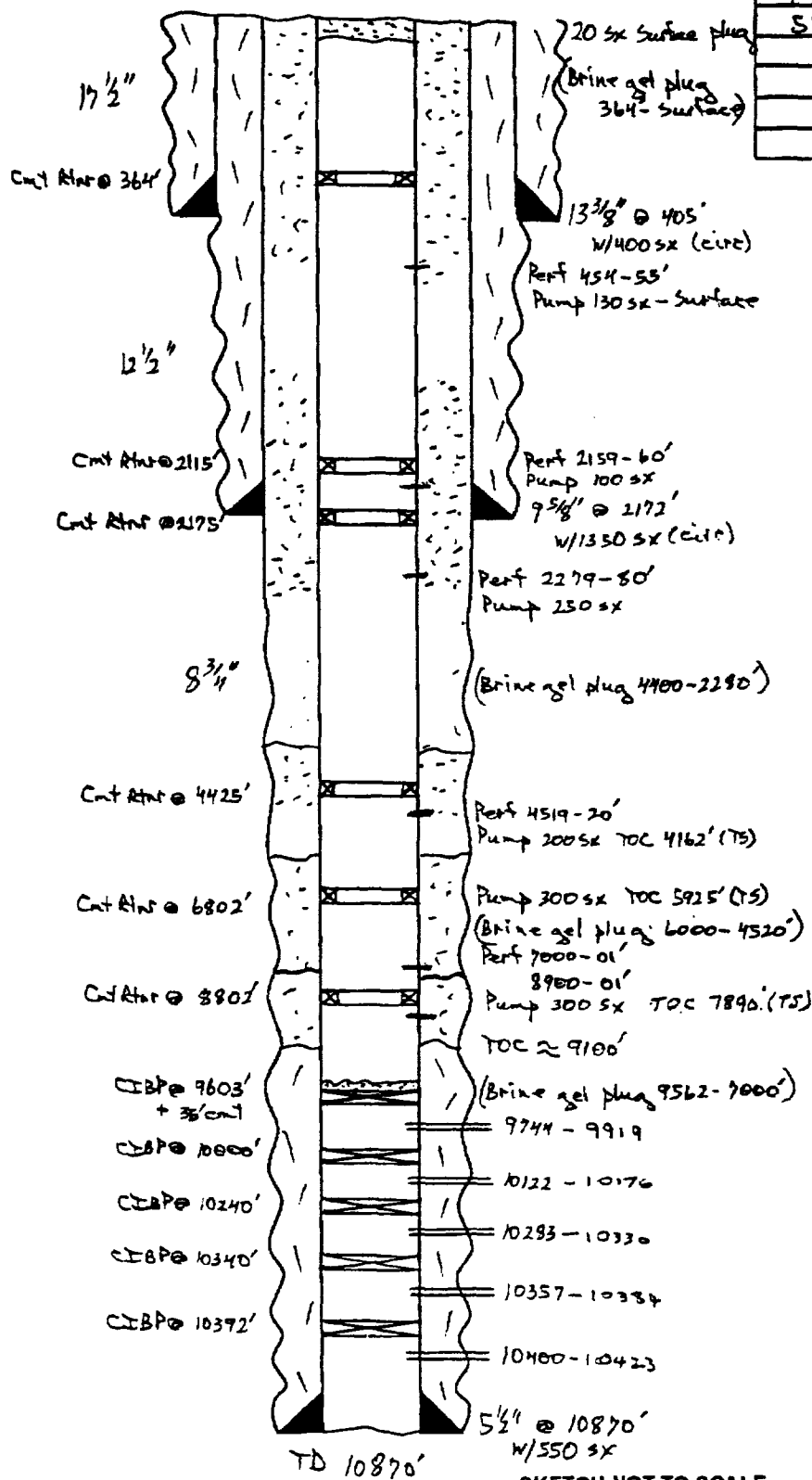
LOCATION: 1980' ES & 660' FW L 30-235-25F

GL: 3853' ZERO: _____ AGL: _____ KB: _____

SPUD DATE: 9-13-80 COMPLETION DATE: 4-15-81

COMMENTS: DA 7/84

| CASING PROGRAM | | | |
|-----------------|-----|----------------|-----------|
| SIZE/WT/GR/CONN | | | DEPTH SET |
| 13 3/8" | 48# | H40 | 405' |
| 9 5/8" | 36# | K55 | 2172' |
| 5 1/2" | 17# | H80, 15.5# K55 | 10870' |
| | | | |
| | | | |
| | | | |
| | | | |



