

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED  
OMB NO. 1004-0137  
Expires March 31, 2007

## SUNDRY NOTICES AND REPORTS ON WELLS

**Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.**

S

SUBMIT IN TRIPLICATE - Other instructions on reverse side

## 1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

JUN 24 2008

## 2. Name of Operator

PARALLEL PETROLEUM CORPORATION

OCD-ARTESIA

## 3a. Address

1004 N BIG SPRING, SUITE 400, MIDLAND TX 79701

## 3b. Phone No. (include area code)

432-685-6563

## 4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

SL: 818 FSL &amp; 459 FEL

ACTUAL: PP: 848 FSL &amp; 708 FEL SEC 4, TS 19S, R21E

## 5. Lease Serial No.

NM NM 108921

## 6. If Indian, Allottee or Tribe Name

## 7. If Unit or CA/Agreement, Name and/or No.

## 8. Well Name and No.

DUKE 4 FEDERAL 2

## 9. API Well No.

30-015-35120

## 10. Field and Pool, or Exploratory Area

WALNUT CREEK, WOLF CAMP POOL

## 11. County or Parish, State

EDDY

NM

## 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

## TYPE OF SUBMISSION

- ☐ Notice of Intent
- ☒ Subsequent Report
- ☐ Final Abandonment Notice

## TYPE OF ACTION

- |   |   |  |   |
|---|---|--|---|
| <input type="checkbox"/> Acidize              | <input type="checkbox"/> Deepen           | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off                     |
| <input type="checkbox"/> Alter Casing         | <input type="checkbox"/> Fracture Treat   | <input type="checkbox"/> Reclamation               | <input type="checkbox"/> Well Integrity                     |
| <input type="checkbox"/> Casing Repair        | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete                | <input checked="" type="checkbox"/> Other <u>ADDITIONAL</u> |
| <input type="checkbox"/> Change Plans         | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon       | <u>INFORMATION FOR</u>                                      |
| <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back        | <input checked="" type="checkbox"/> Water Disposal | <u>SAD FACILITIES</u>                                       |

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

AS PER YOUR REQUEST FOR ADDITIONAL INFORMATION, PLEASE SEE ATTACHMENT WITH ITEMS 1 THRU 5 ADDRESSED

Accepted for record  
NMOC

APPROVED

JUN 23 2008

JAMES A. AMOS  
SUPERVISOR-EPS14. I hereby certify that the foregoing is true and correct  
Name (Printed/Typed)

KAYE MC CORMICK

## Title

SR PROD &amp; REG TECH

## Date

06-16-2008

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

## Approved by

## Title

## Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

## Office

Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

SUBJECT WELL: **DUKE 4 FEDERAL #2, API 30-015-35120**

Information needed for the authorization for the disposal of produced water off lease:

1. Injection Facility's Underground Injection Control Permit including OCD Permit Number  
**MESQUITE SWD INC, P.O. BOX 1479, CARLSBAD, NM 88221-1479;**  
**ORDER #SWD 180**  
**ROEMANN SWD INC, P.O. BOX 2728, PEARLAND, TX 77582-2728;**  
**ORDER #R-8079, CASE #8738**
2. Produced Water Volume: **2 BWPD**  
  
Formation: **WOLFCAMP**
3. Water Analysis of produced water: **ATTACHED, DATED 05-02-2008**
4. Legal land description of disposal facility:  
**MESQUITE: EXXON STATE #18, SEC 15, T21S, R27E, EDDY CO, NM**  
**ROEMANN: FANNING COM #1, SEC 4, T19S, R26E, EDDY CO, NM**
5. Alternate disposal facility
  - a. Underground Injection Control Permit including OCD Permit Number  
**CONTROLLED RECOVERY INC., P.O. BOX 388, HOBBS, NM**  
**88241-0388; ORDER # R-9166, CASE #9882**
  - b. Legal land description of facility  
**S/2 N/2 & N/2 S/2 SEC 27, TS 20S, R 32E, LEA CO, NM**

→ KAIE McCormick  
432-685-6586

meigs SWD INC.

