

WATER TREATMENT PLANT OF R. Q. SLEW  
DESIGNED FOR SALT WATER DISPOSAL,  
SANDY COUNTY, NEW MEXICO.

CASE No.

5176

Application,  
Transcripts,  
Small Exhibits

ETC.

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
February 27, 1974

EXAMINER HEARING

IN THE MATTER OF:

Application of R.Q. Silverthorne  
for salt water disposal, Eddy  
County, New Mexico.

Case No. 5176

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For New Mexico Oil Conservation  
Commission:

Thomas Derryberry  
Legal Counsel for the  
Commission  
State Land Office Bldg.  
Santa Fe, New Mexico

For the Applicant:

Fred Watson, Esq.  
Watson & Watson  
Carper Building  
Artesia, New Mexico

I N D E X

RALPH GRAY

Page

Direct Examination by Mr. Watson

3

Cross Examination by Mr. Nutter

9

E X H I B I T S

Marked

Admitted

Applicant's Exhibits 1 through 6

9

9

~~GRAY-DIRECT~~

CASE 5176

Page.....3.....

MR. NUTTER: We will call Case No. 5176.

MR. DERRYBERRY: Case 5176. Application of R.Q. Silverthorne for salt water disposal, Eddy County, New Mexico.

MR. WATSON: If the Examiner please, I am Fred Watson from Watson and Watson Attorneys in Artesia, New Mexico, representing the Applicant, and I have one witness to be sworn.

(Witness sworn.)

RALPH GRAY

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

DIRECT EXAMINATION

BY MR. WATSON:

Q State your name and occupation, please, sir.

A Ralph Gray, Consulting Petroleum Engineer.

Q And you are located at Artesia?

A Yes, sir.

Q And I guess you have testified many times before this Commission?

A Yes.

MR. WATSON: Are the Witness' qualifications accepted?

THE NYE REPORTING SERVICE  
STATE-WIDE DEPOSITION NOTARIES  
225 JOHNSON STREET  
SANTA FE, NEW MEXICO 87501  
TEL. (505) 962-0386

GRAY-DIRECT

MR. NUTTER: Yes, they are.

BY MR. WATSON:

Q All right, now, Mr. Gray, I hand what has been marked Applicant's Exhibit No. 1 and ask you to explain from that Exhibit the nature of this Application.

A The Applicant proposes to convert the Kenwood Well No. 4 which is in the Northeast quarter Southwest quarter of Section 30, convert that from a producing well to a water-disposal well.

Q That's in Section 30, Township 18 South, Range 31 East?

A Yes, that's correct. Exhibit 1 shows the Kenwood lease outlined with the yellow border and the Well No. 4 is indicated with the arrow.

Q Now is that the proposed disposal well?

A Proposed disposal well, yes.  
point out that the need for having a disposal well is due to some recent completion work on the Well No. 5 which is also in the same 40 acre tract. Well No. 5 was originally completed as a dry hole and more recently was recompleted in the lower zone and is making a substantial amount of water so the Applicant needs some place to dispose of this water.

Q All right, sir. Referring to Applicant's Exhibit No. 2, that is an Exhibit showing certain well data. Would you describe what it shows for the record?

A Exhibit No. 2 is a table showing pertinent well data for all five of the Kenwood wells. These wells have five-and-a-half-inch casings set through the pay and Kenwood Wells Nos. 1 through 4 were completed in the Yates formation at depths of approximately 2500 feet while Well No. 5 was completed as a dry hole in February of 1965, but recompletion work was performed during 1973. The old cement plugs were drilled out and the well was recompleted in the interval of 3379 to 3614 which is in the Penrose sand. Production tests made indicated that the well was capable of producing five barrels of oil plus 100 barrels of water per day, and the Applicant thinks that by installing a larger pump that he'll be able to increase the amount of oil production and possibly he may recover as much as 300 barrels of water per day if they install this larger pump.

Q All right, sir. Turning to Applicant's Exhibit No. 3 would you please state what that is, sir.

A Exhibit No. 3 is a table showing oil production and cumulative oil from 1969 through 1972 on an annual

GRAY-DIRECT

basis and monthly oil production for each individual well is shown for the period of January through November, 1973. It also shows that the production from Well No. 4 was less than one barrel of oil per day for the latter part of 1973 and more recently the Well has actually been shut-in.

Q That's the proposed disposal well?

A Yes, sir.

Q All right. Now in reference to Exhibit No. 4, what is that Exhibit?

A Exhibit No. 4 is an electric log of Kenwood Well No. 4. It shows the casing point and the perforated interval in the Yates formation and, of course, it shows the formation conditions in this interval.

Q However, that well is perforated at depth in the Yates formation?

A Yes, sir.

Q All right, sir. Now you have prepared as an Exhibit a schematic diagram of the proposed disposal well have you not?

A Yes.

Q And that is Exhibit No. 5?

A That's correct.

Q Have you any further comments on Exhibit No. 5?



A Well, Exhibit No. 5 is a diagramatic sketch of the proposed injection well showing the location of the surface casing 8 and 5/8th, an estimated top of cement behind that strain. It also shows the five-and-a-half-inch casing point at 2540 feet and the estimated top of the cement of 1274 behind this five and a half. The perforated interval is indicated 2485 to 2506. Now, the Applicant believes that it is possible that the limited amount of water that he will have to dispose of might enter the formation under a vacuum without the necessity of having to pump it. This operation could be a temporary thing, he's not absolutely certain as to how good the No. 5 Well is going to be and the Applicant is requesting approval to inject water down the casing until such time as a pump is necessary in order to pump the water into the formation. If that becomes necessary then the Applicant would run a string of tubing with the packer and set the packer above the perforations and inject down tubing.

Q All right, sir. You have also an Exhibit No. 6?

A Yes, Exhibit No. 6 is a Gamma Ray Neutron Log of the Kenwood Well No. 5, and this indicates the intervals in the Penrose Section which has been perforated and from which oil and water are presently being produced.

GRAY-DIRECT

Page 8

Q In your opinion, what effect would the granting of this Application for a water disposal well have on correlative rights, if any?

A Well I don't think that correlative rights would be impaired because of the proposal.

Q Would the granting of the Application have any effect on the recovery of oil which might not otherwise be recovered?

A Well, if a sufficient amount of water is injected into the Yates formation, it's very possible that this would have a beneficial effect upon the Yates production which is being produced in the other wells.

Q The other wells on that lease?

A Yes.

MR. WATSON: For the record, Mr. Examiner, it may be that this disposal well could eventually be a well for other leases owned by the Applicant in the area if they start producing water, however, we will comply with any USGS requirements such as obtaining a special land-use permit if that occurs in the future.

That completes the direct.

MR. NUTTER: Are there any questions of Mr. Gray?

Mr. Gray, we have advice which I would inform you, that

GRAY-CROSS

CASE 5176

Page.....9.....

the Commission no longer approves any disposal wells down the casing, so it would be necessary to install the tubing and packer upon completion as a salt-water-disposal well.

MR. GRAY: In that event I'm sure the Applicant would go along with that.

MR. WATSON: Excuse me, sir, you did prepare all of these Exhibits 1 through 6 yourself?

