

**CASE 5185: APPLICATION OF RICE  
ENGINEERING & OPERATING FOR SALT  
WATER DISPOSAL, LEA COUNTY.**

CASE No.

5185

Application,  
Transcripts,  
Small Exhibits

ETC.

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
March 13, 1974

EXAMINER HEARING

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IN THE MATTER OF :

Application of Rice Engineering &  
Operating, Inc., for salt water  
disposal, Lea County, New Mexico.  
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) Case 5185  
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BEFORE: Richard L. Stamets, Examiner.

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil  
Conservation Commission:

William Carr, Esq.  
Legal Counsel for the  
Commission  
State Land Office Bldg.  
Santa Fe, New Mexico

For the Applicant:

W. Thomas Kellahin, Esq.  
Kellahin & Fox  
500 Don Gaspar  
Santa Fe, New Mexico

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I N D E X

PAGE

LLOYD GOODHEART

Direct Examination by Mr. Kellahin  
Cross Examination by Mr. Stamets

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E X H I B I T S

Marked

Admitted

Applicant's Exhibits Nos. 1  
2, and 3

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THE NYE REPORTING SERVICE  
STATE-WIDE DEPOSITION NOTARIES  
225 JOHNSON STREET  
SANTA FE, NEW MEXICO 87501  
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GOODHEART-DIRECT

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MR. STAMETS: We call the next case. Case 5185.

MRL CARR: Case 5185. Application of Rice Engineering & Operating, Inc., for salt water disposal, Lea County, New Mexico.

(Whereupon, a discussion was held off the record.)

MR. STAMETS: Call for appearances in this Case.

MR. KELLAHIN: Tom Kellahin of Kellahin and Fox. I have one witness to be sworn.

(Witness sworn.)

LLOYD GOODHEART

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you please state your name, by whom you are employed, and in what capacity?

A My name is Lloyd Goodheart, I'm employed by Rice Engineering as Division Manager, Hobbs, New Mexico.

Q Mr. Goodheart, are you familiar with the facts surrounding this Application?

A Yes, I am.

GOODHEART-DIRECT

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Q Have you previously testified before the Oil Conservation Commission?

A I have

MR. KELLAHIN: If the Examiner please, are the Witness' qualifications acceptable?

MR. STAMETS: They are.

BY MR. KELLAHIN:

Q Mr. Goodheart, will you please refer to what has been marked as Applicant's Exhibit No. 1, identify it and explain what information it contains?

A This is a location map showing the location of the proposed salt-water-disposal well in Section 2, Township 17 South, 36 East, Lea County.

Q What are the Applicant's intent with regard to this salt-water-disposal well?

A That the well be recompleted as a salt-water-disposal well in the Abo Formation.

Q What interval do you intend to perforate?

A There are perforations already present. We can refer to Exhibit B; the well is presently perforated at 8442 to 8485. We propose to deepen this well to a depth of 9150 feet and utilize this as a disposal interval, including the perforated interval.

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Q Please refer to what has been marked as Exhibit No. 2 and identify it.

A This is an application to dispose of salt water by injection into a porous formation.

Q Will you refer to Exhibit No. 3 and identify it?

A This is a schematic proposed completion of the said well showing present casing and proposed tubing.

Q What is the source of the salt water, Mr. Goodheart?

A All water that will be disposed into this particular well will be produced from the Lovington Abo Field; all parties in the Lovington Abo Field are party to this system which we are only contracted as operator; the system will actually own the well.

Q What is the proposed anticipated volume of injected water?

A Approximately 7200 barrels of water per day.

Q Will this injection be under pressure or gravity?

A We hope by gravity.

Q What installations do you intend to place on the surface?

A We would place two water receiving tanks and

GOODHEART-DIRECT  
CROSS

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most probably an emergency pit at this location in view of the volume of water being handled.

MR. STAMETS: What kind of receiving tanks were those?

MR. GOODHEART: They would be 500 barrel, two 500 barrel receiving tanks.

BY MR. KELLAHIN:

Q Were Exhibits 1, 2 and 3 prepared by you or prepared under your direction and supervision?

A They were.

Q In your opinion, with the approval of this Application prevent waste, protect correlative rights and prevent waste?

A Yes.

MR. KELLAHIN: We move the introduction of Exhibits 1, 2 and 3.

MR. STAMETS: Exhibits 1, 2 and 3 will be admitted.

(Whereupon, Applicant's Exhibits Nos. 1, 2 and 3 were admitted into evidence.)

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Goodheart, the well will be deepened somewhat

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Will all the injection be into the Abo Formation?

A Yes. This interval will be within the Abo.

Q Looking at Exhibits 2 and 3 I don't see a packer in this well. Is a packer proposed?

A We propose to float an oil blanket that has protection between the two and casing. If this is not possible a packer will be installed.

Q If a packer is necessary that will be set what, within a 100 feet of the perforations?

A Yes, we show the proposed 3½ tubing at 8440 and this would be where the packer would be set.

Q How will you monitor this well for leakage from, if you have a packer, leakage from the tubing into the tubing casing annulus, or if no packer is used, leakage from the long string of casing.

A If we were to install and float an oil blanket behind the tubing, this oil blanket would have a positive pressure which would be indicated by the surface-pressure gauge; any tubing or casing leak would be so indicated by a loss of pressure on this gauge, and likewise, if the packer was set, there would be a casing pressure gauge installed with positive pressure.

Q Would these pressures be reported to the Oil

Conservation Commission on Form C-120-A?

A The casing pressures?

Q Yes, the tubing and casing pressures?