BEFORE

| | |
|----------------|-------|
| Tops: Delaware | 2226' |
| Bone Spring | 4468' |
| Wolfcamp | 7912' |
| Strawn | 9164' |
| Atoka | 9491' |
| Horrow | 9945' |

- SKETCH NOT TO SCALE -

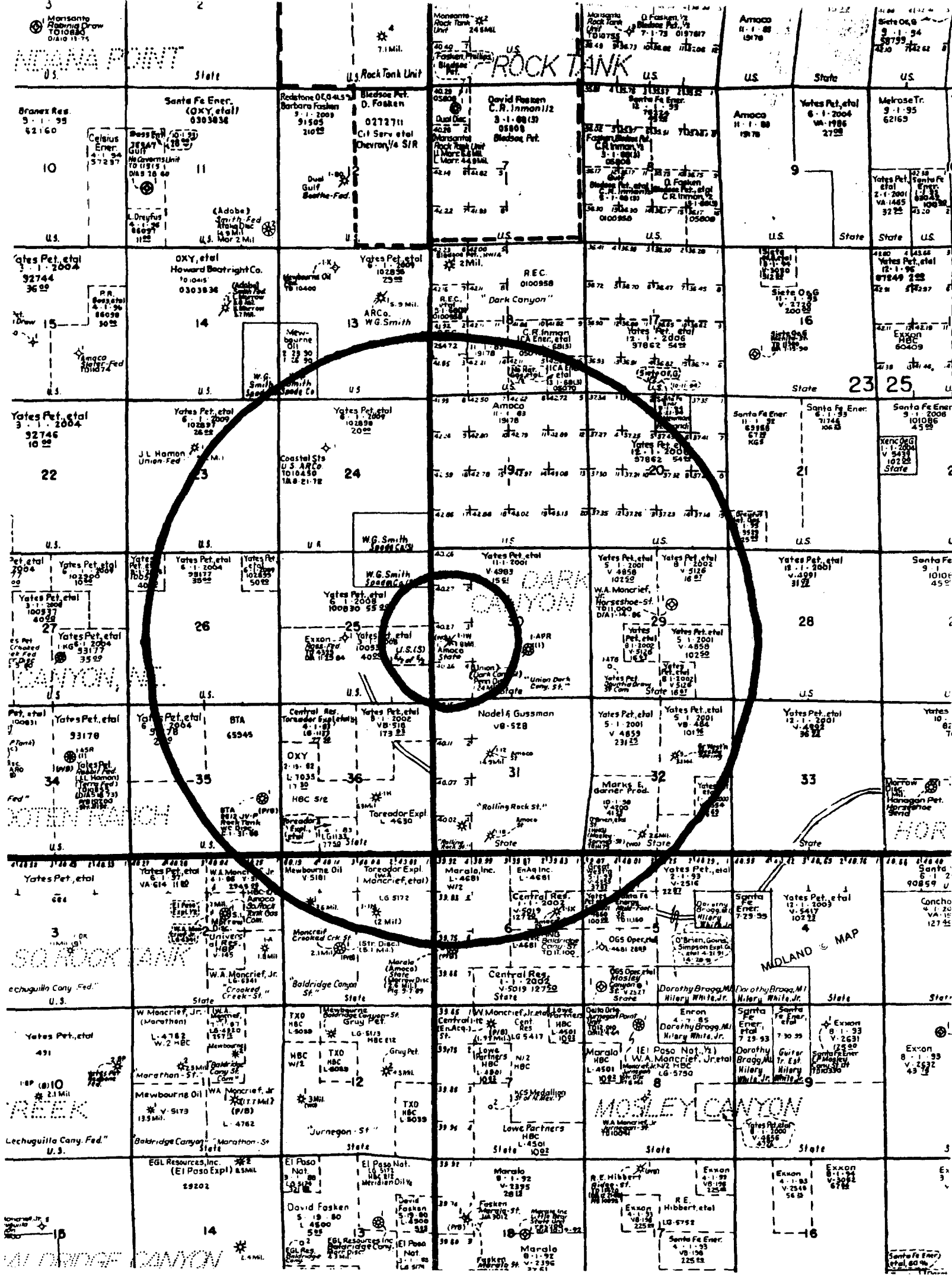
DATE: 3-21-80 SD

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
2. 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'
3. 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



YATES PETROLEUM CORPORATION
South Rock SWD #1
Proposed Salt Water Disposal Well
Sec 30-T23S-R25E
1980'FSL & 660'FWL
Eddy County, New Mexico