MR. GRAY: Yes.

MR. WATSON: We offer these Exhibits into evidence.

MR. NUTTER: Exhibits 1 through 6 will be admitted into evidence.

(Whereupon, Applicant's Exhibits 1 through 6 were marked and admitted into evidence.)

CROSS EXAMINATION

BY MR. NUTTER:

Q All the wells on the lease are Yates wells with the exception of No. 5, which is completed in the Penrose, and that well brings in water?

A Yes, sir.

Q How about the Yates wells, do they make any water?

A No, sir.

MR. NUTTER: Are there any further questions

THE NYE REPORTING SERVICE  
STATE-WIDE DEPOSITION NOTARIES  
225 JOHNSON STREET  
SANTA FE, NEW MEXICO 87501  
TEL. (505) 982-0386

of Mr. Gray?

He may be excused.

Do you have anything further, Mr. Watson?

MR. WATSON: No sir, that's the Applicant's case.

MR. NUTTER: Does anyone have anything to offer in Case No. 5176?

We will take the Case under advisement.

CASE 5176

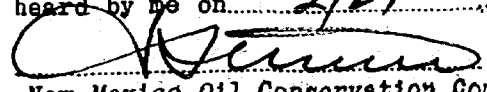
Page.....11.....

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.

  
COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5176, heard by me on 2/27, 1974.

, Examiner  
New Mexico Oil Conservation Commission

THE NYE REPORTING SERVICE  
STATE-WIDE DEPOSITION NOTARIES  
225 JOHNSON STREET  
SANTA FE, NEW MEXICO 87501  
TEL. (505) 982-0386



BRUCE KING  
GOVERNOR  
LARRY KEHOE  
SECRETARY

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

March 22, 1979

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-2434

R. Q. Silverthorne  
c/o Nancy King  
P. O. Box 385  
Artesia, New Mexico 88210

Re: Salt Water Disposal  
Kenwood Federal Well No. 5  
Eddy County, New Mexico

Dear Mr. Silverthorne:

Reference is made to your request to substitute your Kenwood Federal Well No. 5, located 2310 feet from the South line and 2160 feet from the West line of Section 30, Township 18 South, Range 31 East, Shugart-Grayburg Pool, Eddy County, New Mexico, for your Kenwood Federal Well No. 4, which well was authorized for salt water disposal into the Yates formation by Division Order No. R-4741, dated March 15, 1974.

You are hereby authorized to utilize the No. 5 well for salt water disposal into the Queen-Grayburg formation, provided that injection shall be through 2 3/8-inch plastic-lined tubing set in a packer at approximately 3320 feet, and provided further that the casing-tubing annulus shall be loaded with an inert fluid and equipped with a gauge or left open, in order to facilitate detection of leakage in the tubing, casing, or packer.

Further, that you shall immediately notify the supervisor of the Division's Artesia district office of the failure of the tubing or packer in the injection well, the leakage of water or oil from around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area or within one-half mile of the injection well.

Page 2-  
Letter to R. Q. Silverthorne  
March 22, 1979

And provided further, that upon such failure of any well within one-half mile of the injection well, the Division Director is hereby authorized to limit injection pressure into the Queen-Grayburg formation in the injection well to no more than hydrostatic pressure, and to maintain such pressure limitation until such time as workover operations (including re-plugging, if necessary) have been completed, successfully correcting such failure.

Very truly yours,

JOE D. RAMEY  
Director

JDR/DSN/fd

cc: NMOCD - Artesia  
USGS - Artesia  
Neil B. Watson  
P. O. Drawer E  
Artesia, New Mexico  
✓ Case File 5176

OIL AND  
GAS  
PRODUCTION  
REPORTS

TAX  
SERVICE  
•  
PHONE  
746-6107

## NANCY KING

BOOKKEEPING SERVICE

BOX 385 • 300 BOOKER BLDG.  
ARTESIA, NEW MEXICO 88210

March 19, 1979

Attn: Dan Nutter  
Oil Conservation Commission  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Dear Mr. Nutter:

I am enclosing two copies each of Form C-108, Diagrammatic Sketch, Lane Wells Gamma Ray Log and Plat of the area in connection with R. Q. Silverthorne Kenwood No. 5 Application to dispose of salt water.

We are unable to inject into the Kenwood No. 4 because of high pressure.

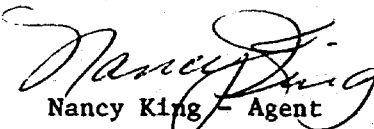
The Kenwood No. 5 well is not making any oil at the present time.

All the requirements of Rule 701 have been met.

If you need any further information please call.

Yours very truly,

R. Q. Silverthorne

  
Nancy King - Agent

nk

CC; Oil Conservation Commission - Artesia  
R. Q. Silverthorne  
Steve Reynolds - State Engineer  
Southland Royalties  
Hanson Oil Corp.  
Yates Petroleum Company  
Clifford Cone  
JFG Enterprises  
Union Oil Co. of Calif.  
Grace Petroleum Corp.



NEW MEXICO OIL CONSERVATION COMMISSION  
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