A If so desired. Normally we would indicate them only whether the well was a pressure or gravity well and in case of a gravity well we would not indicate normally the casing pressures.

Q It would be zero?

A In effect, normally on the Form it only calls for the injection pressures.

Q What I'm speaking of here is something in addition to what the Form requires,

A We would be perfectly willing to do this, yes.

Q If you are intending to go in on a vacuum, how will you float this oil blanket in there?

A You would have to have the necessary static water-fluid level in the Abo. If you did not have adequate height of water, where you could displace it and have positive pressure with an oil blanket, you would have to calculate what gravity of oil to install to obtain a positive pressure. This is not always possible because of the static-fluid level. In this case we would install a packer in the well.

Q I see. Would you have any objection notifying the Hobbs' District Office of the Commission before that final decision was reached or before final installation was made?

A We would not. We would be perfectly willing to do this. We'd be willing to advise you of what kind of protection was installed, what the pertinent information is.

Q How often will Rice have someone in the area of this well?

A This well will be checked daily.

Q I assume Rice would notify the Commission of any leakage from this well or any leakage which might occur from nearby off-sets that your man might notice?

A Yes, sir.

Q I believe I understood you to indicate that all wells, which would show on your Exhibit No. 1, are off-setting wells. The owners of those wells would also be owners and be interested in this salt-water-disposal well?

A This is true, yes; they are co-owners of the system which we operate.

Q What provisions will be made for picking up any

water which might get into the emergency pit?

A We would have a pump installation; our portable pump would be available to remove the water if any water accumulates in the emergency pit due to malfunction of any sort.

Q That wouldn't be a permanent installation?

A No, sir. Well, it may or may not be.

Q Okay. Will any other waters go into the system other than Abo waters?

A None is contemplated at this time.

MR. STAMETS: Are there any other questions of the Witness? He may be excused.

Mr. Kellahin, do you have anything further in this case?

MR. KELLAHIN: No, sir.

MR. STAMETS: Anyone else? We'll take the Case under advisement.

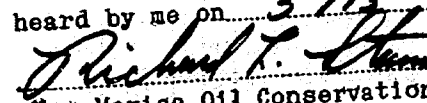
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STATE OF NEW MEXICO )  
COUNTY OF SANTA FE ) SS.

I, RICHARD L. NYE, Court Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

  
RICHARD L. NYE, Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5185 heard by me on 3/13, 1924.  
  
New Mexico Oil Conservation Commission

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## OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO  
P. O. BOX 2088 - SANTA FE  
87501

L. R. TRUJILLO  
CHAIRMAN

LAND COMMISSIONER  
ALEX J. ARMIJO  
MEMBER

STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

March 26, 1974

Mr. Tom Kellahin  
Kellahin & Fox  
Attorneys at Law  
Post Office Box 1769  
Santa Fe, New Mexico

Re: CASE NO. 5185

ORDER NO. R-4753

Applicant:

Rice Engineering

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC       x        
Artesia OCC             
Aztec OCC           

Other                     State Engineer Office

Docket No. 6-74

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 13, 1974

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,  
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

- ALLOWABLE:**
- (1) Consideration of the allowable production of gas for April, 1974, from seventeen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico;
  - (2) Consideration of the allowable production of gas from five prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for April, 1974.

CASE 5179: Application of HNG Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Dogie Draw Unit Area comprising 5,122 acres, more or less of State, Federal, and fee lands in Township 26 South, Range 36 East, Lea County, New Mexico.

CASE 5180: Application of Amoco Production Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Rock Lake Unit Area comprising 5760 acres, more or less, of State and fee lands in Township 22 South, Range 35 East, Lea County, New Mexico.

CASE 5181: Application of Amoco Production Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Trail Canyon Unit Area comprising 5758 acres, more or less, of State, Federal and fee lands in Township 24 South, Range 23 East, Eddy County, New Mexico.

CASE 5182: Application of Perry R. Bass for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the W/2 of Section 15, Township 21 South, Range 27 East, adjacent to the Burton Flats Field, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location in the W/2 of said Section 15. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

- CASE 5183:** Application of Amini Oil Company for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the North Vacuum Abo Pool rules, authority to drill 1 $\frac{1}{2}$  Pennzoil State Well No. 2 at an unorthodox location for said pool 1780 feet from the South line and 460 feet from the West line of Section 36, Township 16 South, Range 34 East, Lea County, New Mexico.
- CASE 5184:** Application of Mountain States Petroleum Corporation for an unorthodox gas well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the Buffalo Valley-Pennsylvanian Pool rules, approval for an unorthodox gas well location for a well to be drilled at a point 990 feet from the South and West lines of Section 36, Township 14 South, Range 27 East, Chaves County, New Mexico.
- CASE 5185:** Application of Rice Engineering & Operating, Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Abo formation in the open-hole and perforated interval from 8442 feet to 9150 feet in its Abo SWD Well No. 2 located in Unit C of Section 2, Township 17 South, Range 36 East, Lovington Abo Pool, Lea County, New Mexico.
- CASE 5186:** Application of Amerada Hess Corporation for an unorthodox oil well location and two non-standard oil proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the Bagley Siluro-Devonian Pool rules, the formation of two non-standard proration units in Section 35, Township 11 South, Range 33 East, Lea County, New Mexico, the first being a 40-acre unit comprising the NW/4 SE/4 to be dedicated to applicant's State BTD Well No. 2, and the second being an 80-acre unit comprising the SE/4 SW/4 and the SW/4 SE/4 to be dedicated to applicant's State BTD Well No. 1, proposed to be drilled at an unorthodox location for said pool 660 feet from the South line and 1900 feet from the East line of said Section 35.
- CASE 5187:** Application of Inexco Oil Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying Section 17, Township 21 South, Range 26 East, Eddy County, New Mexico, adjacent to the Catclaw Draw-Morrow Gas Pool, to be dedicated to a well to be drilled at a standard location for said pool. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and a charge for risk involved in drilling said well.



