

CASE 5102: Application of ANNE
BURNETT TANDY dba WINDFOHR OIL
FOR TWO WATERFLOOD PROJECTS.

CASE No.

5102

Application,

Transcripts,

Small Exhibits

ETC.

dearnley, meier & associates

209 SIMMS BLDG., P.O. BOX 1092, PHONE 243-6691, ALBUQUERQUE, NEW MEXICO 87102
1216 FIRST NATIONAL BANK BLDG. EAST ALBUQUERQUE, NEW MEXICO 87108

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
OIL CONSERVATION COMMISSION CONFERENCE ROOM
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
Wednesday, November 14, 1973

IN THE MATTER OF:

Application of Ann Burnett
Tandy dba Windfohr Oil
Company for two waterflood
projects, Eddy County,
New Mexico.

Case No. 5102

BEFORE: RICHARD L. STAMETS
Examiner

TRANSCRIPT OF EXAMINER HEARING

1 MR. STAMETS: The Hearing will come to order, please.

2 We will call next Case 5102.

3 MR. DERRYBERRY: Case 5102, application of Anne
4 Burnett Tandy dba Windfohr Oil Company for two waterflood
5 projects, Eddy County, New Mexico.

6 MR. STAMETS: Call for appearances in this case.

7 MR. WATSON: Fred Watson of the firm of Watson &
8 Watson, Artesia, New Mexico. I'm representing the
9 Applicant. We have one witness, the Applicant, Mr.
10 Ralph Gray, to be sworn.

11 MR. STAMETS: Are there any other appearances? The
12 witness will be sworn, please.

13 RALPH L. GRAY,
14 a Witness, having been first duly sworn according to law,
15 upon his oath testified as follows:

16 MR. STAMETS: You may proceed.

17 MR. WATSON: All right, sir. This is the application
18 of Anne Burnett Tandy formerly Anne Burnett Windfohr
19 doing business as Windfohr Oil Company for authority
20 to institute waterflood by the injection of water into
21 the Grayburg sands and the Lovington sand of the San
22 Andres formation in three existing wells and at three
23 proposed undrilled locations on the Jackson "B" Lease,
24 NM 2747, and into three wells in the Gissler "B" Lease in
25 NM 2748, in Section 11, 17, 30.

DIRECT EXAMINATION

BY MR. WATSON:

Q Mr. Gray, directing your attention to Applicant's Exhibit Number 1, what does that portray?

A Exhibit Number 1 is a map of this general area; and the outline of the Gissler "B" proposed flood area and the Jackson "B" flood area are shown with the yellow borders.

The proposed water injection wells are indicated by the red circles, and some of the existing water injection wells are shown by the green circles although there are other injection wells that aren't so-indicated.

Q In other words, there will be injection into Section 1 which is the Jackson "B" Lease?

A Yes. The present producing wells that are to be converted to water injection on the Jackson "B" Lease are the Number 4 Well and the Number 15 and the Number 19 Well. There are three additional locations which are presently undrilled, and these are so-indicated on the map.

Q In other words, the undrilled locations are the Southeast of the Northeast of Section 1 and the Southeast of the Southwest of Section 1 and the Northwest of the Southeast of Section 1.

A That's correct.

1 Q And we are asking permission to inject water into the
2 wells if and as they are drilled; is that correct?

3 A Yes.

4 Q And then on the Gissler "B" Lease your injection is
5 in Section 11; is that correct, and there are three
6 wells requested there?

7 A Yes. Wells 7, 8 and 9 are proposed for injection wells.

8 Q Now, these green wells to the West, the ones in the
9 green circles are Anadarko's existing injection wells?

10 A Yes.

11 Q All right, sir. Now, you have before you I guess also
12 Applicant's Exhibit Number 2. Would you please state
13 what that Exhibit portrays?

14 A Exhibit Number 2 is a table showing pertinent well
15 information on each one of these wells. This shows the
16 completion date, elevation, total depth, the size casing,
17 and the casing depth, the producing intervals and
18 pay intervals, the treatments. This indicates the
19 zones producing and the initial potentials.

20 Q And Applicant's Exhibit Number 3 is what, Mr. Gray?

21 A Exhibit Number 3 is a table showing monthly oil production
22 by wells for 1972 and for 1973 through the month of
23 August. Also, this table shows cumulative oil production
24 for each one of these wells.

25 Q What would this Exhibit indicate as to the present status

1 of the wells?

2 A Well, this shows that the wells are presently near their
3 economic limit. They are essentially depleted, and
4 that's mainly what this would portray.

5 Q In other words, they are approaching or at being
6 marginal wells?

7 A Yes.

8 Q All right, sir. And I'll refer you then to Exhibit
9 Number 4 and ask you to state to the Examiner what
10 Exhibit Number 4 is.

11 A Exhibit Number 4 shows a portion of the electric log
12 on the Gissler "B" Number 7 Well. This shows the
13 top of the Grayburg and the top of the San Andres,
14 the Lovington Sand; and the pay intervals are shown
15 by the green blocks.

16 There are two sands in the Grayburg Section which
17 on the original drillers logs were indicated to be pay.
18 One of these is at approximately 2930 to 40 feet, and
19 the second one was about 3040 feet in there close.

20 Q It's proposed, and in this application it's proposed
21 to inject water into the Grayburg sands and into the
22 Lovington sand of the San Andres?

23 A Yes, that's correct.

24 Q Now, Exhibit Number 5 I believe is also a well log?

25 A Yes. Exhibit Number 5 is a similar log on the Gissler

1 "B" Number 9 Well. This is very similar to the previous
2 Exhibit with the exception that this well was not
3 drilled down into the Lovington Sand. In some areas
4 the Lovington Sand is productive; and in other areas,
5 it's not productive.

6 Q Well, is it proposed to take this well into that sand?

7 A Not at the moment.

8 Q All right, sir. Then Exhibit Number 6 is again --

9 A Exhibit Number 6 is a similar log on our Jackson "B"
10 Well Number 19. This well penetrated the Grayburg and the
11 San Andres down to the Lovington Sand.

12 Here again, the pay intervals are indicated by
13 the green coloring.

14 Q All right, sir. Now, then, I believe Exhibit Number 7
15 is a cross section. Would you please state what that
16 Exhibit is about?

17 A Well, this cross section shows the correlation of the
18 Grayburg formation, the zones present in this formation
19 and also the San Andres. Also, this indicates that
20 structurally there is very little relief.

21 The structure is really not important for oil
22 accumulation in this area. This does show that these
23 zones can be correlated over the area.

24 Q In other words, there is continuity in the formations?

25 A Yes.

1 Q In the formations that the Applicant proposes to flood;
2 is that correct?

3 A That's correct.

4 Q All right, sir. Now, then, would you please tell the
5 Examiner what Applicant's Exhibit 8 shows?

6 A All right. Exhibit 8 is a diagrammatic sketch of
7 Gissler "B" Number 7. The surface casing is 8-5/8 set at
8 566 feet cemented with 50 sacks; and the well records
9 indicated that cement was circulated to the surface.