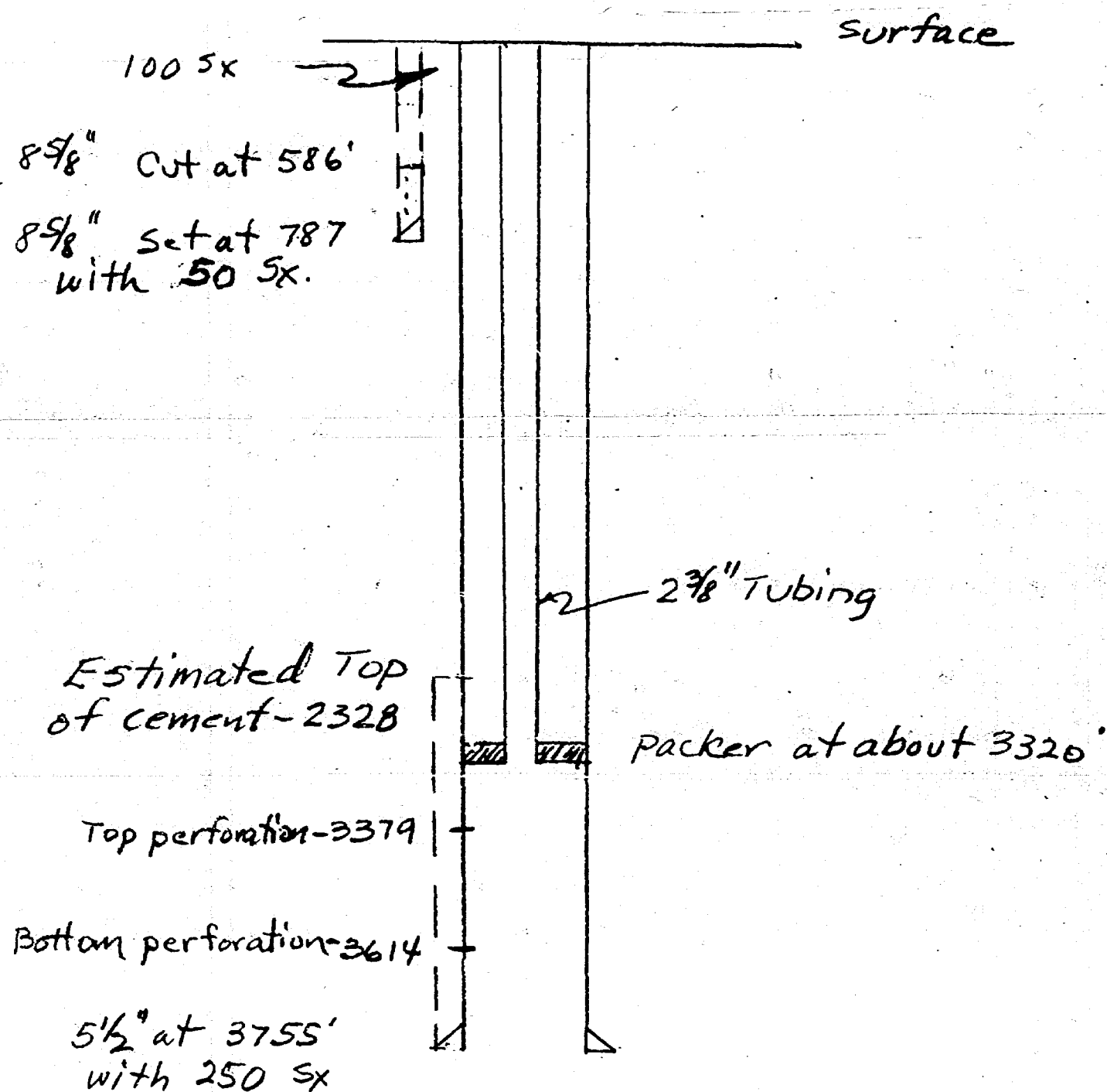
OPERATOR <b>R. Q. Silverthorne</b>		ADDRESS <b>Box 385, Artesia, New Mexico 88210</b>	
LEASE NAME <b>Kenwood Federal</b>	WELL NO. <b>5</b>	FIELD <b>Shugart - Grayburg</b>	COUNTY <b>Eddy</b>
LOCATION UNIT LETTER <b>K</b> ; WELL IS LOCATED <b>2160</b> FEET FROM THE <b>West</b> LINE AND <b>2310</b> FEET FROM THE <b>South</b> LINE, SECTION <b>30</b> TOWNSHIP <b>18S</b> RANGE <b>31E</b> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	<b>8 5/8"</b>	<b>787-586</b>	<b>50</b>
INTERMEDIATE		(Note: 100 sx. cement pumped behind 5 1/2" at surface)	
LONG STRING	<b>5 1/2"</b>	<b>3755'</b>	<b>250 sx.</b>
TUBING	<b>2 3/8"</b>	<b>3320'</b>	<b>Not yet determined. Will set at about 3320'</b>
NAME OF PROPOSED INJECTION FORMATION <b>Queen - Grayburg</b>		TOP OF FORMATION <b>3379</b>	BOTTOM OF FORMATION <b>3614</b>
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>Thru tubing</b>		PERFORATIONS OR OPEN HOLE? <b>Perforated</b>	PROPOSED INTERVAL(S) OF INJECTION <b>3379-3614</b>
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? <b>Producing well</b>		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? <b>No</b>
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA <b>No fresh water</b>		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>2500</b>	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>None close</b>
ANTICIPATED DAILY INJECTION VOLUME (BBLs.)	MINIMUM <b>200</b>	MAXIMUM <b>250</b>	OPEN OR CLOSED TYPE SYSTEM <b>Pressure</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 -		WATER TO BE DISPOSED OF <b>yes</b>	NATURAL WATER IN DISPOSAL ZONE <b>yes</b>
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>U.S. Government - Federal</b>		APPROX. PRESSURE (PSI) <b>1300</b>	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL			
<b>Southland Royalty - 1000 Ft. Forth Club Building, Ft. Worth, Texas 76102</b>			
<b>Hanson Oil Corp. Box 1515, Roswell, New Mexico 88201</b>			
<b>Yates Petroleum Company - 207 South Fourth St., Artesia, New Mexico 88210</b>			
<b>Clifford Cone Box 1148, Lovington, New Mexico 88260</b>			
<b>JFG Enterprises - Box 100, Artesia, New Mexico 88210</b>			
<b>Union Oil Co. of Calif. Box 3100, Midland, Texas 79702</b>			
<b>Grace Petroleum Corp. 6501 No. Bdwy. Plaza Square, Oklahoma City, Ok. 73116</b>			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?	SURFACE OWNER <b>yes</b>	EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL <b>yes</b>	THE NEW MEXICO STATE ENGINEER <b>yes</b>
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)	PLAT OF AREA <b>yes</b>	ELECTRICAL LOG <b>yes</b>	DIAGRAMMATIC SKETCH OF WELL <b>yes</b>

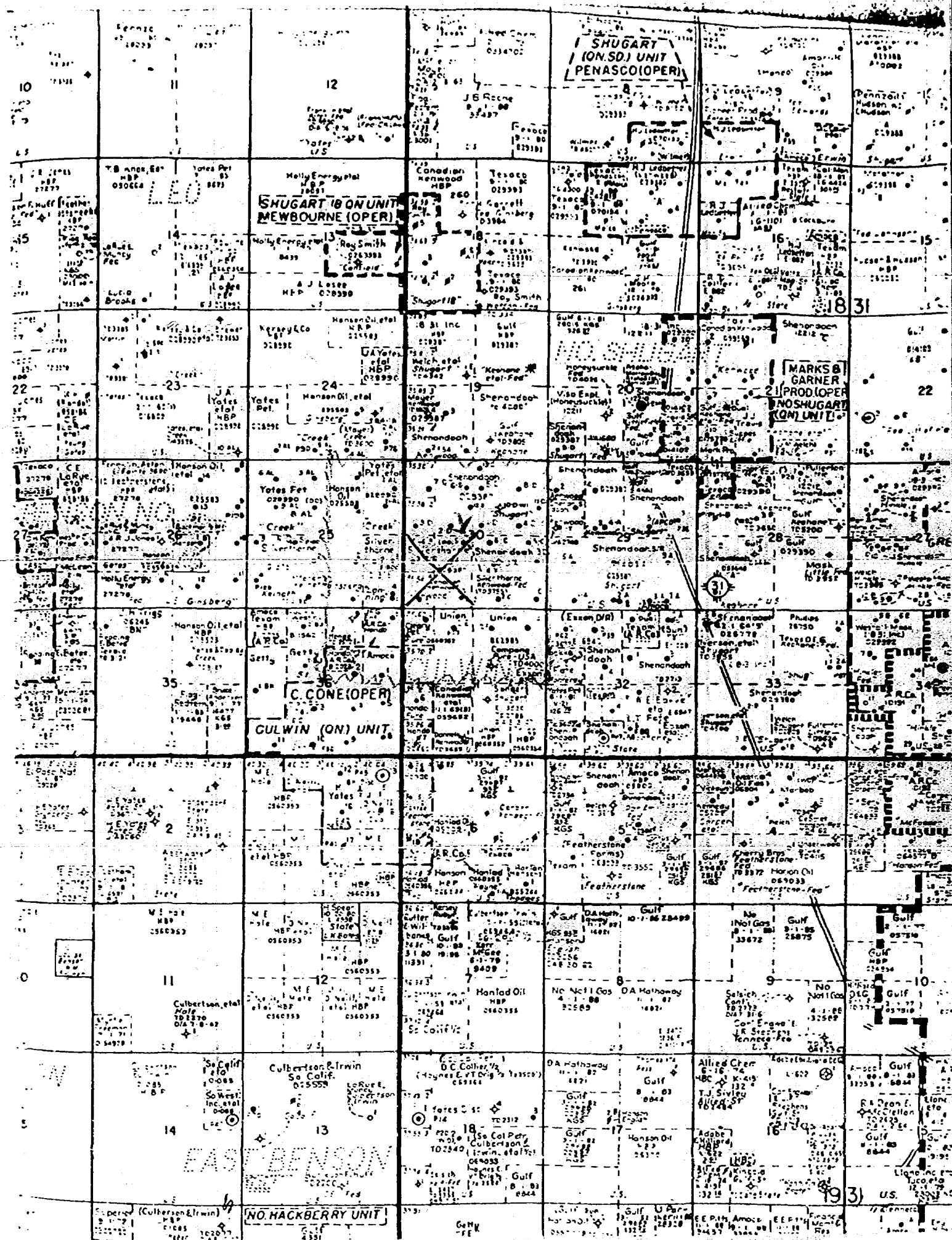
I hereby certify that the information above is true and complete to the best of my knowledge and belief.