- CASE 5188: Application of Continental Oil Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Drinkard and Blinebry production in the wellbore of its Lockhart B-1 Well No. 8 located in Unit II of Section 1, Township 22 South, Range 36 East, Lea County, New Mexico.
- CASE 5189: Application of Craig Folsom for an unorthodox oil well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well proposed to be drilled at a point 1340 feet from the South line and 1300 feet from the East line of Section 12, Township 13 South, Range 31 East, Caprock-Queen Pool, Chaves County, New Mexico.
- CASE 5190: Application of Union Oil Company of California for pool creation and special rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Morrow gas pool for its Pipeline Deep Unit Well No. 1 located in Unit J of Section 17, Township 19 South, Range 34 East, Lea County, New Mexico, and for the promulgation of special rules therefor including a provision for 640-acre spacing.
- CASE 5191: Application of Murphy Minerals Corporation for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water through two wells into the Grayburg-San Andres formation on its Gissler "B" lease in Sections 11 and 12, Township 17 South, Range 30 East, Square Lake Pool, Eddy County, New Mexico.
- CASE 5192: In the matter of the application of the Oil Conservation Commission of New Mexico upon its own motion for the extension of the following pools in Lea County:

Antelope Ridge-Morrow Gas Pool  
EK Yates-Seven Rivers-Queen Pool  
House-San Andres Pool  
Humble City-Atoka Pool  
North Shoe Bar-Wolfcamp Pool  
Tres Papalotes-Pennsylvanian Pool  
Wantz-Granite Wash Pool

CASE 5124: (Continued from the February 13, 1974 Examiner Hearing)

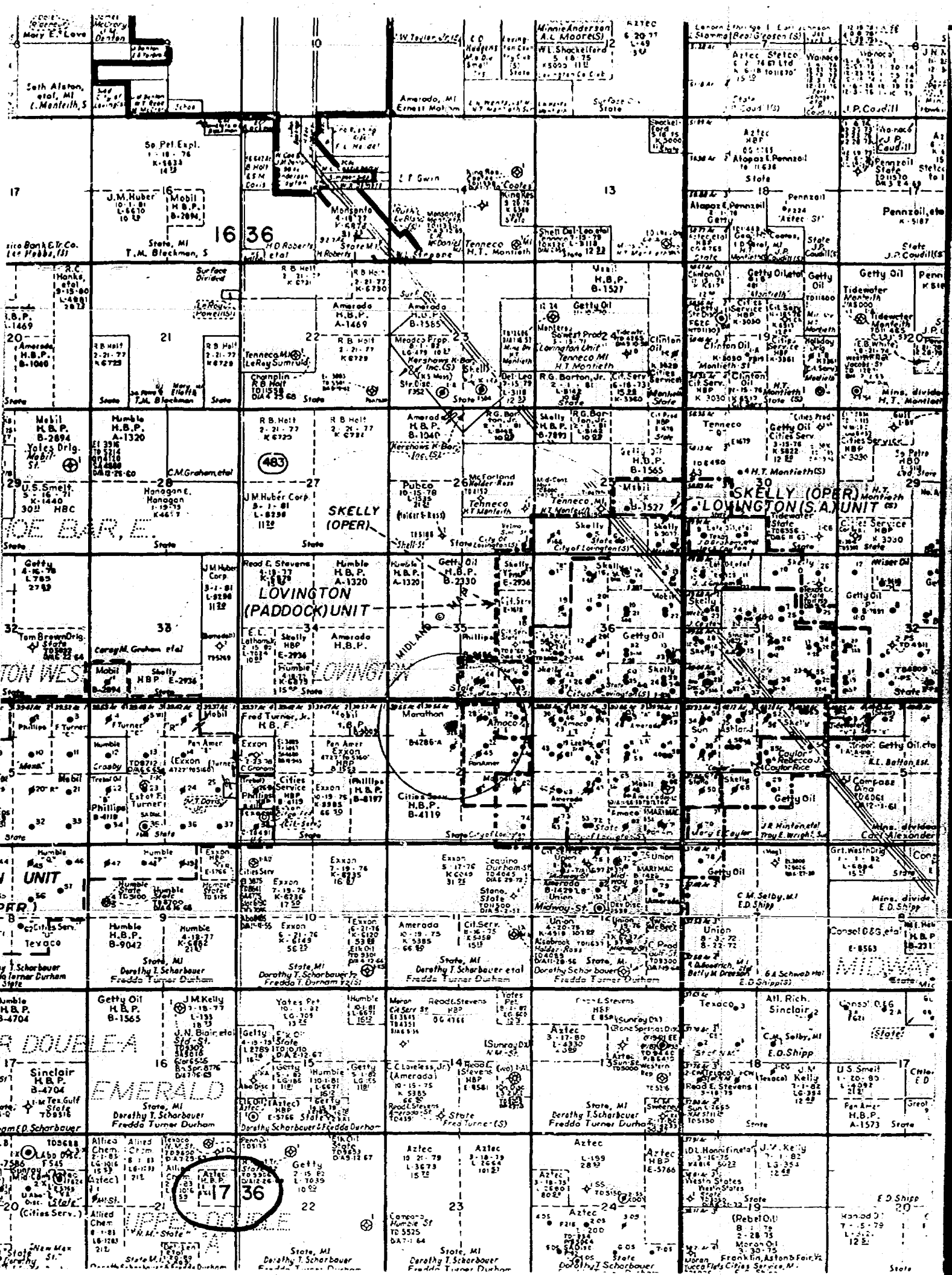
Application of Belco Petroleum Corporation for compulsory pooling and an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the S/2 of Section 30, Township 20 South, Range 33 East, South Salt Lake-Morrow Gas Pool, Lea County, New Mexico, to be dedicated to a well to be drilled at an unorthodox location 660 feet from the South line and 1300 feet from the East line of said Section 30. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 5140: (Continued from the February 13, 1974, Examiner Hearing)