10 The production string is 5-1/2 casing set at 2840
11 feet with 100 sacks. We have estimated the top of
12 cement at 2290 feet. The total depth is 3209.

13 The proposed method of injection is to run a
14 string of 2-3/8 OD tubing internally coated with either
15 cement or plastic; and a packer will be set inside the
16 5-1/2 casing near the bottom. Then injection will be
17 below the packer.

18 Q All right. Now, would you refer to Exhibit Number 8
19 and explain that?

20 A This was Exhibit 8 (indicating).

21 Q I'm sorry. Exhibit Number 9. I'm sorry.

22 A All right. Exhibit Number 9, 10, 11, and 12 are
23 almost identical. These are all very similar, and they
24 show essentially the same information that is shown
25 on Exhibit 8.

1 Q I see. And they refer to the proposed or the
2 diagrammatic sketches of the Gissler "B" Number 8,
3 9, and the Jackson "B" Number 4 and 15; is that right?

4 A Yes, that's correct.

5 Q And the diagrammatic sketch shows approximately the
6 same kind of well construction or equipping to be
7 done?

8 A Yes, sir.

9 Q All right, sir. Would you then refer to Exhibit Number
10 13?

11 A Exhibit 13 shows a diagrammatic sketch for Jackson "B"
12 Number 19; and this well is completed differently in
13 that the oil production string was cemented to the bottom
14 and the casing was perforated opposite the pay zone.

15 The tubing and packer would be set above the
16 casing perforations, and injection would be then below
17 the packer.

18 Q All right. That's essentially the difference on that
19 well?

20 A Yes, sir.

21 Q Now, as to the undrilled locations which the Applicant
22 seeks authority to inject into, will those wells be
23 completed essentially, I mean, equipped essentially
24 the same as the other wells?

25 A Yes, sir.

1 Q And the existing wells?

2 A Yes.

3 Q What fluid will be injected into these projects?

4 A Well, Windfohr Oil Company is presently in the process
5 of signing a line agreement with Anadarko Production
6 Company whom operates a flood in Section 2 offsetting
7 both of these leases.

8 A part of the agreement will provide that Anadarko
9 will furnish Windfohr with a certain amount of
10 pressured water.

11 MR. STAMETS: Just a second. Owen, I'm having
12 a hard time concentrating on both of these things. So
13 if you gentlemen would please --

14 A So, this water can be either fresh or salt water, but
15 it's anticipated that at least it will probably be
16 fresh water.

17 Q And it will be what kind of volume and pressure?

18 A We expect the volumes to be within the range of 200 to
19 300 barrels per day per well, and the pressures will
20 ultimately reach as high as 2,000 psi; but that's
21 probably late in the life of the flood. We hopefully
22 will be able to inject water at much lower pressures
23 than that at the start.

24 Q Do you have a suggested name for these? They are not
25 units or anything. Would you have a suggested name for

1 these projects?

2 A Well, it's suggested that the project in Section 1 be
3 designated the Jackson "B" Number 1 Project inasmuch as
4 this is located in Section 1. It's also suggested that
5 the project in Section 11 be designated as the
6 Gissler "B" Number 11 Project.

7 Q All right, sir. Now, let's see. I'm afraid we forgot
8 one. You have testified before this Commission a
9 number of times; have you not?

10 A Yes.

11 Q And you have made your qualifications a matter of
12 record?

13 A Yes.

14 MR. WATSON: Is the Examiner satisfied with the
15 qualifications?

16 MR. STAMETS: The witness is qualified, yes.

17 Q All right, sir. Do you have an opinion as to whether
18 this project will protect correlative rights?

19 A Yes. The agreement which we will ultimately sign with
20 Anadarko Production Company will provide for
21 compensating injection wells along the lease line so
22 that all parties will be protected.

23 Q All right, sir. Will these projects in your opinion
24 result in the recovery of oil which otherwise would
25 not be recovered?

1 A Yes, sir.

2 Q You prepared, either you prepared or there were prepared
3 under your immediate supervision Applicant's Exhibits
4 Numbers 1 through 13; is that correct?

5 A Yes, sir.

6 MR. WATSON: We tender Applicant's Exhibits Numbers
7 1 through 13.

8 MR. STAMETS: They will be admitted into evidence.

9 MR. WATSON: I believe that concludes the Applicant's
10 case.

11 CROSS-EXAMINATION

12 BY MR. STAMETS:

13 Q Mr. Gray, you said you would buy treated water either
14 fresh or salt water. Who was that from?

15 A Anadarko Production Company.

16 Q And I presume that in your current existing injection
17 wells and in the proposed wells that you will need all
18 the usual requirements of the USGS and the Oil
19 Conservation Commission?

20 A Yes, sir.

21 Q To assist the Commission in its responsibility to protect
22 the fresh waters, will the Applicant have any objection
23 to notifying the Oil Conservation Commission District
24 Office of the leakage of the tubing packer, casing,
25 any plugging of abandoned wells in this area?

1 A I'm sure the operator would be willing to do that.

2 Q I don't believe you specified a tubing size on your
3 exhibits 8 through 13. Is there a particular size
4 that you would use?

5 A Yes. This will be 2-3/8 OD or 2 inch nominal tubing.

6 Q How about the annulus in these wells? Have you a plan
7 for loading that, putting a gauge on it or installing
8 another device?

9 A The casing annulus will be filled with a fluid that will
10 be suitable for casing protection, and we usually don't
11 leave a gauge on the casing permanently.

12 We usually just go around periodically and check
13 the pressures on the casing annulus to see if there is
14 any build-up. That's kind of common practice with us
15 to just periodically to do this.

16 Q In other cases in this area, operators have testified
17 that they were able to leave the valve on the casing
18 tubing annulus cracked just a bit and any leakage could
19 be detected by the water flowing from this valve
20 detecting system?

21 A Yes, sir.

22 Q The three new wells that you propose here, these may
23 either be openhole completions or drilled through and
24 perforated?

25 A Yes. I would expect that they probably would all be

1 completed by setting the casing to total depth, but
2 I wouldn't want to close the door on an open-type
3 if the operator saw fit at the time to do this.

4 MR. STAMETS: Are there any other questions of
5 the witness? He may be excused. Do you have anything
6 further in this case, Mr. Watson?