*Daney King* Agent March 19, 1979  
(Signature) (Title) (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.

DIAGRAMMATIC SKETCH  
R. Q. Silverthorne - Kenwood Fed. #5





NEIL B. WATSON  
FRED A. WATSON  
JOHN W. FISK

LAW OFFICES  
**WATSON & WATSON**  
AMERICAN HOME BUILDING  
P. O. DRAWER E  
ARTESIA, NEW MEXICO 88210

AREA CODE 505  
746-4151 - 746-2201

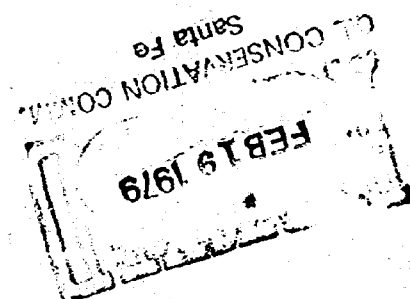
February 16, 1979

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

Attention: Mr. Daniel S. Nutter

Dear Mr. Nutter:

Re: Case No. 5176  
Order No. R-4741  
R. Q. Silverthorne -  
Kenwood Lease



I had a telephone conversation again today with Mr. R. Q. Silverthorne of Plainview, Texas, regarding the water disposal well problem in which he wants to change from Well No. 4 in Unit K to Well No. 5 in the same 40 acres and just a short distance away.

I told Mr. Silverthorne that you had indicated you needed some additional information to grant his request, and Mr. Silverthorne said he would either call you or if you would let him or me know the information that you needed, he would certainly try to comply with your request as soon as possible.

As you know, he is quite concerned about this situation because he does want to comply with all proper rules and regulations in his operations and, at the present time, the procedure he is having to follow is quite expensive. If you will let us hear from you as to what else you need, we will appreciate it very much.

Yours very truly,

*Neil B. Watson*  
Neil B. Watson.

NBW:js

cc: Mr. R. Q. Silverthorne  
P. O. Drawer 10  
Plainview, Texas 79072



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. 5176  
Order No. R-4741

APPLICATION OF R. Q. SILVERTHORNE  
FOR SALT WATER DISPOSAL, EDDY  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 27, 1974, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 15th 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, R. Q. Silverthorne, is the owner and operator of the Kenwood Well No. 4, located in Unit K of Section 30, Township 18 South, Range 31 East, NMPM, Shugart Pool, Eddy County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Yates formation, with injection into the perforated interval from approximately 2485 feet to 2506 feet.

(4) That the injection should be accomplished through 2 7/8-inch or larger plastic-lined tubing installed in a packer set at approximately 2470 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus and annular pressure should be reported monthly on Form C-120-A in order to determine leakage in the casing, tubing, or packer.

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

-2-

Case No. 5176  
Order No. R-4741

IT IS THEREFORE ORDERED:

(1) That the applicant, R. Q. Silverthorne, is hereby authorized to utilize its Kenwood Well No. 4, located in Unit K of Section 30, Township 18 South, Range 31 East, NMPM, Shugart Pool, Eddy County, New Mexico, to dispose of produced salt water into the Yates formation, injection to be accomplished through tubing installed in a packer set at approximately 2470 feet, with injection into the perforated interval from approximately 2485 feet to 2506 feet;

PROVIDED HOWEVER, that the tubing shall be at least 2 7/8 inches in diameter and plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus and annular pressure shall be reported monthly on Form C-120 A 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.

(3) 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 hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
*I. R. Trujillo*  
I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

*A. L. Porter, Jr.*  
A. L. PORTER, Jr., Member & Secretary

S E A L

dr/



DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 27, 1974

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

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

CASE 5173: (Continued from the February 13, 1974, Examiner Hearing)

Application of Mobil Oil Corporation 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 3, Township 23 South, Range 27 East, South Carlsbad Field, Eddy County, New Mexico, to be dedicated to its Maude Rickman Com Well No. 1 located in Unit L of said Section 3. 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 5128: (Continued from the January 30, 1974, Examiner Hearing)

Application of Gulf Oil Corporation for a non-standard gas proration unit and simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 160-acre non-standard gas proration unit comprising the NE/4 SW/4 and W/2 SE/4 of Section 28 and the NW/4 NE/4 of Section 33, both in Township 21 South, Range 37 East, Blinebry Gas Pool, Lea County, New Mexico, to be simultaneously dedicated to its J. N. Carson Wells Nos. 4 and 9 located in Units O and K, respectively, of Section 28.

CASE 5174: Application of Gulf Oil Corporation for three dual completions and for the amendment of Order No. R-2909, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete three wells for water injection into its Central Drinkard Unit Waterflood Project in Township 21 South, Range 37 East, Lea County, New Mexico, and for production as follows:

- H. T. Mattern Well No. 8, Unit I, Section 30: Blinebry Oil Pool;
- W. T. McCormack Well No. 13, Unit A, Section 32: Tubbs Gas Pool;
- J. N. Carson Well No. 4, Unit O, Section 28: Blinebry Gas Pool;

Applicant further seeks the amendment of Order No. R-2909, which authorized said waterflood project, to provide for administrative approval of additional dual injection-production wells in said unit area.