Application of Pierce & Dehlinger for compulsory pooling, Vada-Pennsylvanian Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Vada-Pennsylvanian Pool underlying the NW/4 of Section 24, Township 9 South, Range 33 East, Lea County, New Mexico, to be dedicated to the King Resources Sheridan Well No. 1-A located in Unit C of said Section 24. Also to be considered is designation of the applicant as operator of the NW/4 of said Section 24 and the well located thereon, provision for allocation of actual operating costs and charges for supervision, and allocation of costs for reworking said well including a 200% charge attributable to any non-consenting working interest owner's pro rata share of said workover costs, for the risk involved in said workover.

CASE 4956: (Reopened) (Continued from the February 13, 1974, Examiner Hearing)

Application of Pierce & Dehlinger for a determination of well costs, Lea County, New Mexico. Applicant, as operator of the Sheridan Well No. 1 located in Unit M of Section 13, Township 9 South, Range 33 East, Lea County, New Mexico, to which well is dedicated the SW/4 of said Section 13, all mineral interests in the Vada-Pennsylvanian Pool thereunder having been pooled by Commission Order No. R-4560, seeks the determination of reasonable well costs attributable to applicant and to King Resources, including, but not limited to, the costs of reworking and placing said Sheridan Well No. 1 back on production and attorneys fees in connection therewith. Applicant further seeks an order assessing, as a charge for the risk involved in the reworking of the well, 120% of the pro rata share of the reasonable well costs attributable to the working interest of King Resources.



BEFORE EXAMINER STAMETS  
OIL CONSERVATION COMMISSION  
Rice EXHIBIT NO. 1  
CASE NO. 5185  
Submitted by Goodheart  
Hearing Date 13 MAR 74

## APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR <b>Rice Engineering &amp; Operating, Inc.</b>		ADDRESS <b>P. O. Box 1142, Hobbs, New Mexico 88240</b>	
LEASE NAME <b>Abo SWD</b>	WELL NO. <b>C-2</b>	FIELD <b>Lovington Abo</b>	COUNTY <b>Lea</b>
LOCATION UNIT LETTER <b>C</b> WELL IS LOCATED <b>2310</b> FEET FROM THE <b>West</b> LINE AND <b>990</b> FEET FROM THE <b>North</b> LINE, SECTION <b>2</b> TOWNSHIP <b>17 South</b> RANGE <b>36 East</b> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	<b>13-3/8"</b>	<b>396'</b>	<b>450</b>
INTERMEDIATE	<b>9-5/8"</b>	<b>3348'</b>	<b>1750</b>
CONC STRING	<b>5 1/2"</b>	<b>8530'</b>	<b>1380</b>
TUBING	<b>3 1/2"</b>	<b>8440'</b>	NAME, MODEL AND DEPTH OF TUBING PACKER <b>Floating oil blanket.. will be used to protect annulus</b>
NAME OF PROPOSED INJECTION FORMATION <b>Abo</b>		TOP OF FORMATION <b>8350'</b>	BOTTOM OF FORMATION <b>9300'</b>
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>Plastic-lined tubing</b>		PERFORATIONS OR OPEN HOLES <b>Perforations &amp; open hole</b>	PROPOSED INTERVAL(S) OF INJECTION <b>(8442'-46' &amp; 8485' perforations 8442'-9150' (8530-9150' O H))</b>
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? <b>Oil well</b>		HAS WELL EVER BEEN PERFORMED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? <b>Yes</b>
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH <b>8440'-8468' squeezed w/150 sax and 8337'-8404' squeezed w/150 sax</b>			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA <b>400'</b>	DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>6300' (Paddock)</b>		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>10,500' (Penn)</b>
ANTICIPATED DAILY INJECTION VOLUME (BBL'S.) <b>5000</b>	MINIMUM <b>8500</b>	MAXIMUM <b>8500</b>	OPEN OR CLOSED TYPE SYSTEM <b>Semi-closed</b>
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - <b>Yes</b>		IS INJECTION TO BE BY GRAVITY OR PRESSURE? <b>Gravity</b>	APPROX. PRESSURE (PSI) <b>Vacuum</b>
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>State Land - Mason Graham, Box 1117, Lovington, N. M. 88260</b>		LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL <b>Amoco Production Company, Box 68, Hobbs, New Mexico 88240</b> <b>Skelly Oil Company, Box 1351, Midland, Texas 79701</b>	
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? <b>Yes</b>		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL <b>Yes</b>	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) <b>Yes</b>		ELECTRICAL LOG <b>No</b>	
SURFACE OWNER <b>Yes</b>		THE NEW MEXICO STATE ENGINEER <b>No</b>	
PLAY OF AREA <b>Yes</b>		DIAGRAMMATIC SKETCH OF WELL <b>Yes</b>	