7 MR. WATSON: No, sir. That's the essence of the
8 case.

9 MR. STAMETS: Nothing further in the case? We will
10 take the case under advisement.

11 * * * * *

dearnley, meier & associates

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6001 • ALBUQUERQUE, NEW MEXICO 87103
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C E R T I F I C A T E

I, JANET RUSSELL, a Court Reporter, in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

Janet Russell
COURT REPORTER

Filed for recording in
County of Bernalillo, New Mexico
November 14, 1973
Notary Public
Edward J. [illegible], Esq.
Oil Conservation Commission

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I N D E X

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OIL CONSERVATION COMMISSION

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

November 21, 1973

I. R. TRUJILLO
CHAIRMAN
LAND COMMISSIONER
ALEX J. ARMJO
MEMBER
STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

Re: CASE NO. 5102
ORDER NO. R-4676

Mr. Fred Watson
Watson & Watson
Attorneys at Law
American Home Security Life Building
Artesia, New Mexico 88210

Applicant:
Anne Burnett Tandy

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.

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

Other State Engineer Office

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. 5182
Order No. R-4676

APPLICATION OF ANNE BURNETT TANDY
dba WINDFOUR OIL COMPANY FOR TWO
WATERFLOOD PROJECTS, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 14, 1973, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 20th day of November, 1973, 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, Anne Burnett Tandy dba Windfour Oil Company, seeks authority to institute two waterflood projects in the Square Lake Pool, Eddy County, New Mexico, by the injection of water into the Grayburg and San Andres formations through 2 injection wells in Sections 1 and 11, Township 17 South, Range 30 East, NMPM.

(3) That the wells in the project areas are in an advanced state of depletion and should properly be classified as "stripper" wells.

(4) That the proposed waterflood projects should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(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 from injection, production, or plugged and abandoned wells.

Case No. 5102
Order No. R-4676

(6) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Anne Burnett Tandy dba Windfohr Oil Company, is hereby authorized to institute a waterflood project on its Jackson B Lease, Square Lake Pool, Eddy County, New Mexico, by the injection of water into the Grayburg and San Andres formations through 6 injection wells as set out below:

<u>LEASE NAME</u>	<u>WELL NO.</u>	<u>UNIT</u>	<u>SECTION</u>	<u>TOWNSHIP</u> <u>SOUTH</u>	<u>RANGE</u> <u>EAST</u>	<u>NMPM</u>
Jackson B	4	D	1	17	30	
Jackson B	15	L	1	17	30	
Jackson B	19	P	1	17	30	
To be drilled		F	1	17	30	
To be drilled		J	1	17	30	
To be drilled		N	1	17	30	

(2) That the applicant is hereby authorized to institute a waterflood project on its Gissler B lease, Square Lake Pool, Eddy County, New Mexico, by the injection of water into the Grayburg and San Andres formations through 3 injection wells as set out below:

<u>LEASE NAME</u>	<u>WELL NO.</u>	<u>UNIT</u>	<u>SECTION</u>	<u>TOWNSHIP</u> <u>SOUTH</u>	<u>RANGE</u> <u>EAST</u>	<u>NMPM</u>
Gissler B	7	B	11	17	30	
Gissler B	8	D	11	17	30	
Gissler B	9	F	11	17	30	

(3) That injection into each of said wells shall be through plastic or cement-lined tubing, set in a packer which shall be located as near as practicable to the uppermost perforation, or in the case of open-hole completions, as near as practicable to the casing shoe; that the casing-tubing annulus of each injection well shall be loaded with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

(4) That the operator shall immediately notify the supervisor of the Commission's Artesia district office of the failure of the tubing or packer in any of said injection wells, 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 and shall take such timely steps as may be necessary or required to correct such failure or leakage.

-2-

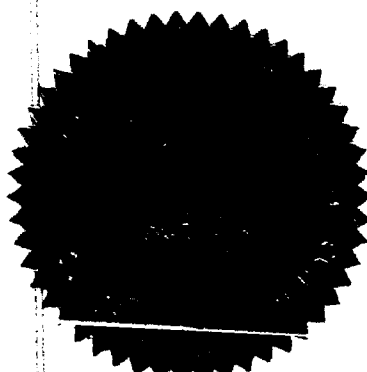
Case No. 5102
Order No. R-4676

(5) That the above-authorized waterflood projects are hereby designated the Windfohr Jackson B-1 Waterflood Project and the Windfohr Gissler B-11 Waterflood Project, respectively, and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(6) 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

drj

Docket No. 32-73

DOCKET: EXAMINER HEARING - WEDNESDAY - NOVEMBER 14, 1973

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 5044: (Continued from the October 3, 1973, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Sycor Newton, Peru Milling Company, R. E. Deming and Aetna Life and Casualty Company and all other interested parties to appear and show cause why the State L 6350 Well No. 1 located in Unit M of Section 10, Township 23 South, Range 11 West, Luna County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 5098: Application of R. J. Zonne for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a Morrow gas pool for his Federal Well No. 1 located in Unit G of Section 20, Township 22 South, Range 32 East, Lea County, New Mexico, and the promulgation of special rules therefor, including a provision for 640-acre spacing.

CASE 4849: (Reopened)

In the matter of Case No. 4849 being reopened pursuant to the provisions of Order No. R-4436 which order established temporary special rules for the Humble City-Atoka Pool, Lea County, New Mexico, including a provision for 80-acre spacing. All interested parties may appear and show cause why said pool rules should remain in effect.

CASE 5099: Application of Pennzoil Company for a pool creation, special pool rules and an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a Wolfcamp gas pool for its Moore Com Well No. 1 located at an unorthodox Wolfcamp location 2310 feet from the South line and 660 feet from the East line of Section 23, Township 22 South, Range 26 East, Eddy County, New Mexico, and the promulgation of special pool rules therefor, including a provision for 320-acre spacing.

CASE 5100: Application of Estill Production Corporation for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the W/2 of Section 21, Township 18 South, Range 33 East, South Corbin-Morrow Gas Pool, Lea County, New Mexico, to be dedicated to a well to be drilled at a standard location for said unit. 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 5101: Application of Southern Union Production Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox gas well location for its McKittrick-Federal Well No. 1 at a point 2390 feet from the North line and 830 feet from the East line of Section 14, Township 22 South, Range 24 East, Eddy County, New Mexico, the E/2 of said Section 14 to be dedicated to the well.
- CASE 5102: Application of Anne Burnett Tandy dba Windfohr Oil Company for two waterflood projects, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute two waterflood projects by the injection of water into the Grayburg and San Andres formations through 6 wells on its Jackson "B" Lease and through 3 wells on its Gissler "B" Lease, located in Sections 1 and 11, respectively, Township 17 South, Range 30 East, Square Lake Pool, Eddy County, New Mexico.
- CASE 5103: Application of David Fasken for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox gas well location at a point 1000 feet from the North and West lines of Section 32, Township 20 South, Range 25 East, Indian Hills-Morrow Gas Pool, Eddy County, New Mexico.
- CASE 5104: Application of El Paso Natural Gas Company for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its Rocky Arroyo "C" Well No. 1 located in Unit F of Section 8, Township 22 South, Range 22 East, Rocky Arroyo Field, Eddy County, New Mexico, in such a manner as to produce gas from the Canyon formation and gas from the Morrow formation through the casing-tubing annulus and through the tubing, respectively.
- CASE 5105: Application of Stallworth Oil and Gas for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox oil well location at a point 760 feet from the North line and 860 feet from the West line of Section 11, Township 9 South, Range 33 East, Vada-Pennsylvanian Pool, Lea County, New Mexico, as an exception to the provisions of Rule 4 of Order No. R-3179-A.
- CASE 5106: Application of Read & Stevens, Inc. for an unorthodox gas well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox gas well location for its Harris Federal Well No. 2 at a point 990 feet from the North line and 2310 feet from the West line of Section 24, Township 15 South, Range 27 East, Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico, as an exception to Rule 2 of Order No. R-1670-H, the N/2 of said Section 24 to be dedicated to said well.