CASE 5055: (Reopened)

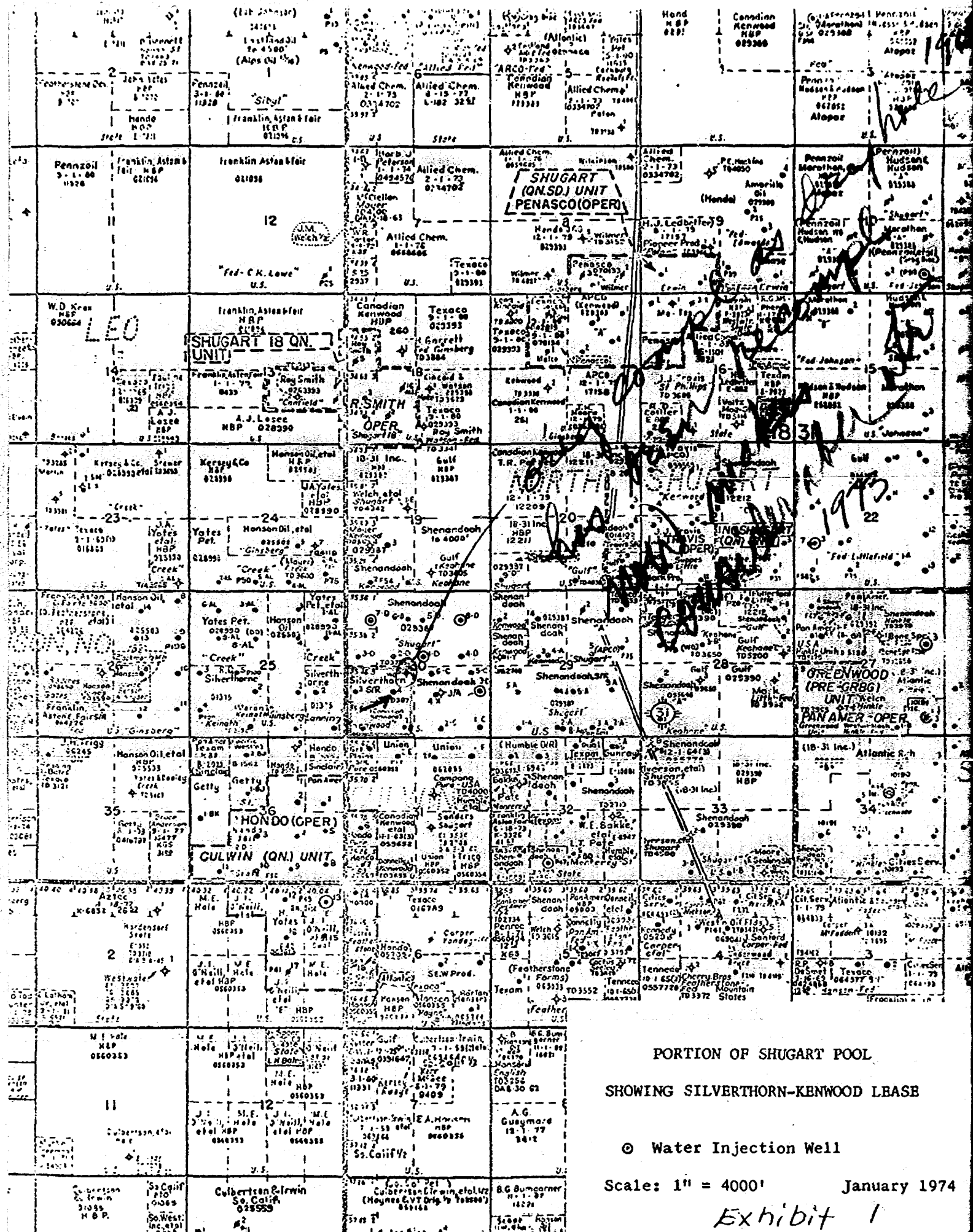
In the matter of Case No. 5055 being reopened pursuant to the provisions of Order No. R-4651 to permit the applicant, Merrion and Bayless, to appear and present evidence as to the method for allocating oil production to the Devils Fork-Gallup Oil Pool and to an undesignated Greenhorn Oil Pool, and gas to the Basin-Dakota Pool in its Cañada Mesa Well No. 3 located in Unit A of Section 14, Township 24 North, Range 6 West, Rio Arriba County, New Mexico, said production having been commingled in the wellbore under authority of said Order No. R-4651.

CASE 5175: Application of Flag-Radfern Oil Company for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the West Sawyer-San Andres special pool rules, authority to drill a well at an unorthodox location 1980 feet from the South line and 660 feet from the East line of Section 23, Township 9 South, Range 37 East, Lea County, New Mexico.

*Fred Watson*  
*Ralph Gray*  
CASE 5176: Application of R. Q. Silverthorne for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates formation in the perforated interval from 2485 feet to 2506 feet in his Kenwood Well No. 4 located in Unit K of Section 30, Township 18 South, Range 31 East, Shugart Pool, Eddy County, New Mexico.

CASE 5177: Application of Atlantic Richfield Company for the amendment of Order No. R-4549, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-4549, which order established project rules for the Empire-Abo Pressure Maintenance Project, Eddy County, New Mexico, to raise the maximum project allowable from the present 40,192 barrels per day to 40,555 barrels per day because of additional lands committed to the unit, and to provide for administrative approval for water injection wells in said project, and for inclusion of a reservoir voidage replacement credit for water injected into the Abo reservoir; applicant further seeks the amendment of Order No. R-4549 to provide that the maximum project allowable of 40,555 barrels per day would be achieved upon injection of "all available residue gas" rather than "70% of the produced gas", as now provided in the project rules. Applicant further seeks the establishment of a gas injection credit "bank", against which injection credit could be drawn in order to maintain full allowables during such times as injection plant shut-downs, etc.

CASE 5178: Application of El Paso Natural Gas Company for the amendment of Order No. R-1670 and Order No. R-333-F-1, San Juan Basin, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Rules 8(C)3 and 10(B)2 and 3 of the Northwest New Mexico Gas Proration Rules as prescribed by Order No. R-1670, as amended, and Section 1 B of Chapter I of the Gas Well Testing Rules for Northwest New Mexico as prescribed by Order No. R-333-F-1, as amended, to provide for a 90-day period within which to conduct deliverability tests on newly completed wells. Applicant further seeks the amendment of the gas well testing rules to provide a production penalty for delinquency in testing non-prorated wells in the same manner as such penalty is currently applied to delinquency in testing prorated wells. Applicant further seeks clarification for the classification of exempt-marginal status for wells upon which tests are not required.



WELL DATA  
R. Q. SILVERTHORNE KENWOOD LEASE  
SHUGART POOL, EDDY COUNTY, NEW MEXICO

WELL	ELEVATION D.F.	TOTAL DEPTH	COMPLETED	CASING SIZE - DEPTH	PERFORATIONS OR O. HOLE	INITIAL POTENTIAL
Kenwood #1	3566	3654'	4-30-62	5 $\frac{1}{2}$ " - 2600' w/100 sx.	2570-80	P-20 BO + 10 BWP.
Kenwood #2	3566	2604	12-15-61	5 $\frac{1}{2}$ " - 2604' w/100 sx.	2572-82	F 40 BOPD.
Kenwood #3	3572	2540	5-5-62	5 $\frac{1}{2}$ " - 2530' w/200 sx.	2498-2510	F 42 BOPD.
Kenwood #4	3568	2540	6-30-62	5 $\frac{1}{2}$ " - 2540' w/200 sx.	2485-2506	F 41 BOPD.
Kenwood #5		3755	2-15-65			D & A.
		Started re-completion work in July 1973. As of January 1974, production tests were being made. Produced 5 BO + 100 BWP. Installing larger pump.		5 $\frac{1}{2}$ " - 3755 w/350 sx.	3379-3614	Fraced w/30,000 gals. gelled water + 30,000# sand.