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

L. B. GOODHEART

(Signature)

Division Manager

(Title)

February 14, 1974

(Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well. not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

BEFORE EXAMINER STAMETS	
OIL CONSERVATION COMMISSION	
Rice	EXHIBIT NO. 2
CASE NO. 5185	
Submitted by Goodheart	
Hearing Date 13 MAR 74	

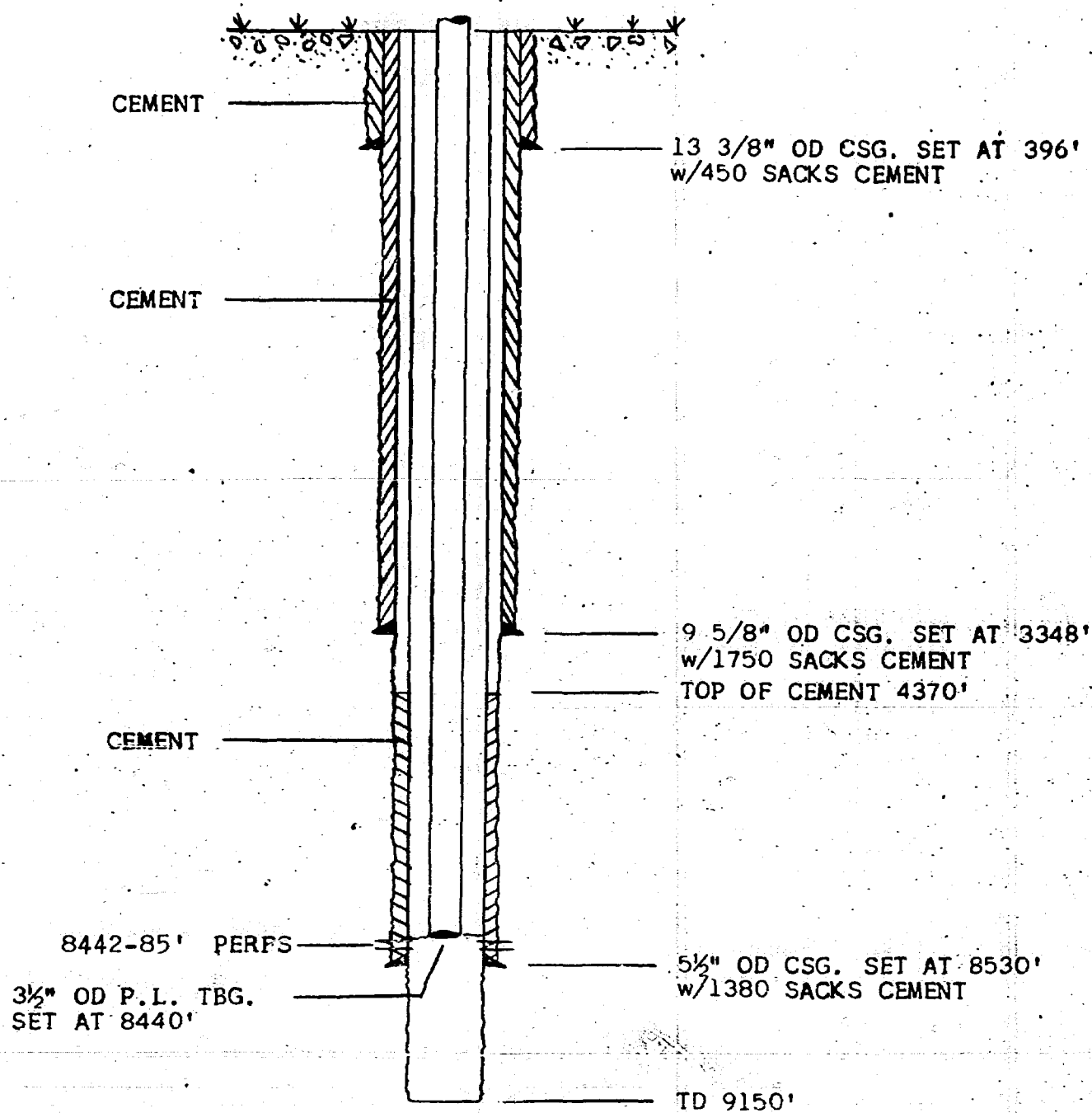


EXHIBIT "B"

DWN	LBG	2-74	PROPOSED COMPLETION ABO SWD WELL C-2	SCALE None
			Rice Engineering & Operating, Inc. Hobbs, New Mexico	DWG NO.

K & E CO. — WICHITA — MERCURE 191843

BEFORE EXAMINER STAMPS  
OIL CONSERVATION COMMISSION  
Rice EXHIBIT NO. 3  
CASE NO. 5185  
Submitted by Goodheart  
Hearing Date 13 MAR 74

Case no. 5185

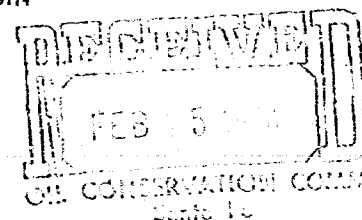
**RICE Engineering & Operating, Inc.**

Post Office Box 1142

Telephone (505) 393-9174

HOBBS, NEW MEXICO 88240

February 14, 1974



New Mexico Oil Conservation Commission  
P. O. Box 871  
Santa Fe, New Mexico 87501

Re: Rule 701, Injection of  
Fluids into Reservoirs  
(Salt Water Disposal)

Gentlemen:

Rice Engineering & Operating, Inc., as operator of the Abo Salt Water Disposal System, Lea County, New Mexico, hereby respectfully applies for a hearing to be held before the New Mexico Oil Conservation Commission for the purpose of securing a permit under Rule 701 to recomplete the abandoned Abo SWD Well C-2 (old Marathon Oil Company-State B-4286A No. 1), located in the NE/4 NW/4 of Section 2, Township 17 South, Range 36 East, Lea County, New Mexico, as a salt water disposal well in the Abo Formation.