CASE 5107: Southeastern nomenclature case calling for the extension of certain pools in Lea County, New Mexico.

(a) Extend the Antelope Ridge-Atoka Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 34 EAST, NMPM
Section 2: S/2

(b) Extend the Blinebry Oil Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 36 EAST, NMPM
Section 1: SE/4
Section 12: NE/4

(c) Extend the Blinebry Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 36 EAST, NMPM
Section 1: SE/4
Section 12: NE/4

(d) Extend the Drinkard Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM
Section 12: SW/4

(e) Extend the South Eunice-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
Section 2: SE/4

(f) Extend the Flying "M"-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 33 EAST, NMPM
Section 7: SE/4
Section 8: SW/4
Section 17: N/2 NW/4

(g) Extend the West Garrett-Devonian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 38 EAST, NMPM
Section 31: SE/4

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(h) Extend the High Plains-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 34 EAST, NMPM
Section 26: NW/4

CASE 5114: Application of Texaco Inc. and Perry R. Bass for compulsory pooling and an unorthodox location, Lea County, New Mexico. Applicants, in the above-styled cause, seek an order pooling all mineral interests underlying the W/2 of Section 32, Township 20 South, Range 33 East, South Salt Lake-Morrow Gas Pool, Lea County, New Mexico, to be dedicated to the well currently being drilled by Amini Oil Company at an unorthodox location for said 320-acre unit at a point 990 feet from the South line and 1980 feet from the West line of said Section 32.

WELL DATA
WINDFOHR OIL COMPANY

WELL NO.	COMPLETION DATE	ELEVATION D. F.	TOTAL DEPTH	CASING SIZE DEPTH	PRODUCING INTERVALS & PAY	TREATMENTS	PRODUCING ZONE	INITIAL POTENTIAL
GISSLER "B" LEASE								
6	7-15-45	3737	3048	5½" - 2832 100 sx.	2943-45	Shot 2934-3048/300 qts.	6	150
7 ✓	1-15-46	3751	3062	5½" - 2840 100 sx.	2933-40 3032-43	Shot 2930-3062/330 qts.	6	150
8 ✓	9-16-46	3736	3266	5½" - 2800 100 sx.	2917-22 3013-29	Shot 2900-3050/400 qts.	6	40
9 ✓	12-15-47	3724 Deepened to	3082 3209'	5½" - 2808 100 sx.	2908-10 2985-95	Shot 2808-2960/150 qts.	6	100
10	4-15-48	3737	3267	5½" - 2893 100 sx.	3003-10 3154-75	Shot 3175-2980/460 qts.	6 & 8	35
JACKSON "B" LEASE								
4 ✓	7-15-42	3712	3450	7" - 2705 w/100 sx.	2825-30 (G) 2875-2881 2970-94	Shot 2960-3025/220 qts. 2808-2900/180 qts.	6	7 BOPD.
5	12-22-42	3727	3176	5" - 2800' w/100 sx.	2935-44 2979-85	Shot 3010-90/170 qts.	6	25
15 ✓	1-15-45	3707	3004	5½" - 2838' w/100 sx.	2885-90 2958-66 2850-85 (G)	Shot 2884-3004/240 qts.	6 & 7	130
	12- 4-56	Deepened	3055		3040-55	Frac 30,000 gal. + 22,000# sand.	7 Rivers	21

Exhibit 2.

WELL DATA (Continued)

WELL NO.	COMPLETION DATE	ELEVATION D. F.	TOTAL DEPTH	CASING SIZE DEPTH	PRODUCING INTERVALS & PAYS	TREATMENTS	PRODUCING ZONE	INITIAL POTENTIAL
JACKSON "B" LEASE CONTINUED								
17	10-29-56	3738	3219	5½" - 3219' w/100 sx.	2832-42 (G) 2915-32 3050-60 3132-54 3184-94 Perf. 3184-94	Frac/15,000 gal. + 15,000# sand.	6 & 8	253
18	2-10-57	3732	3224	5½" - 3222 w/100 sx. (Lovington Sand) (Square Lake Sd.)	1947-49 (G) 2630-40 2881-94 2997-3006 3173-3183 Perf. 3173-83 Perf. 2881-91	Frac/29,000 gals. + 17,000# sand. Frac/10,000 gals. + 9,000# sand.	6	F 100
19	✓ 4-17-57	3717	3197	5½" - 3197 w/100 sx.	2864-72 2899-2914 3164-72 Perf. 2899-2914 Perf. 3164-3172	Frac/20,000 gal. + 19,000# sd. Frac/25,000 gal. + 18,000# sd.	6 & 8	200
20	7-15-57	3702 Deepened	3188 3504	5½" - 3188 w/100 sx. (Lovington) (Premier) (Sq. Lake) (Sq. Lake)	2852-58 2883-95, 3010-21, 3140-49 Perf. 3140-49 Perf. 3010-21 Perf. 2883-95 Perf. 2852-58	A/8,000 gals. Frac/740 BO + 9,500# sd. Wouldn't frac. Frac/15,000 gal. + 18,000# sd. Frac/671 BO + 12,500# sd.	6 & 8	45) 2850-58 - 7 gal. 0/hr.) 2885-96 - 19 gal. 0/hr.) 2899-2909 - 77 gal.oil/) 3-3/4 hrs.