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
Pro EXHIBIT NO. 2  
CASE NO. 5176

RALPH L. OLAY  
ATTORNEY AT LAW  
EDDY COUNTY, NEW MEXICO

Exhibit 2

**OIL PRODUCTION  
SILVERTHORNE - KENWOOD LEASE  
SHUGART POOL**

<u>YEAR</u>	<u>OIL PRODUCED</u>	<u>CUMULATIVE OIL</u>
1969	780	17,212
1970	1,769	18,981
1971	3,582	22,563
1972	3,072	25,635
<u>1973</u>		

	<u>WELL #1</u>	<u>WELL #2</u>	<u>WELL #3</u>	<u>WELL #4</u>	<u>TOTAL</u>
Jan.	17	74	34	12	137
Feb.	34	157	72	23	286
Mar.	30	138	63	20	251
Apr.	16	74	34	10	134
May	37	170	77	25	309
June	9	42	19	7	77
July	36	167	76	24	303
Aug.	468	170	80	25	743
Sep.	303	106	48	24	481
Oct.	269	94	43	21	427
Nov.	222	77	35	18	352
					3,500

Total Cumulative Oil - - - - - 29,135

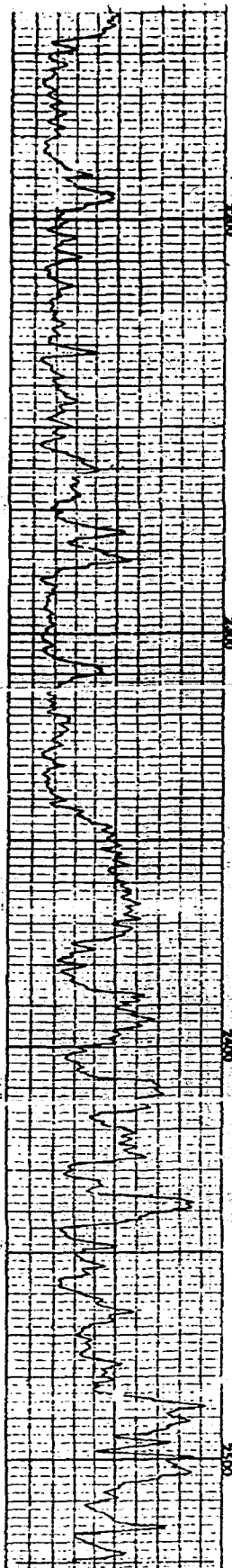
**BEFORE EXAMINER NUTTER**  
OIL CONSERVATION COMMISSION  
App. EXHIBIT NO. 3  
CASE NO. 5176

*now SI to be converted to SWD*

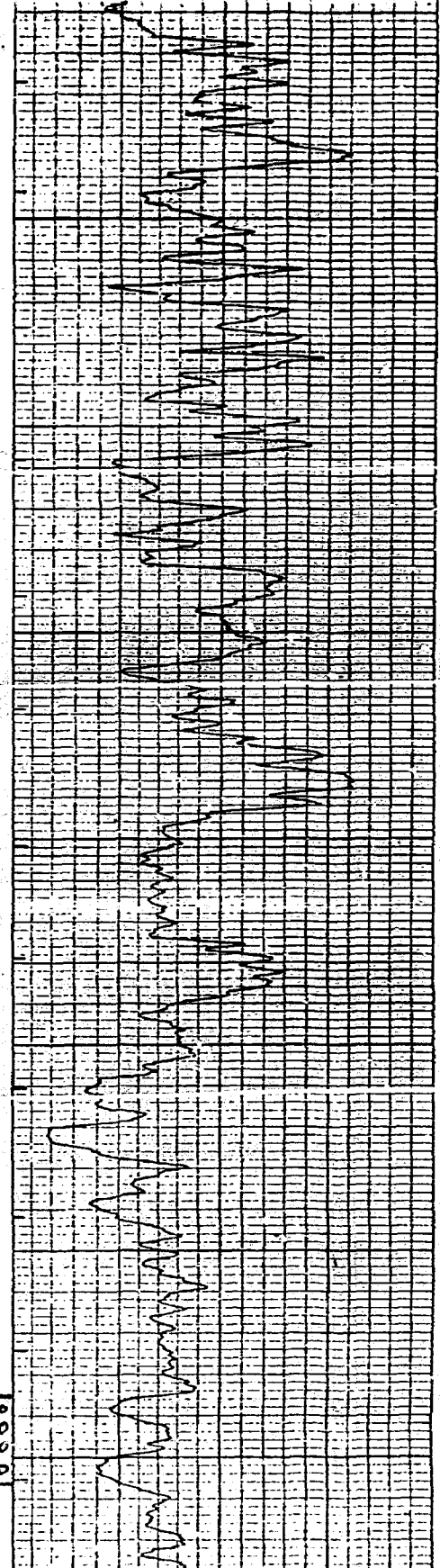
RALPH L. GRAY  
PETROLEUM ENGINEERING

Exhibit 3

BEFORE EXAMINER NUTTER  
 OIL CONSERVATION COMMISSION  
 CASE NO. 5776



R.D. 2525  
 T.D. 2530  
 R.O. SILVERTHORNE  
 KENWOOD, NO. 4,  
 SHUGART  
 EDDY COUNTY, NEW MEXICO



R.D. 2537  
 T.D. 2538

Exhibit 4

PROPOSED WATER DISPOSAL WELL  
R. Q. SILVERTHORNE - KENWOOD #4  
Unit K - Section 30-18S-31E

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
*RQP* EXHIBIT NO. 5  
CASE NO. 5176

TD - 2540'

Est. Top of Cement 595'

8-5/8" Casing at 811'  
with 50' sx.

Est. Top of Cement 1274'

2485'

Perforations

2506'

5 1/2" Casing at 2540'  
with 200' sx.

*app believes  
who will go  
in on vac.  
app requests  
auth to go down  
CS9 until opening  
is made.*

RALPH L. GRAY  
PETROLEUM ENGINEERING

Exhibit 5



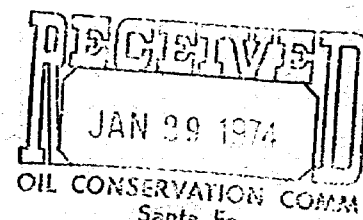
NEIL B. WATSON  
FRED A. WATSON

LAW OFFICES  
**WATSON & WATSON**  
AMERICAN HOME BUILDING  
P. O. DRAWER E  
ARTESIA, NEW MEXICO 88210

AREA CODE 505  
746-4151 - 746-2201

January 28, 1974

New Mexico Oil Conservation Commission,  
State Land Office Building,  
Santa Fe, New Mexico 87501.