Rice Engineering & Operating, Inc. further deposes and states the following:

- A. That said well is located 2310 feet from the West line and 990 feet from the North line of Section 2, Township 17 South, Range 36 East, N.M.P.M., Lea County, New Mexico (see Exhibit "A").
- B. That said well was drilled and completed as a producing oil well in the Lovington Abo Pool on February 13, 1954 and temporarily abandoned on May 19, 1961.
- C. That said well has 13-3/8" OD casing set at 396 feet; 9-5/8" OD casing set 3,348 feet and 5 1/2" OD casing set at 8,530 feet (see Exhibit "B").

DOCKET MAILED

Date 3-1-74

Case no. 5185

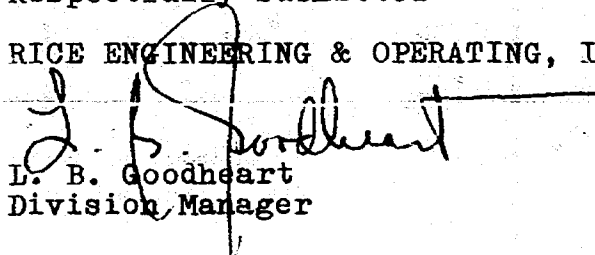
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- D. That said well will be completed as a disposal well in the Abo formation by (1) cleaning out to present TD of 8,534 feet and deepening to approximately 9,150 feet; (2) installing 3 $\frac{1}{2}$ " OD P.L. tubing to 8,440 feet; and (3) disposing of produced water in the perforated interval from 8,442 to 8,485 feet and in the open hole interval from 8,530 to 9,150 feet.
- E. That the salt water to be injected is produced in the Lovington Abo Field and is from the Lovington Abo Pool.
- F. That the volume of salt water to be disposed shall be approximately 7,200 barrels per day.

Therefore, Rice Engineering & Operating, Inc. requests that the Secretary of the New Mexico Oil Conservation Commission set a date for this application to be heard, and after said hearing, to grant this Permit to dispose of salt water in the Abo SWD Well C-2.