SUBJECT: SALT WATER DISPOSAL WELL

ORDER NO. SWD-180

THE APPLICATION OF A. H. RAINS FOR  
A SALT WATER DISPOSAL WELL.

ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION COMMISSION

Under the provisions of Rule 701 (C), A. H. Rains made application to the New Mexico Oil Conservation Commission on December 13, 1976, for permission to complete for salt water disposal his Exxon State Well No. 8 located in Unit O of Section 15, Township 21 South, Range 27 East, NMPM, Lea County, New Mexico.

The Secretary-Director finds: *Eddy,*

1. That application has been duly filed under the provisions of Rule 701 (C) of the Commission Rules and Regulation
2. That satisfactory information has been provided that all offset operators and surface owners have been duly notified;
3. That the applicant has presented satisfactory evidence that all requirements in Rule 701 (C) will be met.
4. That no objections have been received within the waiting period prescribed by said rule.

IT IS FURTHER ORDERED:

That the applicant herein, A. H. Rains, is hereby authorized to complete its Exxon State Well No. 8 located in Unit O of Section 15, Township 21 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 Yates formation at approximately 570 feet to approximately 600 feet through 2 3/8 inch plastic lined tubing set in a packer located at approximately 565 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.

That 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.

That the operator shall notify the supervisor of the Commission's Artesia District Office before injection is commenced through said well.

-2-

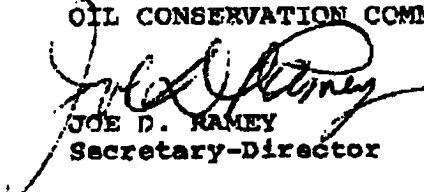
Salt Water Disposal - A. H. Rains

PROVIDED FURTHER

That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after notice and hearing the Commission may terminate the authority hereby granted in the interest of conservation. That applicant shall submit monthly reports of the disposal operation in accordance with Rule 704 and 1120 of the Commission Rules and Regulations.

APPROVED at Santa Fe, New Mexico, on this 31st day of December.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
JOE D. RAMEY  
Secretary-Director

S E A L

→ Kaye Mc Cormick

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

Roemann SWA

APPLICATION OF CHAMA PETROLEUM  
COMPANY FOR SALT WATER DISPOSAL,  
EDDY COUNTY, NEW MEXICO

PERMIT

CASE NO. 8738

Order No. R-8079

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8 a.m. on October 23, 1985, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 18th day of November, 1985, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Chama Petroleum Company, seeks authority to re-enter the Samedan Oil Corporation Fanning Com Well No. 1 located 1980 feet from the South and West lines (Unit K) of Section 4, Township 19 South, Range 26 East, NMPM, Eddy County, New Mexico and to utilize said well as a produced salt water disposal well, with injection into the perforated interval from approximately 8023 feet to 8136 feet in the Cisco and Canyon formations.

(3) The subject well was spudded on September 16, 1973, completed in the West Four Mile Draw-Morrow Gas Pool, and was plugged and abandoned by Samedan Oil Corporation in December, 1978.

(4) Originally said well had 9461 feet of 4 1/2-inch casing set for its production string. At the time it was plugged and abandoned 7995 feet of this casing string was recovered.

-2-

Case No. 8738

Order No. R-8079

(5) The applicant proposes to recomplete the subject well by tying back into the 4 1/2-inch casing with an overshot on a 5 1/2-inch casing which casing string should be adequately cemented to specifications set by the Supervisor of the Artesia District Office; the injection should be accomplished through 2 7/8-inch plastic lined tubing installed in a packer set at approximately 7923 feet; the casing-tubing annulus should be filled with an inert fluid; and a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(6) Prior to commencing injection operations, the casing in the subject well should be pressure-tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(7) The injection well or system should be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1600 psi.

(8) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Cisco formation.

(9) The operator should give advance notification to 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 pressure test in order that the same may be witnessed.

(10) The operator should 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.