*Case 5176*

Attention: Mr. A. L. Porter, Jr.

Dear Mr. Porter:

Re: Application of R. Q. Silverthorne to convert  
Kenwood Well No 4 in NE $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 30,  
Township 18 South, Range 31 East, N.M.P.M.,  
Eddy County, New Mexico (United States Oil  
and Gas Lease LC-029387(d) to a water disposal  
well and to inject produced water therein for  
disposal purposes.

I herewith enclose the above Application, in triplicate, complete  
with exhibits on all copies.

Please set this application for hearing before an Examiner and  
notify us of the date and time of such hearing.

Thanking you in advance for your consideration, I remain,

Yours very truly,

*Fred A. Watson*  
Fred A. Watson.

FAW:js  
Enc.

cc: Mr. Ralph Gray  
cc: Mrs. Nancy King  
(w/copy of Application)  
cc: Mr. R. Q. Silverthorne  
(w/copy of Application)

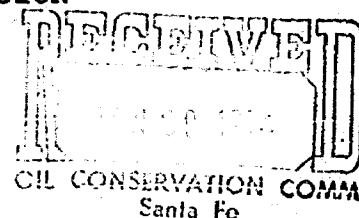
DOCKET MAILED

Date 2-15-74

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

IN RE: APPLICATION OF R. Q. SILVERTHORNE )  
FOR AUTHORITY TO CONVERT THE KENWOOD WELL )  
NO. 4 IN NE $\frac{1}{4}$ SW $\frac{1}{4}$  OF SECTION 30, TOWNSHIP 18 )  
SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, )  
NEW MEXICO, TO A WATER DISPOSAL WELL AND TO )  
INJECT PRODUCED WATER INTO THE YATES FORMA- )  
TION IN SAID WELL. )



Case No. 5776

A P P L I C A T I O N

COMES NOW R. Q. SILVERTHORNE, an individual, and hereby makes application for authority to convert the Kenwood Well No. 4, located in NE $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 30, Township 18 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, to a water disposal well and to inject produced water into the Yates Formation in said well and, in support of said application, states:

1. That applicant is the operator under United States Oil and Gas Lease LC-029387(d) covering SW $\frac{1}{4}$  of Section 30, Township 18 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and, particularly, applicant has been the operator of Kenwood Well No. 4 located in NE $\frac{1}{4}$ SW $\frac{1}{4}$  of said Section 30 which well was previously producing oil from the Yates Formation but has been shut-in since becoming unprofitable to operate. Recently, applicant re-entered the Kenwood Well No. 5, which had been a dry hole on the same 40 acre tract as the Kenwood Well No. 4, and has completed the Kenwood Well No. 5 which is producing oil and water from the Penrose Sands.

2. That applicant seeks authority to use the said Kenwood Well No. 4 as a water disposal well and to inject water from the Kenwood Well No. 5 into the said Kenwood Well No. 4 for the purpose of disposing of the same, with the water injected into the Yates Formation. Both of the wells involved are in the Shugart,



Yates, Seven Rivers, Queen, Grayburg Pool.

3. That there is attached hereto and made a part of this Application the following exhibits, to wit:

Exhibit "1" is a plat showing the location of the Kenwood Well No. 4 (proposed disposal well) and the recently recompleted Kenwood Well No. 5, said plat showing the lease involved outlined in yellow and with the proposed water disposal well indicated by a red circle, and said plat also showing the location of all other wells within a radius of two miles (and more) and the lessees under said leases.

Exhibit "2" is a diagrammatic sketch of the proposed water disposal well; i.e., the proposed Kenwood Well No. 4 as a water disposal well.

4. The kind of fluid to be injected will be produced waste water from the Kenwood Well No. 5, which is producing oil and water from the Penrose Sands, and it is proposed to dispose of said water by injecting it into the aforesaid Kenwood Well No. 4 and thereby injecting it back into the Yates Formation. The purpose of the Application is to provide a means of disposing of produced water rather than to provide for a secondary recovery program. It is proposed to inject water into open casing in the Kenwood Well No. 4 in order to determine if water will enter the Yates Formation under a vacuum and, accordingly, at this time, no anticipated pressure has been determined. Further, if pressure is required for injection, then the applicant agrees that the applicant should be required to install tubing with packer and inject below the packer near the perforated interval. The anticipated volumes to be injected will range from 100 to 300 barrels per day.

WHEREFORE, applicant requests a hearing before an Examiner and requests authority to use the aforesaid Kenwood Well No. 4 as a

Page No. 3

water disposal well and authority to inject produced water from the aforesaid Kenwood Well No. 5 into said water disposal well and into the Yates Formation.