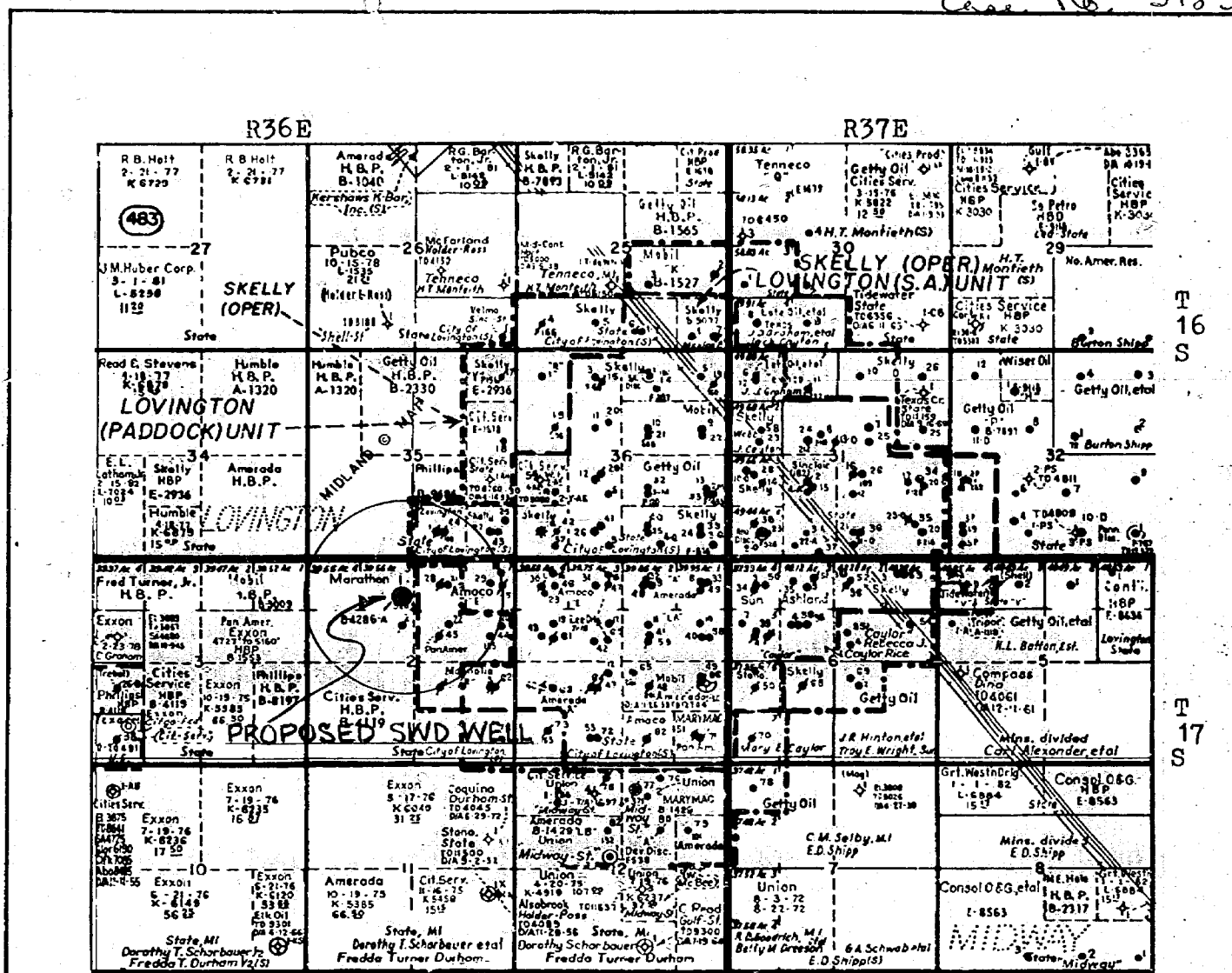
Respectfully submitted

RICE ENGINEERING & OPERATING, INC.

  
L. B. Goodheart  
Division Manager

LBG/jp

Attachments: Exhibit "A" & "B"  
Form C-108



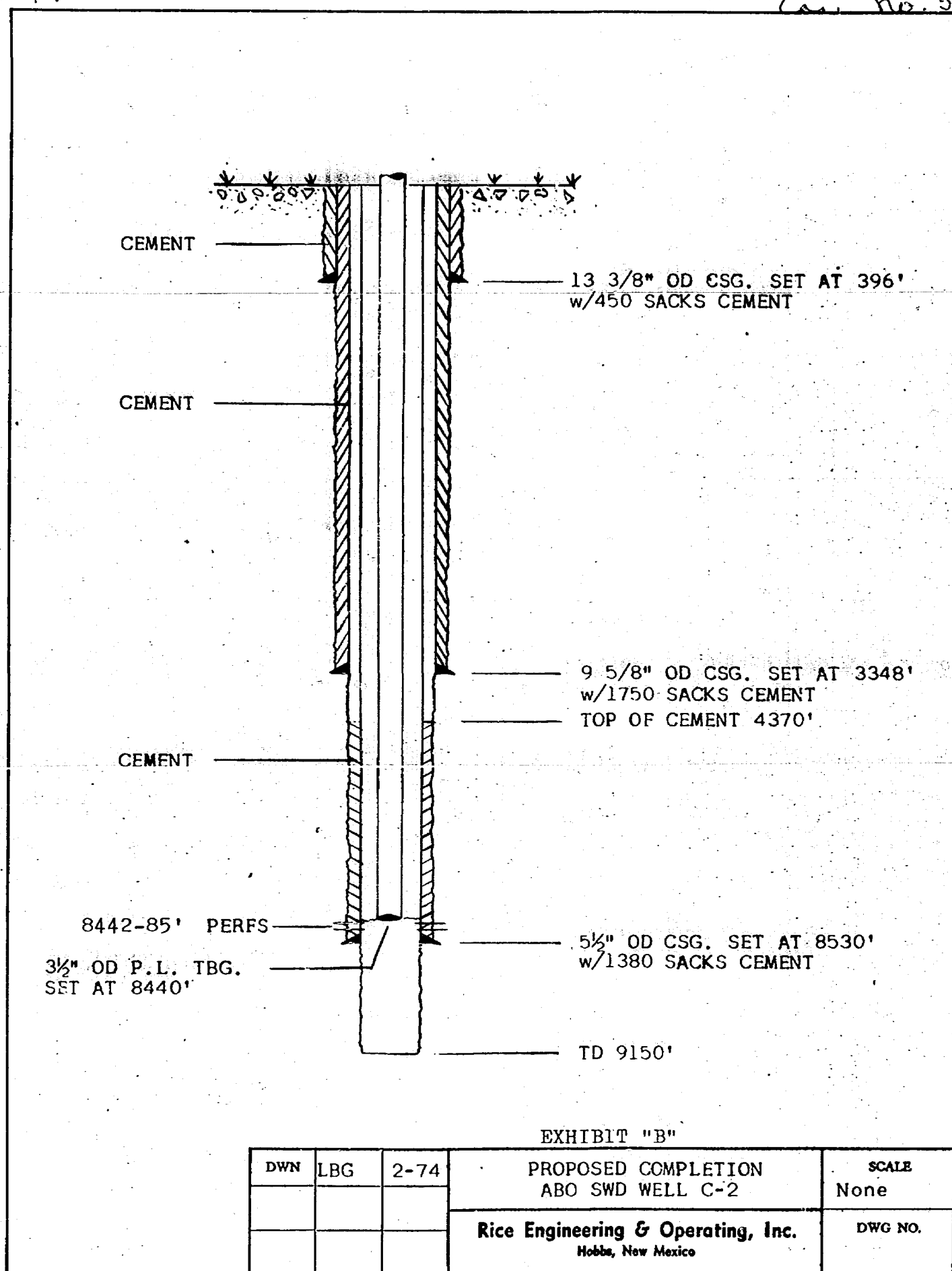
Lea County, New Mexico

EXHIBIT "A"

DWN	LBG	2-74	Location Plat Abo SWD Well C-2	SCALE 1"=4,000'
			Rice Engineering & Operating, Inc. Hobbs, New Mexico	DWG NO.



