



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

SWD-400  
PDEV0020900400



BRUCE KING  
GOVERNOR

ANITA LOCKWOOD  
CABINET SECRETARY

November 30, 1993

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87504  
(505) 827-5800

Yates Petroleum Corporation  
105 South Fourth Street  
Artesia, NM 88210

Attention: Brian Collins

**RE: Injection Pressure Increase, Compromise SWD Well No. 1, Section 30,  
Township 18 South, Range 27 East, Eddy County, New Mexico**

Dear Mr. Collins:

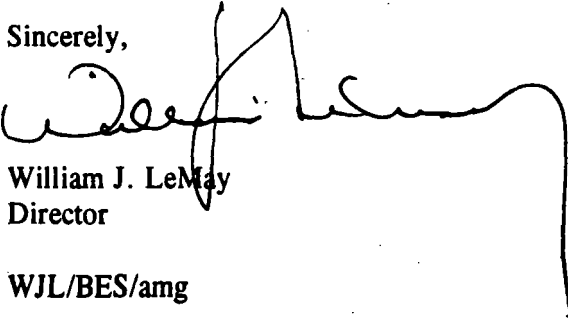
Reference is made to your request dated November 3, 1993 to increase the surface injection pressure on the above referenced well. This request is based on a step rate tests conducted on this well on October 22, 1993. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on this well is justified at this time.

You are therefore authorized to increase the surface injection pressure on the following well:

| Well and Location   | Maximum Injection Surface Pressure |
|---|------------------------------------|
| Compromise SWD Well No. 1<br>Unit H, Section 30, Township 18 South, Range 27 East | 3000 psig                          |
| This well located in Eddy County, New Mexico.                                     |                                    |

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely,

  
William J. LeMay  
Director

WJL/BES/amg

cc: Oil Conservation Division - Artesia  
File: PSI-X 4th Quarter *and*  
SWD-400

NO WAITING PERIOD

COMPANY: YATES PETROLEUM CORPORATION  
ADDRESS: 105 South Fourth Street  
CITY, STATE, ZIP: Artesia, New Mexico 88210  
ATTENTION: Mr. Brian Collins

RE: *Injection Pressure Increase  
Compromise SWD Well No.1  
Section 30-T18S-R27E  
Eddy County, New Mexico*

Dear Sir:

Reference is made to your request dated November 3, 1993, to increase the surface injection pressure on the above referenced well. This request is based on a step rate test conducted on this well October 22, 1993. The results of the tests have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

You are therefore authorized to increase the surface injection pressure on the following well:

| <u>Well &amp; Location</u>  | <u>Maximum Injection<br/>Surface Pressure</u> |
|---|---|
| Compromise SWD Well No.1<br>Unit Letter "H", Section 30T18S-R27E<br>Eddy County, New Mexico | 3000 psig                                     |

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely,

William J. LeMay  
Director

WJL/BES/

xc: OCD - Artesia  
FILES: PSI-X 4th Qtr.93; SWD-400

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



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

N/R PS-X  
OIL CONSERVATION DIVISION  
RECEIVED  
93 NOV 5 AM 9 06  
S. P. YATES  
CHAIRMAN OF THE BOARD  
JOHN W. YATES  
PRESIDENT  
PEYTON YATES  
EXECUTIVE VICE PRESIDENT  
RANDY C. PATTERSON  
SECRETARY  
DENNIS G. KINSEY  
TREASURER

November 3, 1993

State of New Mexico  
OIL CONSERVATION DIVISION  
P. O. Box 2088  
Santa Fe, NM 87501

Attn: Mr. David Catanach

Dear Mr. Catanach,

Yates Petroleum Corporation respectfully requests approval to increase the maximum injection pressure on the Compromise SWD #1 from 1610 psig to ~~3000 psig~~. As demonstrated on the attached step rate test run on October 22, 1993, the proposed injection pressure limit and corresponding rate are well under the maximum pressure and rate achieved on the step rate test. It should be noted that the parting pressure was never reached during the test due to equipment rate limitations and the high formation transmissibility. Also attached is Order No. SWD-400 approved September 11, 1990. OK

Please call me at 748-4182 if you have any questions.