R. Q. SILVERTHORNE

by

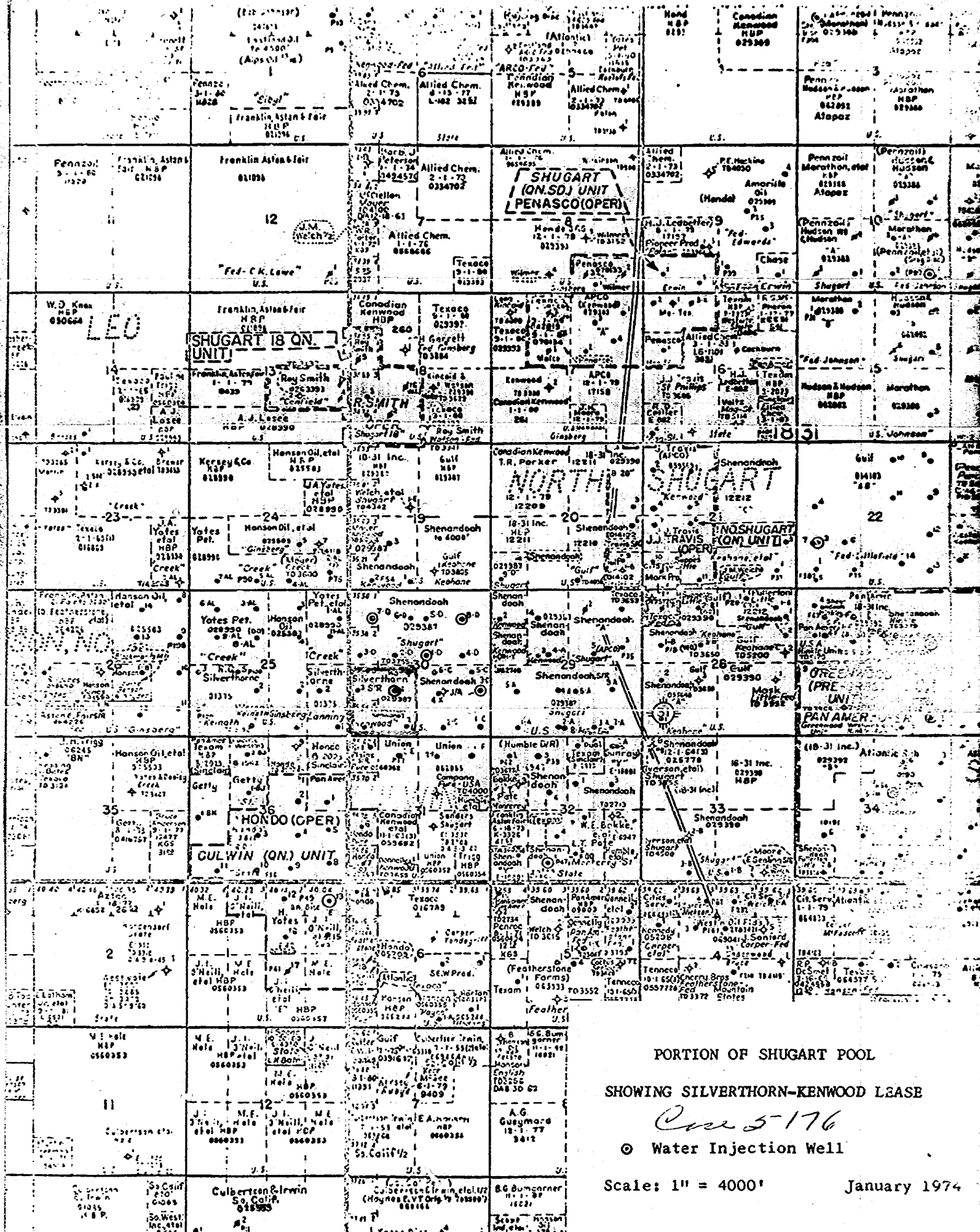
WATSON & WATSON

*Fred A. Watson*

Attorneys for Applicant,

P. O. Drawer E,  
Artesia, New Mexico 88210.

# EXHIBIT "1"



PORTION OF SHUGART POOL

SHOWING SILVERTHORN-KENWOOD LEASE

Case 5-176

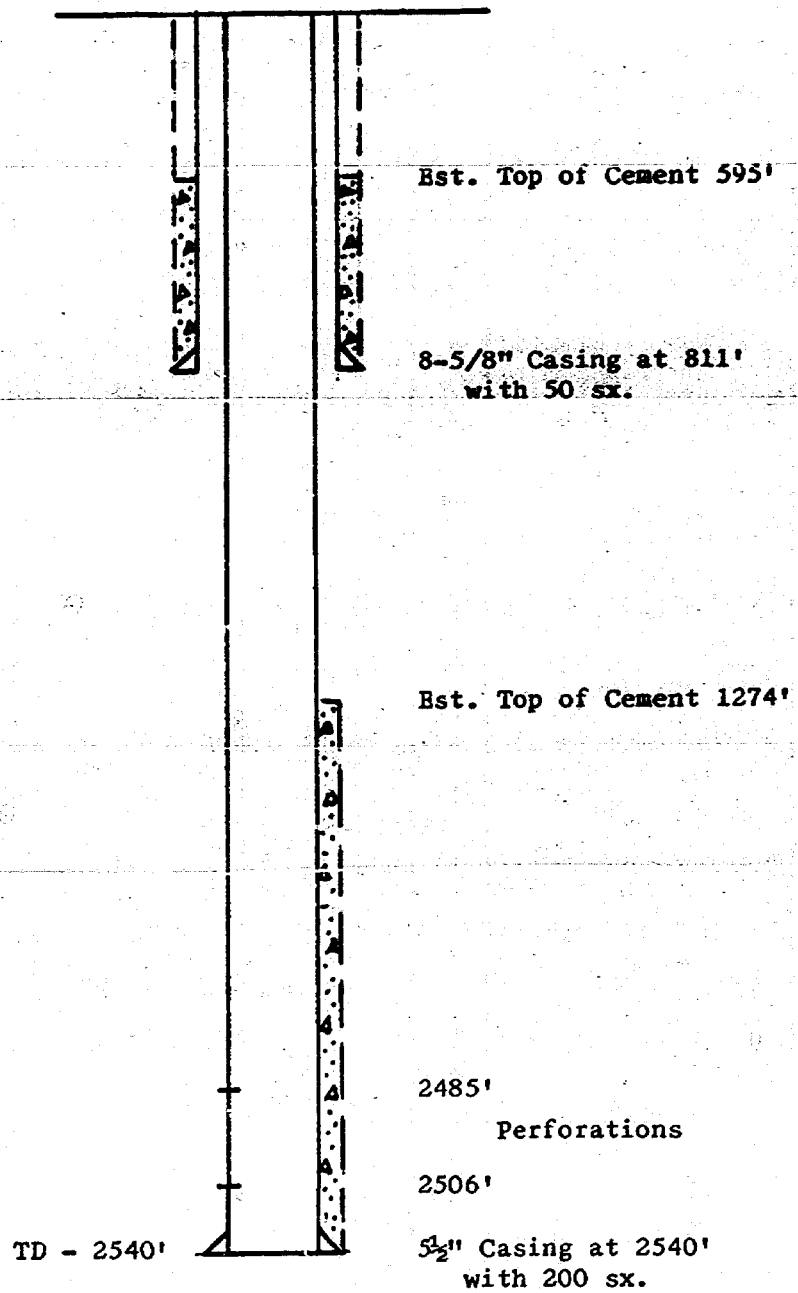
© Water Injection Well

Scale: 1" = 4000'

January 1974

EXHIBIT "2"

PROPOSED WATER DISPOSAL WELL  
R. Q. SILVERTHORNE - KENWOOD #4  
Unit K - Section 30-18S-31E



*Case 5176*

RALPH L. GRAY  
PETROLEUM ENGINEERING

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. 5176

Order No. R- 4741

APPLICATION OF R. Q. SILVERTHORNE  
FOR SALT WATER DISPOSAL, EDDY  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 27, 1974,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

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, R. Q. Silverthorne,  
is the owner and operator of the Kenwood Well No. 4,  
located in Unit K of Section 30, Township 18 South, Range  
31 East, NMPM, Shugart Pool, Eddy  
County, New Mexico.

(3) That the applicant proposes to utilize said well to  
dispose of produced salt water into the Yates  
formation, with injection into the perforated interval  
from approximately 2485 feet to 2506 feet.

(4) That the injection should be accomplished through  
7/8-inch <sup>or larger</sup> plastic-lined tubing installed in a packer set at

CASE No. \_\_\_\_\_

approximately 2470 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus ~~or the annulus left open at the surface in C-120A in order to determine leakage in the casing, tubing, or packer.~~ *and annular pressure should be reported monthly on Form C-120A in order to determine leakage in the casing, tubing, or packer.*

(5) 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, R. Q. Silverthorne, is hereby authorized to utilize its Kenwood Well No. 4 located in Unit K of Section 30, Township 18 South, Range 31 East, NMPM, Shugart Pool, Eddy County, New Mexico, to dispose of produced salt water into the Yates formation, injection to be accomplished through ~~some~~ tubing installed in a packer set at approximately 2470 feet, with injection into the perforated interval from approximately 2485 feet to 2506 feet; *be at least 2 7/8 inches in diameter and* PROVIDED HOWEVER, 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 annulus ~~or the annulus left open at the surface~~ *and annular pressures shall be reported monthly on Form C-120A* 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.

(3) 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 hereinabove designated.