WINDFOHR OIL COMPANY
SQUARE LAKE POOL - GISSLER "B" LEASE
OIL PRODUCTION

YEAR & MONTH	WELL 6	WELL 7	WELL 8	WELL 9	WELL 10	LEASE TOTAL
1972 - Jan.	86	116	19	59	34	314
Feb.	86	116	19	59	34	314
Mar.	78	98	17	55	30	278
Apr.	79	101	19	59	33	291
May	82	105	21	64	33	305
June	79	103	21	62	38	303
July	80	105	20	64	41	310
Aug.	90	79	112	32	19	332
Sept.	96	93	119	38	18	364
Oct.	96	41	77	103	12	329
Nov.	89	32	66	143	16	346
Dec.	79	22	56	130	15	302
1973 - Jan.	78	23	54	132	16	303
Feb.	81	11	61	92	41	286
Mar.	83	27	58	138	21	327
Apr.	72	31	70	99	36	308
May	74	32	73	102	43	324
June	73	33	72	105	44	327
July	53	29	53	114	34	283
Aug.	62	62	93	70	19	306
Cumulative	576	248	534	852	254	2,464
	71,008	63,611	24,012	40,808	34,143	233,582

WINDFOHR OIL COMPANY
SQUARE LAKE POOL - JACKSON "B" LEASE
OIL PRODUCTION

YEAR & MONTH	WELL #4	#5	#15	#17	#18	#19	#20	#38	LEASE TOTAL
1972 - Jan.	21	21	16	69	31	163	655	50	1,026
Feb.	23	23	18	71	44	164	621	43	1,007
Mar.	23	23	18	69	40	150	663	46	1,032
Apr.	29	29	24	77	36	58	730	32	1,015
May	23	23	31	42	37	52	752	33	993
June	24	24	29	39	36	49	681	83	965
July	30	30	35	54	37	61	709	62	1,018
Aug.	8	34	8	42	38	62	692	82	966
Sept.	20	30	16	80	39	61	697	79	1,022
Oct.	16	24	8	71	49	74	781	47	1,070
Nov.	30	30	9	29	33	61	704	127	1,023
Dec.	15	15	10	18	51	86	780	131	1,106
1973 - Jan.	31	31	33	46	31	24	564	217	977
Feb.	21	26	21	40	55	110	834	336	1,443
Mar.	18	18	9	62	53	61	700	248	1,169
Apr.	14	14	11	51	59	108	840	92	1,190
May	21	21	17	74	51	58	817	96	1,155
June	24	24	20	77	54	30	792	70	1,091
July	29	32	62	59	56	60	834	46	1,178
Aug.	20	23	53	50	53	57	897	25	1,178
Cumulative	178	189	226	459	412	508	6,278	1,131	9,381
	24,871	34,209	64,909	45,069	34,695	45,802	52,446	10,141	312,142

WINDFOHR OIL COMPANY

GISSLER "B" #7

PROPOSED WATER INJECTION WELL

8-5/8" csg. at 566'
w/50 sx. cement

Circulated cement to
surface.

✓ 2 3/8" OD

Estimated top of
cement - 2290'

Tubing and Packer at
approximately 2800'.

5 1/2" csg. at 2840'
w/100 sx. cement.

Total Depth 3209'.

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 8
CASE NO. 5102
Submitted by
Hearing Date

RALPH L. GRAY

Exhibit 8.

WINDFOHR OIL COMPANY

GISSLER "B" #8

PROPOSED WATER INJECTION WELL

8-5/8" csg. at 531'
w/50 sx. cement.

Cement circulated
to surface.

Estimated Top of
cement - 2250'.

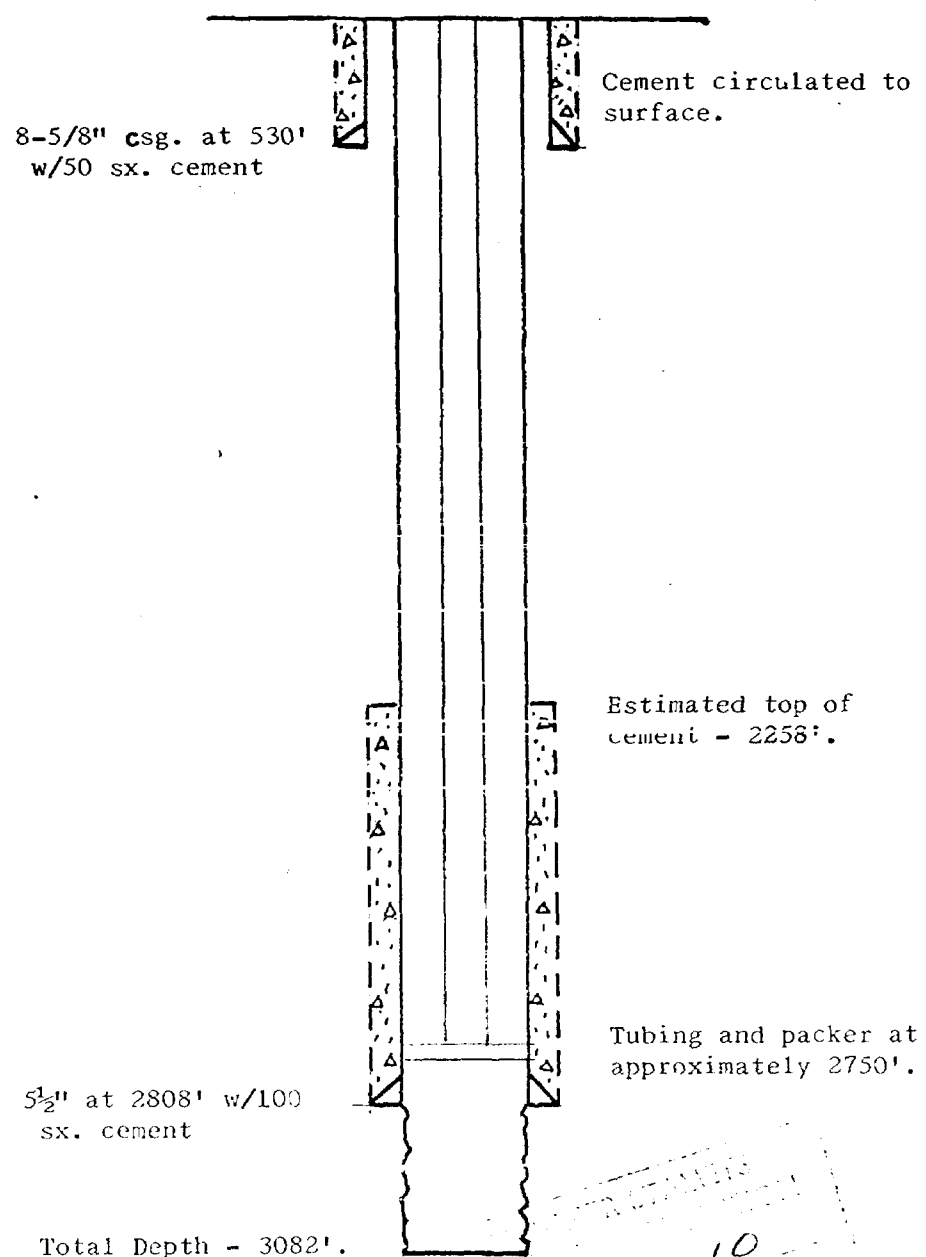
5 1/2" csg. at 2800'
w/100 sx.

Tubing and packer at
approximately 2750'.

Total Depth 3266'.