(11) Approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Chama Petroleum Company, is hereby authorized to re-enter and utilize the Samedan Oil Corporation Fanning Com Well No. 1, located 1980 feet from the South and West lines (Unit K) of Section 4, Township 19 South, Range 26 East, NMPM, Eddy County, New Mexico, to dispose of produced salt water into the Cisco and Canyon formations, injection to

Jun 13 08 04:07p

Donnie Hill

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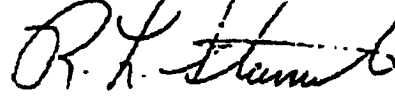
Case No. 8738

Order No. R-8079

(7) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



R. L. STAMETS,  
Director

S E A L

Analytical Laboratory Report for:

**PARALLEL PETROLEUM NM LEASES  
ONLY**



**Chemical Services**

Account Representative:  
Nailon, David

## Production Water Analysis

Listed below please find water analysis report from: DUKE FED, 4-2

Lab Test No: 2008118464

Sample Date:

05/02/2008

Specific Gravity: 1.072

TDS: 109931

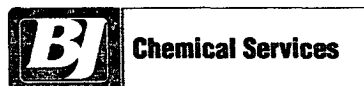
pH: 6.70

Cations:	mg/L	as:
Calcium	11735	(Ca <sup>++</sup> )
Magnesium	3232	(Mg <sup>++</sup> )
Sodium	23704	(Na <sup>+</sup> )
Iron	30.15	(Fe <sup>++</sup> )
Potassium	294.2	(K <sup>+</sup> )
Barium	1.18	(Ba <sup>++</sup> )
Strontium	192.48	(Sr <sup>++</sup> )
Manganese	1.26	(Mn <sup>++</sup> )
Anions:	mg/L	as:
Bicarbonate	305	(HCO <sub>3</sub> <sup>-</sup> )
Sulfate	135	(SO <sub>4</sub> <sup>=</sup> )
Chloride	70300	(Cl <sup>-</sup> )
Gases:		
Carbon Dioxide	260	(CO <sub>2</sub> )
Hydrogen Sulfide	0	(H <sub>2</sub> S)



PARALLEL PETROLEUM NM Lab Test No: 2008118464  
LEASES ONLY

**DownHole SAT™ Scale Prediction**  
**@ 100 deg. F**



Mineral Scale	Saturation Index	Momentary Excess (lbs/1000 bbls)
Calcite (CaCO <sub>3</sub> )	4.53	.0319
Aragonite (CaCO <sub>3</sub> )	3.84	.0303
Witherite (BaCO <sub>3</sub> )	< 0.001	-26.53
Strontianite (SrCO <sub>3</sub> )	.0696	-.802
Magnesite (MgCO <sub>3</sub> )	1.65	.0135
Anhydrite (CaSO <sub>4</sub> )	.0739	-168.47
Gypsum (CaSO <sub>4</sub> *2H <sub>2</sub> O)	.0933	-148.47
Barite (BaSO <sub>4</sub> )	.12	-4.22
Celestite (SrSO <sub>4</sub> )	.0191	-293.6
Silica (SiO <sub>2</sub> )	0	-48.15
Brucite (Mg(OH) <sub>2</sub> )	< 0.001	-.197
Magnesium silicate	0	-114.89
Siderite (FeCO <sub>3</sub> )	11.72	.0434
Halite (NaCl)	.0261	-153472
Thenardite (Na <sub>2</sub> SO <sub>4</sub> )	< 0.001	-83227
Iron sulfide (FeS)	0	-.0944

**Interpretation of DHSat Results:**

The Saturation Index is calculated for each mineral species independently and is a measure of the degree of supersaturation (driving force for precipitation) under the conditions modeled. This value ranges from 0 to infinity with 1.0 representing a condition of equilibrium where scale will neither dissolve nor precipitate. Values less than 1.0 are undersaturated and values greater than 1.0 are supersaturated. The scale is logarithmic, i.e. a Saturation Index of 3 is 10 times more saturated than a value of 2.

The Momentary excess is a measure of how much scale would have to precipitate to bring the system back to a non-scaling condition. This value ranges from negative (dissolving) infinity to positive (precipitating) infinity. The Momentary Excess represents the amount of scale possible while the Saturation Level represents the probability that scale will form.