Sincerely,

Brian Collins

Brian Collins  
Engineer

BC/th

xc: Mr. Mike Williams

# JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

## STEP RATE INJECTION TEST

CLIENT: YATES PETROLEUM CORPORATION

DATE: OCTOBER 22, 1988

WELL NAME COMPROMISE BWD NO. 1

EDDY COUNTY, NEW MEXICO

H-30-18s-27e  
Order SWD-400

WOP: 88-14-2038

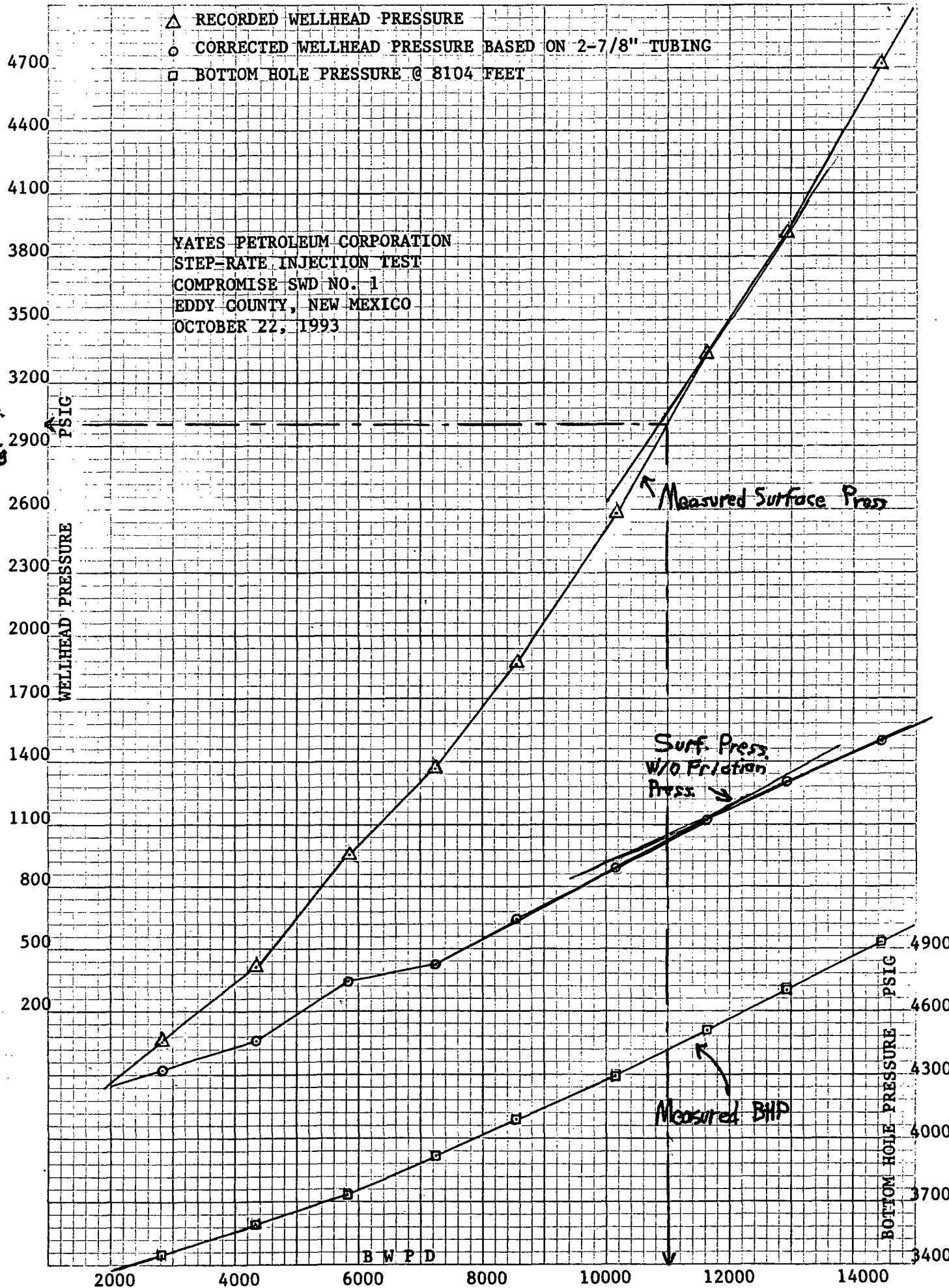
MID-PERF. 8054-8159

PACKER DEPT 7861

BHP GAUGE C 8104

| STEP NO.<br>&<br>REMARKS | TIME  | (1)<br>SURFACE<br>TUBING PRESS.<br>(psig) | (2)<br>CUMULATIVE<br>VOL. INJECTED<br>(bbls) | (3)<br>INJECTION<br>RATE<br>(bbls/day) | (4)<br>FRICTION<br>HEAD LOSS<br>(psi) | (5)<br>CORRECTED<br>TUBING PRESS.<br>(psi) (1)-(4) | (6)<br>INJECTION<br>RATE (gpm)<br>(bbls/day) (5)/1.36 | (7)<br>MEASURED<br>BHP<br>(psi) |
|--------------------------|-------|---|--|--|---------------------------------------|--|---|---------------------------------|
|                          | 9:17  |   |  |  |                                       |  |   | 3263                            |
|                          | 9:30  | 65.6                                      |  |  |                                       | 65.6   |   | 3415                            |
|                          | 9:35  | 64.2                                      | 10.0   | 2880.0                                 | 163.173                               | -99.0  | 84.00   | 3429                            |
|                          | 9:40  | 65.4                                      | 19.7   | 2793.6                                 | 154.233                               | -88.8  | 81.48   | 3440                            |
| 1                        | 9:45  | 67.9                                      | 29.2   | 2736.0                                 | 148.401                               | -80.5  | 79.60   | 3448                            |
|                          |       |   |  | 2803.2                                 |                                       |  |   |                                 |
|                          | 9:50  | 348.5                                     | 44.0   | 4262.4                                 | 337.003                               | 11.5   | 124.32  | 3523                            |
|                          | 9:55  | 405.9                                     | 59.1   | 4348.8                                 | 349.749                               | 56.2   | 126.84  | 3557                            |
| 2                        | 10:00 | 427.5                                     | 74.7   | 4492.8                                 | 371.475                               | 56.0   | 131.04  | 3584                            |
|                          |       |   |  | 4368.0                                 |                                       |  |   |                                 |
|                          | 10:05 | 777.6                                     | 94.8   | 5788.8                                 | 593.693                               | 183.9  | 168.84  | 3671                            |
|                          | 10:10 | 823.4                                     | 115.0  | 5817.6                                 | 599.169                               | 224.2  | 169.68  | 3711                            |
| 3                        | 10:15 | 962.4                                     | 135.5  | 5904.0                                 | 615.736                               | 346.7  | 172.20  | 3742                            |