EXAMINER STAMETS
COMMISSION
CASE NO. 5102
Sub. No. 9
Hearing Date

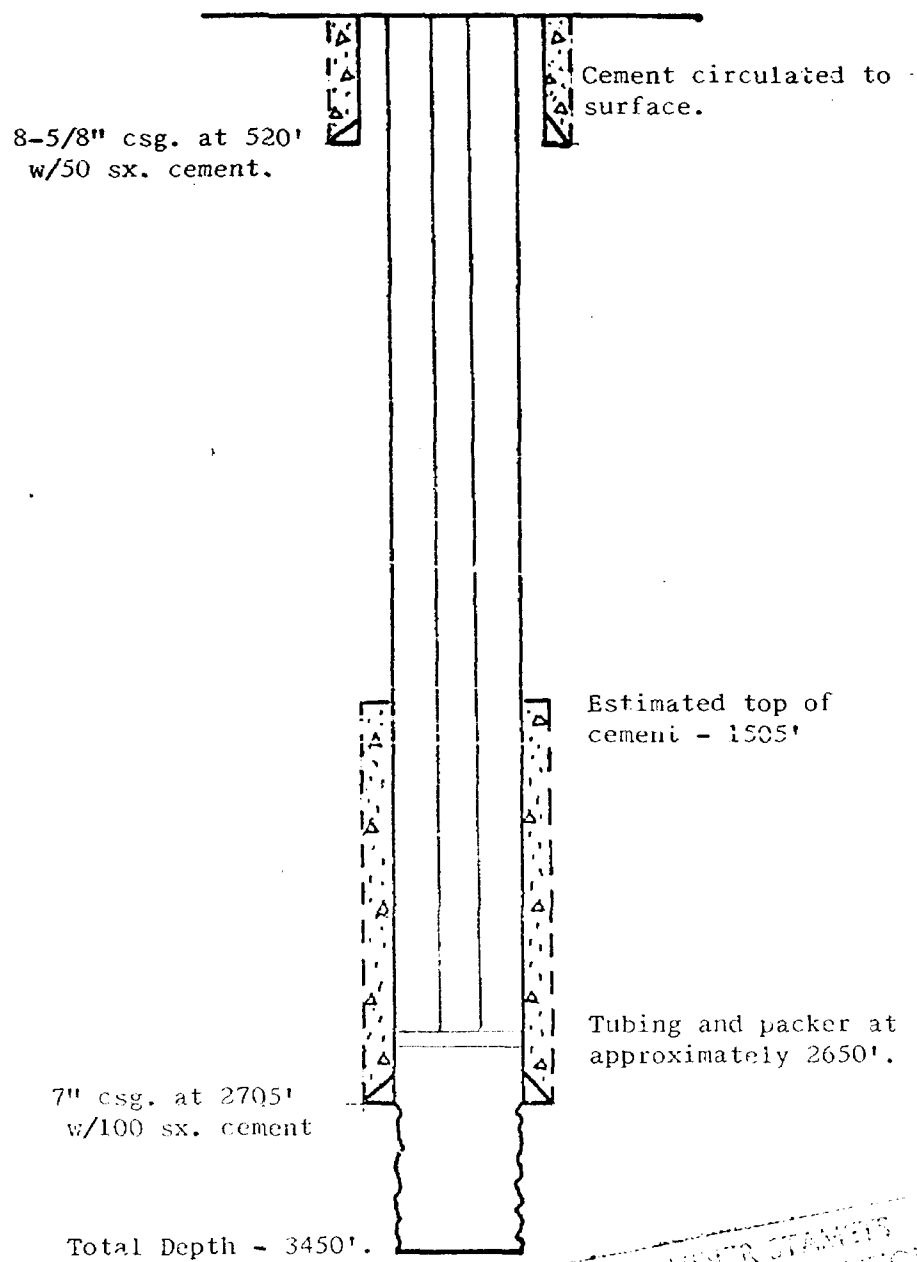
WINDFOHR OIL COMPANY
GISSLER "B" #9
PROPOSED WATER INJECTION WELL



WINDFOHR OIL COMPANY

JACKSON "B" #4

PROPOSED WATER INJECTION WELL



WINDFOHR OIL COMPANY
C/O JACKSON "B" #4
5102
JACKSON "B" #4
JACKSON "B" #4

WINDFOHR OIL COMPANY

JACKSON "B" #15

PROPOSED WATER INJECTION WELL

8-5/8" csg. at 558'
w/50 sx. cement.

Cement circulated
to surface.

Estimated top of
cement - 2288'.

5 1/2" csg. at 2838'
w/100 sx. cement.

Tubing and packer at
approximately 2750'.

Total Depth 3055'

APPROVED EXAMINER
REGISTRATION NO. 12
5102
DATE
REMARKS

RALPH L. GRAY
PETROLEUM ENGINEERING

Exhibit 12.

WINDFOHR OIL COMPANY

JACKSON "B" #19

PROPOSED WATER INJECTION WELL

8-5/8" csg. at 555'
w/50 sx. cement

Cement circulated
to surface.

Estimated top of
cement - 2647'.

Tubing and packer - 2800'.

Perforations 2864'-3172'

5 1/2" csg. at 3197'
w/100 sx. cement.

Total Depth - 3197'

FOR USE BY ASINER STANGIS
OF OCEANOGRAPHIC CORPORATION
DATE: 10-13-51
COST: 5102
SHEET NO. 13
Drawing Date

NEIL B. WATSON
FRED A. WATSON

LAW OFFICES
WATSON & WATSON
CARPER BUILDING - P. O. DRAWER E
ARTESIA, NEW MEXICO
88210

AREA CODE 505
746-4151 - 746-2201

October 18, 1973

United States Geological Survey Office,
American Home Security Building,
Artesia, New Mexico 88210.

Attention: Mr. James Knauf

Dear Mr. Knauf:

Re: Application of Anne Burnett Tandy (formerly
Anne Burnett Windfohr), d/b/a Windfohr Oil
Company, to institute a waterflood on part
of NM-2747 (lands in Section 1, T-17-S,
R-30-E) and on part of NM-2748 (lands in
Section 11, T-17-S, R-30-E)

At the request of Mr. Ralph Gray, I herewith hand you a complete
copy of the captioned application, including all exhibits.

Should you require further information, please get in touch with
me or with Mr. Gray.

Very truly yours,

Fred A. Watson
Fred A. Watson.

FAW:js
Enc.

cc: Mr. John McPhaul
cc: Mr. Ralph Gray
cc: Windfohr Oil Company
cc: New Mexico Oil Conservation Commission

C
O
P
Y

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

October 18, 1973

New Mexico Oil Conservation Commission,
P. O. Box 2088,
Santa Fe, New Mexico 87501.

Gentlemen:

Re: Application of Anne Burnett Tandy (formerly Anne
Burnett Windfohr), d/b/a Windfohr Oil Company,
to institute a waterflood on part of NM-2747
(lands in Section 1, T-17-S, R-30-E) and on
part of NM-2748 (lands in Section 11, T-17-S,
R-30-E)

I herewith enclose in triplicate, and with all copies containing
full exhibits, the captioned application to institute a waterflood
project.