## PERMIT FOR OIL TREATING PLANT AND SURFACE WASTE DISPOSAL

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

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 9882  
Order No. R-9166

APPLICATION OF CONTROLLED RECOVERY INC.  
FOR AN OIL TREATING PLANT PERMIT, SURFACE  
WASTE DISPOSAL AND AN EXCEPTION TO ORDER  
NO. R-3221, LEA COUNTY, NEW MEXICO

ORDER OF THE DIVISIONBY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on April 4, 1990, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 27th day of April, 1990, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

- (1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) Secretary Paragraph No. (3) of Division Order No. R-3221, as amended, prohibits in that area encompassed by Lea, Eddy, Chavez, and Roosevelt Counties, New Mexico, the disposal, subject to minor exceptions, of water produced in conjunction with the production of oil or gas, or both, on the surface of the ground, or in any pit, pond, lake, depression, draw, streambed, or arroyo, or in any water course, or in any other place or in any manner which would constitute a hazard to any fresh water supplies.
- (3) The aforesaid Order No. R-3221 was issued in order to afford reasonable protection against contamination of fresh water supplies designated by the State Engineer through disposal of water produced in conjunction with the production of oil or gas, or both, in unlined surface pits.
- (4) The State Engineer has designated all underground water in the State of New Mexico containing 10,000 parts per million or less of dissolved solids as fresh water supplies to be afforded reasonable protection against contamination; except that said designation does not include any water for which there is no present or reasonably foreseeable beneficial use that would be impaired by contamination.
- (5) The applicant, Controlled Recovery Inc., seeks authority to construct and operate a surface waste disposal facility and an oil treating plant for the purpose of treating and reclaiming sediment oil and for the collection, disposal, evaporation, or storage of produced water, drilling fluids, drill cuttings, completion fluids and other non-hazardous oilfield related waste in unlined surface pits at a site in the S/2 N/2 and the N/2 S/2 of Section 27, Township 20 South, Range 32 East, NMPM, Lea County, New Mexico.

- (6) The applicant proposes to install and operate an effective system, consisting of separating tanks, a water disposal pit, a solids disposal pit, and associated skimming, heat, and/or chemical separating equipment for the removal and reclamation of oil and basic sediments from the produced water to be disposed of, and a settling area to separate other solid waste.
- (7) The proposed plant and method of processing will efficiently process, treat, and reclaim the aforementioned waste oil, thereby salvaging oil which would otherwise be unrecoverable.
- (8) No interested party appeared at the hearing in opposition to the application.
- (9) A naturally occurring salt lake (Laguna Toston) is located in the S/2 of Section 21 and the N/2 of Section 28, Township 20 South, Range 32 East, NMPM, Lea County, New Mexico, and is approximately three-quarters of a mile from the proposed disposal area.
- (10) The hydrogeologic evidence presented in this case establishes that:
- a) Triassic redbeds, comprised of the Chinle Shale, Santa Rosa sandstone, and the Dewey Lake formation, underlies both Laguna Toston and the proposed water disposal site;
  - b) Shales within the Triassic redbeds underlying the proposed waste disposal site and Laguna Toston are virtually impermeable and therefore prevent vertical seepage of the waters from the site and Laguna Toston into sand stringers with the redbeds which may contain fresh water;
  - c) The surface of the Triassic redbeds is depressed in the vicinity of the waste disposal site and Laguna Toston thus creating a "collapse feature";
  - d) The major flow of surface and subsurface water within the boundaries of the "collapse feature" is toward Laguna Toston;
  - e) Seepage from the Impoundments at the proposed waste disposal site will infiltrate into the subsurface and migrate toward Laguna Toston;
  - f) After the seepage reaches Laguna Toston, practically all of the seepage will evaporate;
  - g) There is no present or reasonably foreseeable beneficial use of the waters of Laguna Toston;
  - h) There are no known sources of potable groundwater in sediments underlying the Triassic redbeds at Laguna Toston;
  - i) The utilization of the proposed disposal site adjacent to Laguna Toston for the disposal of water produced in conjunction with the production of oil or gas, or both, and other non-hazardous oilfield waste products, including drill cuttings and drilling muds should not constitute a hazard to any fresh water supplies.
- (11) The applicant should be authorized to utilize the unlined pits described in Finding Paragraph Nos. (5) and (6) above, for the disposal of water produced in conjunction with the production of oil or gas, or both, and other non-hazardous oilfield waste products, including drill cuttings and drilling muds.
- (12) The maximum fill level in both of the above-described pits should be limited to a plane below the crest of the dikes surrounding the pits in order to preclude over-tapping of the dikes.
- (13) The proposed oil treating plant and disposal facility should be constructed in accordance with the engineering plat and topographic map presented as evidence in this case and in accordance with such additional conditions and requirements as may be directed by the Division Director, and should be operated and maintained in such a manner as to preclude spills and fires, and protect persons and livestock.
- (14) Prior to initiating operations, the facility should be inspected by a representative of the Hobbs district office of the Division in order to determine the adequacy of fences, gates and cattleguards necessary to preclude livestock and unauthorized persons from entering and/or utilizing said facility, and also to determine the adequacy of dikes and berms needed to assure safe plant operation.
- (15) The Director of the Division should be authorized to administratively grant approval for the expansion or modification of the proposed treating plant.