|                          |       |   |  | 5836.8                                 |                                       |  |   |                                 |
|                          | 10:20 | 1279.2                                    | 160.4  | 7171.2                                 | 882.304                               | 396.9  | 209.16  | 3838                            |
|                          | 10:25 | 1322.0                                    | 185.7  | 7286.4                                 | 908.704                               | 413.3  | 212.52  | 3882                            |
| 4                        | 10:30 | 1367.2                                    | 211.4  | 7401.6                                 | 935.461                               | 431.7  | 215.88  | 3918                            |
|                          |       |   |  | 7286.4                                 |                                       |  |   |                                 |
|                          | 10:35 | 1817.2                                    | 240.9  | 8496.0                                 | 1207.314                              | 609.9  | 247.80  | 4011                            |
|                          | 10:40 | 1839.8                                    | 270.9  | 8640.0                                 | 1245.443                              | 594.4  | 252.00  | 4056                            |
| 5                        | 10:45 | 1875.3                                    | 300.9  | 8640.0                                 | 1245.443                              | 629.9  | 252.00  | 4092                            |
|                          |       |   |  | 8592.0                                 |                                       |  |   |                                 |
|                          | 10:50 | 2460.7                                    | 336.0  | 10108.8                                | 1665.205                              | 795.5  | 294.84  | 4201                            |
|                          | 10:55 | 2523.3                                    | 371.5  | 10224.0                                | 1700.482                              | 822.8  | 298.20  | 4253                            |
| 6                        | 11:00 | 2587.4                                    | 407.0  | 10224.0                                | 1700.482                              | 886.9  | 298.20  | 4299                            |
|                          |       |   |  | 10185.6                                |                                       |  |   |                                 |
|                          | 11:05 | 3157.0                                    | 447.3  | 11606.4                                | 2150.126                              | 1006.9   | 338.52  | 4403                            |
|                          | 11:10 | 3210.9                                    | 487.7  | 11635.2                                | 2160.007                              | 1050.9   | 339.36  | 4458                            |
| 7                        | 11:15 | 3267.4                                    | 528.1  | 11635.2                                | 2160.007                              | 1107.4   | 339.36  | 4503                            |
|                          |       |   |  | 11625.6                                |                                       |  |   |                                 |