**MILLER CHEMICALS, INC.**

Post Office Box 298

Artesia, N.M. 88211-0298

(505) 746-1919 Artesia Office

(505) 393-2893 Hobbs Office

(505) 746-1918 Fax

WATER ANALYSIS REPORT

Company : YATES PETROLEUM
 Address : ARTESIA, NM
 Lease : OPUNTIA "ATG"
 Well : #1
 Sample Pt. : TANK

Date : 2/17/00

Date Sampled : 2/13/00

Analysis No. : 00117

| ANALYSIS | | mg/L | | * meq/L | |
|----------|---|------------------|---------|------------------|--------|
| ----- | | ---- | | ----- | |
| 1. | pH | 5.8 | | | |
| 2. | H ₂ S | 0 | | | |
| 3. | Specific Gravity | 1.080 | | | |
| 4. | Total Dissolved Solids | 136584.4 | | | |
| 5. | Suspended Solids | NR | | | |
| 6. | Dissolved Oxygen | NR | | | |
| 7. | Dissolved CO ₂ | NR | | | |
| 8. | Oil In Water | NR | | | |
| 9. | Phenolphthalein Alkalinity (CaCO ₃) | | | | |
| 10. | Methyl Orange Alkalinity (CaCO ₃) | | | | |
| 11. | Bicarbonate | HCO ₃ | 220.0 | HCO ₃ | 3.6 |
| 12. | Chloride | Cl | 83650.0 | Cl | 2359.7 |
| 13. | Sulfate | SO ₄ | 25.0 | SO ₄ | 0.5 |
| 14. | Calcium | Ca | 8600.0 | Ca | 429.1 |
| 15. | Magnesium | Mg | 491.5 | Mg | 40.4 |
| 16. | Sodium (calculated) | Na | 43547.9 | Na | 1894.2 |
| 17. | Iron | Fe | 50.0 | | |
| 18. | Barium | Ba | 0.0 | | |
| 19. | Strontium | Sr | 0.0 | | |
| 20. | Total Hardness (CaCO ₃) | | 23500.0 | | |

PROBABLE MINERAL COMPOSITION

| *milli equivalents per Liter | | | | 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 | | |
| ----- | <-----/ | | ----- | Mg (HCO3) 2 | 73.2 | | | | |
| 1894 | *Na -----> | *Cl | 2360 | MgSO4 | 60.2 | | | | |
| +-----+ | | | | MgCl2 | 47.6 | 40.4 | 1925 | | |
| Saturation Values Dist. Water 20 C | | | | NaHCO3 | 84.0 | | | | |
| CaCO3 13 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

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. C |
| S.I. = | -0.2 | at | 80 deg. F | or | 27 deg. C |
| S.I. = | -0.1 | at | 100 deg. F | or | 38 deg. C |
| S.I. = | -0.0 | at | 120 deg. F | or | 49 deg. C |
| S.I. = | 0.0 | at | 140 deg. F | or | 60 deg. C |

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

| | | | | | |
|-----|------|----|------------|----|----------|
| S = | 1666 | at | 60 deg. F | or | 16 deg C |
| S = | 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

HALLIBURTON DIVISION LABORATORY
HALLIBURTON SERVICES
ARTESIA DISTRICT

LABORATORY REPORT

No. W531-90

TO Mr. Harvey Apple

Date September 20, 1990

Yates Petroleum Corporation

105 South Fourth Street

Artesia, NM 88210

This report is the property of Halliburton Services and neither it nor any part thereof, nor a copy thereof is to be published or disclosed without first securing the express written approval of Laboratory Management. It may, however, be used in the course of regular business operations by any person or company and employees thereof receiving such report from Halliburton Services.

Submitted by Danny Panzer Date Rec. September 20, 1990

Well No. State D #1 Depth 10963' - 11052' Formation Bliss Sand

Field _____ County _____ Source _____

Resistivity 0.052

Specific Gravity .. 1.1706

pH 6.5

Calcium 29.025

Magnesium 392

Chlorides 157,000

Sulfates 700

Bicarbonates 305

Soluble Iron 500

KCL5%

Remarks:

Eric Jacobson
 Respectfully submitted

Analyst: Eric Jacobson - Field Engineer

HALLIBURTON SERVICES

ATTACHMENT E

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



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

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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. Stall
Operations Engineer

ARS/th

Enclosures

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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.

Sincerely,

Albert R. Stall
Operations Engineer

ARS/th

Enclosure

ATTACHMENT F

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.