Case No. 5185



Case no. 5185

Form C-108  
Revised 1-1-65NEW MEXICO OIL CONSERVATION COMMISSION  
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR <b>Rice Engineering &amp; Operating, Inc.</b>		ADDRESS <b>P. O. Box 1142, Hobbs, New Mexico 88240</b>	
LEASE NAME <b>Abo SWD</b>	WELL NO. <b>C-2</b>	FIELD <b>Lovington Abo</b>	COUNTY <b>Lea</b>
LOCATION UNIT LETTER <b>C</b> ; WELL IS LOCATED <b>2310</b> FEET FROM THE <b>West</b> LINE AND <b>990</b> FEET FROM THE <b>North</b> LINE, SECTION <b>2</b> TOWNSHIP <b>17 South</b> RANGE <b>36 East</b> NMPM.			

NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	13-3/8"	396'	450	Surface	Circulated
INTERMEDIATE	9-5/8"	3348'	1750	Surface	Circulated
LONG STRING	5 1/2"	8530'	1380	4370'	Temp. Survey
TUBING	3 1/2"	8440'	NAME, MODEL AND DEPTH OF TUBING PACKER <b>Floating oil blanket</b> <b>will be used to protect annulus</b>		
NAME OF PROPOSED INJECTION FORMATION <b>Abo</b>		TOP OF FORMATION <b>8350'</b>		BOTTOM OF FORMATION <b>9300'</b>	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>Plastic-lined tubing</b>		PERFORATIONS OR OPEN HOLE? <b>open hole</b>		PROPOSED INTERVAL(S) OF INJECTION <b>8442'-46' &amp; 8485' per 2s</b> <b>(8530'-9150' O H)</b>	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL DRILLED? <b>Oil well</b>		ORIGINALLY DRILLED? <b>Yes</b>		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? <b>Yes</b>
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH <b>8440'-8468' squeezed w/150 sax and 8337'-8404' squeezed w/150 sax</b>					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA <b>400'</b>		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>6300' (Paddock)</b>		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>10,500' (Penn)</b>	
ANTICIPATED DAILY INJECTION VOLUME (BBL/D) <b>5000</b>	MINIMUM <b>5000</b>	MAXIMUM <b>8500</b>	OPEN OR CLOSED TYPE SYSTEM <b>Semi-closed</b>	IS INJECTION TO BE BY GRAVITY OR PRESSURE? <b>Gravity</b>	APPROX. PRESSURE (PSI) <b>Vacuum</b>
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - <b>Yes</b>			WATER TO BE DISPOSED OF <b>Yes</b>		
NATURAL WATER IN DISPOSAL ZONE <b>Yes</b>			ARE WATER ANALYSES ATTACHED? <b>No</b>		
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>State Land - Mason Graham, Box 1117, Lovington, N. M. 88260</b>					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL <b>Ahoco Production Company, Box 68, Hobbs, New Mexico 88240</b> <b>Skelly Oil Company, Box 1351, Midland, Texas 79701</b>					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? <b>Yes</b>					
SURFACE OWNER <b>Yes</b>					
EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL <b>Yes</b>					
THE NEW MEXICO STATE ENGINEER <b>No</b>					
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) <b>Yes</b>					
PLAN OF AREA <b>Yes</b>					
ELECTRICAL LOG <b>No</b>					
DIAGRAMMATIC SKETCH OF WELL <b>Yes</b>					

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

(Signature) **J. B. Goodheart**Division Manager  
(Title)February 14, 1974  
(Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

DRAFT

jr/

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 5185

Order No. R-4753

APPLICATION OF RICE ENGINEERING  
& OPERATING, INC. FOR SALT WATER  
DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 13, 1974,  
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this        day of March, 1974, the Commission,  
a quorum being present, having considered the testimony, the record,  
and the recommendations of the Examiner, and being fully advised  
in the premises,

FINDS:

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

(2) That the applicant, Rice Engineering & Operating, Inc.,  
is the owner and operator of the Abo SWD Well No. 2, located in  
Unit C of Section 2, Township 17 South, Range 36 East, NMPM,  
Lovington-Abo Pool, Lea County, New Mexico.

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CASE NO. 5185  
Order No. R-

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Abo formation, with injection into the open-hole and perforated interval from approximately 8442 feet to 9150 feet. ✓

(4) That the injection should be accomplished through 3 1/2-inch plastic-lined tubing under a balanced inert casing-tubing annulus fluid column, or through said tubing installed in a packer set within 100 feet of the uppermost perforations; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus in order to determine leakage in the casing, tubing, or packer, and that both the tubing and annular pressures should be reported monthly to the Commission.

(5) That 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.

(6) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Rice Engineering & Operating Inc., is hereby authorized to utilize its Abo SWD Well No. 2, located in Unit C of Section 2, Township 17 South, Range 36 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico, to dispose of produced salt water into the Abo formation, injection to be accomplished through 3 1/2-inch tubing ~~open-hole and~~ with injection into the open-hole and perforated interval from approximately 8442 feet to 9150 feet;

PROVIDED HOWEVER, that injection shall take place under a balanced casing-tubing annulus fluid column, or under a packer

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CASE NO. 5185  
Order No. R-

set within 100 feet of the uppermost perforations,

PROVIDED FURTHER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the tubing and annulus in order to determine leakage in the casing, tubing, or packer.

→ (2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations. and shall show thereon, both measured tubing and annular pressures.

(3) That the operator shall immediately notify the supervisor of the Commission's Hobbs District Office of the failure of the tubing, casing, or packer in said well or the leakage of water from or around said well and shall take such steps as may be timely or necessary to correct such failure or leakage.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

*PROVIDED FURTHER, that the operator shall notify the supervisor of the Commission's Hobbs District Office before injection is commenced through said well.*