| STEP NO.<br>&<br>REMARKS | TIME  | (1)<br>SURFACE<br>FLUIDING PRESS.<br>(psig) | (2)<br>CUMULATIVE<br>VOL. INJECTED<br>(bbls) | (3)<br>INJECTION<br>RATE<br>(bbls/day) | (4)<br>FRICTION<br>HEAD LOSS<br>(p.s.f.) | (5)<br>CORRECTED<br>FLUIDING PRESS.<br>(p.s.f.) (1) - (4) | (6)<br>INJECTION<br>RATE (gpm)<br>(2)/(8.33) | (7)<br>MEASURED<br>BHP<br>(p.s.f.) |
|--------------------------|-------|---|--|--|--|---|--|------------------------------------|
| 8                        | 11:20 | 3834.9                                      | 573.0  | 12931.2                                | 2626.064                                 | 1208.8  | 377.16                                       | 4607                               |
|                          | 11:25 | 3899.3                                      | 617.8  | 12902.4                                | 2615.254                                 | 1284.0  | 376.32                                       | 4662                               |
|                          | 11:30 | 3915.9                                      | 662.7  | 12931.2                                | 2626.064                                 | 1289.8  | 377.16                                       | 4705                               |
|                          |       |   |  | 12922.0                                |  |   |  |                                    |
| 9                        | 11:35 | 4725.4                                      | 712.7  | 14601.6                                | 3287.868                                 | 1437.5  | 425.88                                       | 4832                               |
|                          | 11:40 | 4792.6                                      | 763.1  | 14515.2                                | 3251.967                                 | 1540.6  | 423.36                                       | 4895                               |
|                          | 11:45 | 4711.0                                      | 813.2  | 14428.8                                | 3216.247                                 | 1494.8  | 420.84                                       | 4935                               |
|                          |       |   |  | 14448.0                                |  |   |  |                                    |
| FALLOFF                  | 11:46 | 1085.6                                      |  |  |  | 1085.6  |  | 4640                               |
|                          | 11:47 | 971.7                                       |  |  |  | 971.7   |  | 4523                               |
|                          | 11:48 | 886.1                                       |  |  |  | 886.1   |  | 4438                               |
|                          | 11:49 | 823.5                                       |  |  |  | 823.5   |  | 4372                               |
|                          | 11:50 | 767.2                                       |  |  |  | 767.2   |  | 4314                               |
|                          | 11:55 | 570.3                                       |  |  |  | 570.3   |  | 4114                               |
|                          | 12:00 | 439.7                                       |  |  |  | 439.7   |  | 3983                               |

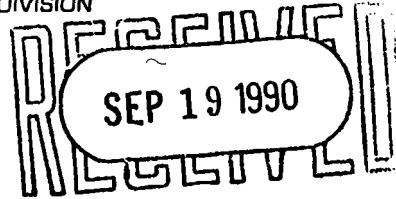


Jrm



GARREY CARRUTHERS  
GOVERNOR

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION



POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87504  
(505) 827-5800

*ADMINISTRATIVE ORDER NO. SWD-400*

*APPLICATION OF YATES PETROLEUM CORPORATION*

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Under the provisions of Rule 701(B), Yates Petroleum Corporation made application to the New Mexico Oil Conservation Division on July 20, 1990, for approval to complete for salt water disposal its Compromise AEJ Federal Com No. 1, located in Unit H of Section 30, Township 18 South, Range 27 East, NMPM, Eddy County, New Mexico.

**THE DIVISION DIRECTOR FINDS THAT:**

- (1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations.
- (2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified; and
- (3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met.
- (4) The only objection received within the waiting period prescribed by said rule has been withdrawn.

**IT IS THEREFORE ORDERED THAT:**

- (1) The applicant herein, Yates Petroleum Corporation is hereby authorized to complete its Compromise AEJ Federal Com No. 1 located in Unit H of Section 30, Township 18 South, Range 27 East, NMPM, Eddy County, New Mexico, in such a manner as to permit the injection of salt water for disposal purposes into the Canyon formation at approximately 8054 feet to approximately 8154 feet through 2 7/8-inch plastic lined tubing set in a packer located at approximately 7950 feet.

**IT IS FURTHER ORDERED THAT:**

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

Prior to commencing injection operations into the well, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 1610 psi.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Canyon formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Artesia district office of the Division of the date and time of the installation of disposal equipment and of the mechanical integrity test so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Artesia district office of the Division of the failure of the tubing, casing or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

**PROVIDED FURTHER THAT,** jurisdiction of this cause is hereby retained by the Division for such further order or orders as may be deemed necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of the operator to conduct operations in a manner which will ensure the protection of fresh water or in a manner inconsistent with the requirements set forth in this order, the Division may, after notice and hearing, terminate the injection authority granted herein.

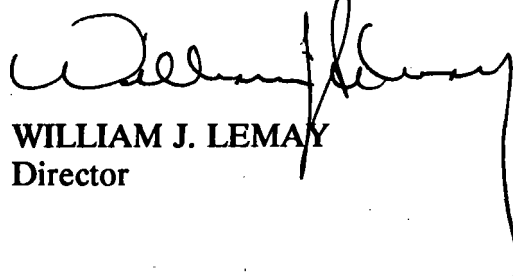
The operator shall submit monthly reports of the disposal operations in accordance with Rule 706 and 1120 of the Division Rules and Regulations.



*Administrative Order No. SWD-400*  
*Yates Petroleum Corporation*  
*September 11, 1990*  
*Page 3*

Approved at Santa Fe, New Mexico, on this 11th day of September, 1990.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

A handwritten signature in black ink, appearing to read 'William J. Lemay', is written over the printed name and title.

WILLIAM J. LEMAY  
Director

SEAL