(16) Authority for operation of the treating plant and disposal facility should be suspended or rescinded whenever such suspension or rescission should appear necessary to protect human health or property, to protect fresh water supplies from contamination, to prevent waste, or for non-compliance with the terms and conditions of this order or Division Rules and Regulations.

(17) Prior to constructing said facility, the applicant should be required to submit to the Santa Fe office of the Division a surety or cash bond in the amount of \$25,000 in a form approved by the Division.

(18) Authority for operation of the treating plant and disposal facility should be transferrable only upon written application and approval by the Division Director.

(19) The granting of this application should not endanger designated fresh water supplies, and will prevent waste by allowing the recovery of otherwise unrecoverable oil.

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant, Controlled Recovery Inc., is hereby authorized to construct and operate a surface waste disposal facility complete with unlined surface pits and an oil treating plant at a site in the S/2 N/2 and the N/2 S/2 of Section 27, Township 20 South, Range 32 East, NMPM, Lea County, New Mexico, for the purpose of treating and reclaiming sediment oil and for the collection, disposal, evaporation, or storage of produced water, drilling fluids, drill cuttings, completion fluids and other non-hazardous oilfield related waste.

**PROVIDED HOWEVER THAT,** the proposed oil treating plant and disposal facility shall be constructed in accordance with the engineering plat and topographic map presented as evidence in this case and in accordance with such additional conditions and requirements as may be directed by the Division Director, and shall be operated and maintained in such manner as to preclude spills and fires, and protect persons and livestock.

**PROVIDED FURTHER THAT,** prior to initiating operations, the facility shall be inspected by a representative of the Hobbs district office of the Division in order to determine the adequacy of fences, gates and cattleguards necessary to preclude livestock and unauthorized persons from entering and/or utilizing said facility, and also to determine the adequacy of dikes and berms needed to assure safe plant operation.

(2) The maximum fill level in both of the proposed unlined surface pits shall be limited to a plane below the crest of the dikes surrounding the pits in order to preclude over-tapping of the dikes.

(3) The Director of the Division shall be authorized to administratively grant approval for the expansion or modification of the proposed treating plant.

(4) Authority for operation of the treating plant and disposal facility shall be suspended or rescinded whenever such suspension or rescission should appear necessary to protect human health or property, to protect fresh water supplies from contamination, to prevent waste, or for non-compliance with the terms and conditions of this order or Division Rules and Regulations.

(5) Prior to constructing said facility, the applicant shall submit, to the Santa Fe office of the Division, a surety or cash bond in the amount of \$25,000 in a form approved by the Division.

(6) Authority for operation of the treating plant and disposal facility shall be transferrable only upon written application and approval by the Division Director.

(7) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

Original on file  
Santa Fe, New Mexico

WILLIAM J. LEMAY  
Director