Please set this matter for hearing before an Examiner and advise
us of the hearing date. Should any further information or docu-
mentation be required prior to the hearing date, please let us
know and we will certainly comply.

Thanking you in advance for your consideration, I remain,

Very truly yours,

Fred A. Watson
Fred A. Watson.

FAW:js
Enc.

cc: Mr. John McPhaul
cc: Mr. Ralph Gray
cc: Windfohr Oil Company
cc: United States Geological Survey

RECEIVED

Date 11-1-73

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

IN RE: APPLICATION OF ANNE BURNETT TANDY)
(FORMERLY ANNE BURNETT WINDFOHR), d/b/a)
WINDFOHR OIL COMPANY, FOR AUTHORITY TO)
INSTITUTE A WATERFLOOD PROJECT BY INJECT-)
ING WATER INTO THE GRAYBURG SANDS AND)
LOVINGTON SAND OF THE SAN ANDRES FORMATION)
IN APPLICANT'S WELLS LOCATED IN PART OF)
SECTION 1 AND PART OF SECTION 11, TOWN-)
SHIP 17 SOUTH, RANGE 30 EAST, N.M.P.M.,)
EDDY COUNTY, NEW MEXICO.)

Case No. 15702

A P P L I C A T I O N

COMES NOW Anne Burnett Tandy (formerly Anne Burnett Windfohr),
an individual d/b/a Windfohr Oil Company, and hereby makes application
for authority to institute a waterflood project in part of Section 1
and part of Section 11, Township 17 South, Range 30 East, N.M.P.M.,
Eddy County, New Mexico, by injection of fresh water into the Grayburg
Sands and the Lovington Sand of the San Andres Formation under said
lands and, in support of this application, states:

1. The lands involved in this application consist of
Lots 3 and 4 ($N\frac{1}{2}NW\frac{1}{4}$), $S\frac{1}{2}NW\frac{1}{4}$ and $S\frac{1}{2}$ of Section 1 and $W\frac{1}{2}NE\frac{1}{4}$ and $NW\frac{1}{4}$
of Section 11, all in Township 17 South, Range 30 East, N.M.P.M.,
Eddy County, New Mexico, and said lands are Federal lands covered
by United States Oil and Gas Leases, and applicant is the operator
thereof and owns interests in said Oil and Gas Leases. Applicant
seeks an order for authority to institute a waterflood project, which
will be a secondary recovery project because the wells on applicant's
leases have been essentially depleted by primary means.

2. That applicant seeks authority for injection of water
into the Grayburg Sands and Lovington Sand of the San Andres Formation
through nine (9) wells (that is, six existing wells and three wells

to be drilled) shown in red on Exhibit "1" attached hereto, as follows:

All in Township 17 South, Range 30 East, N.M.P.M.

Jackson "B" Lease (NM-2747):

Well No. 4	- Section 1:	NW $\frac{1}{4}$ NW $\frac{1}{4}$
Well No. 15	- Section 1:	NW $\frac{1}{4}$ SW $\frac{1}{4}$
Well No. 19	- Section 1:	SE $\frac{1}{4}$ SE $\frac{1}{4}$
Undrilled Location	- Section 1:	SE $\frac{1}{4}$ NW $\frac{1}{4}$
Undrilled Location	- Section 1:	SE $\frac{1}{4}$ SW $\frac{1}{4}$
Undrilled Location	- Section 1:	NW $\frac{1}{4}$ SE $\frac{1}{4}$

Gissler "B" Lease (NM-2748):

Well No. 7	- Section 11:	NW $\frac{1}{4}$ NE $\frac{1}{4}$
Well No. 8	- Section 11:	NW $\frac{1}{4}$ NW $\frac{1}{4}$
Well No. 9	- Section 11:	SE $\frac{1}{4}$ NW $\frac{1}{4}$

3. That the formations to be flooded are the Grayburg Sands and the Lovington Sand of the San Andres Formation found between the depths of approximately 2600 feet below the surface and 3200 feet below the surface.

4. That there are attached hereto and made a part hereof the following exhibits, to wit:

Exhibit "1" is a plat showing the locations of the proposed injection wells (both existing wells and wells to be drilled) marked in red and outlining the lands included in this application in yellow, said plat also showing other wells within a radius of two miles (and more) and other lessees. Said existing wells have been producing from the Grayburg Sands and the San Andres Formation.

Exhibits "2-a", "2-b" and "2-c" consist of well logs for, respectively, the Jackson "B" No. 19 and the Gissler "B" No. 7 and No. 9 wells, same being the available logs.

Exhibits "3-a", "3-b", "3-c", "3-d", "3-e" and "3-f" are diagramatic sketches of the proposed injection wells, being diagramatic sketches, respectively, of the Jackson "B" Nos. 4, 15 and 19 wells and the Gissler "B" Nos. 7, 8 and 9 wells. Insofar as possible, the injection wells to be drilled will be similarly equipped.

5. That the kind of fluid to be injected will be pressured fresh water obtained from Anadarko Production Company, and the anticipated volume and pressure will be approximately 200 barrels of water per well per day with pressures up to 2,000 psi.

6. That applicant is filing this application in accordance with the provisions of Rule 701 and applicant requests an allowable to be assigned, as provided in said Rule 701.

WHEREFORE, applicant requests a hearing before an Examiner and requests authority for said waterflood project and the assignment of an allowable, all pursuant to Rule 701.

ANNE BURNETT TANDY
(formerly Anne Burnett Windfohr)
d/b/a WINDFOHR OIL COMPANY

by
WATSON & WATSON



Attorneys for Applicant,
P. O. Drawer E,
Artesia, New Mexico 88210.

EXHIBIT "1"

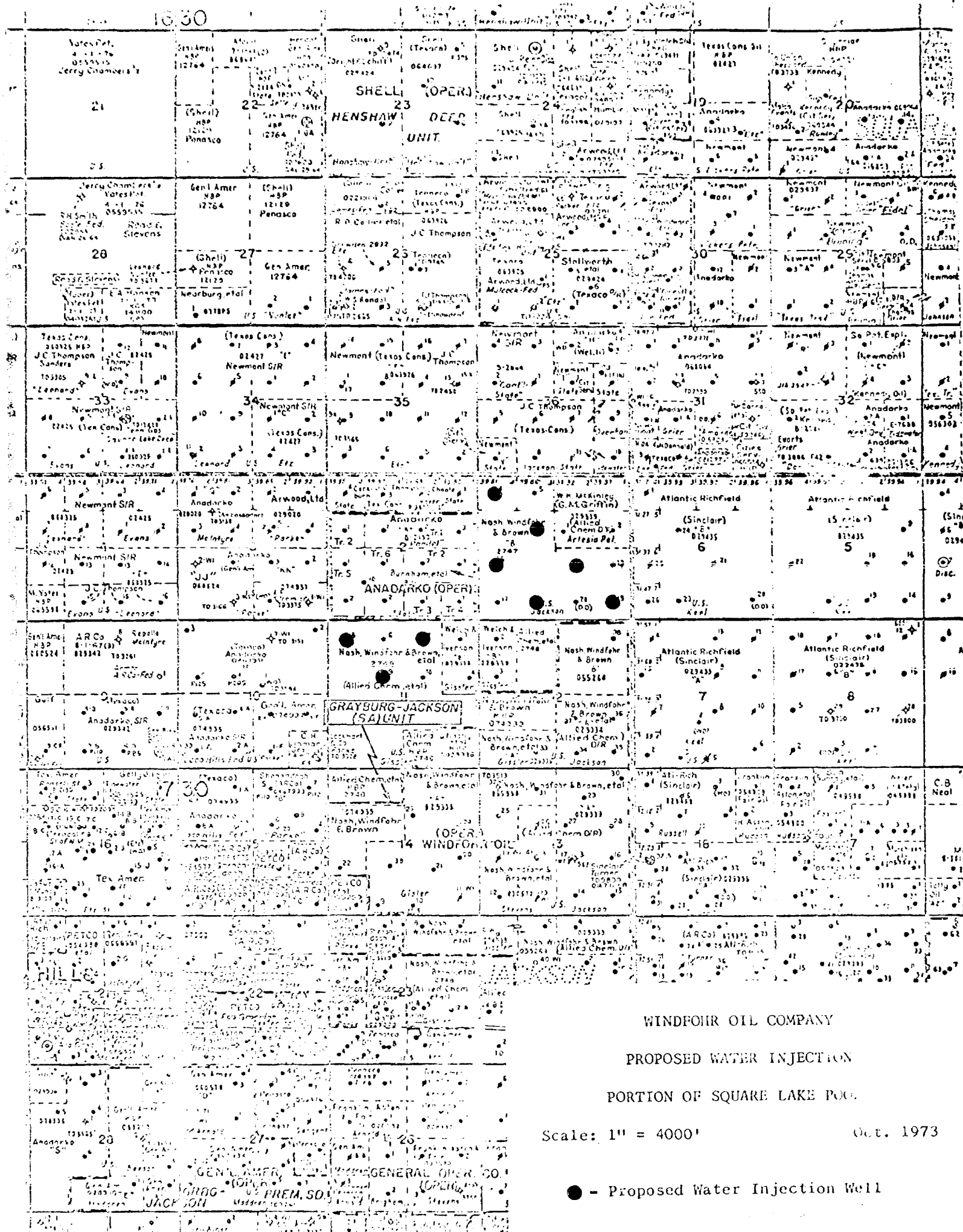


EXHIBIT "3-b"

WINDFOHR OIL COMPANY

JACKSON "B" #15

PROPOSED WATER INJECTION WELL

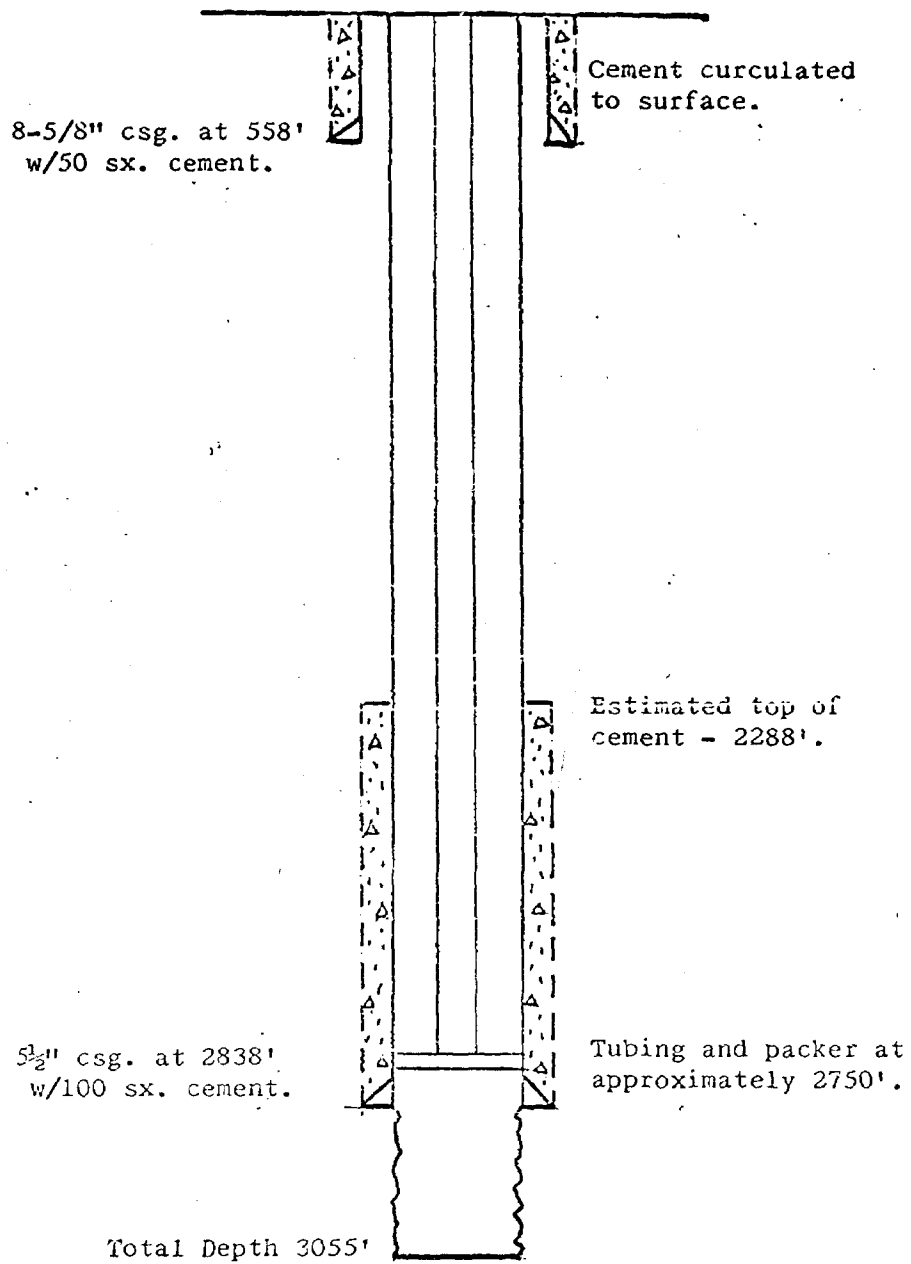


EXHIBIT "3-c"

WINDFOHR OIL COMPANY

JACKSON "B" #19

PROPOSED WATER INJECTION WELL

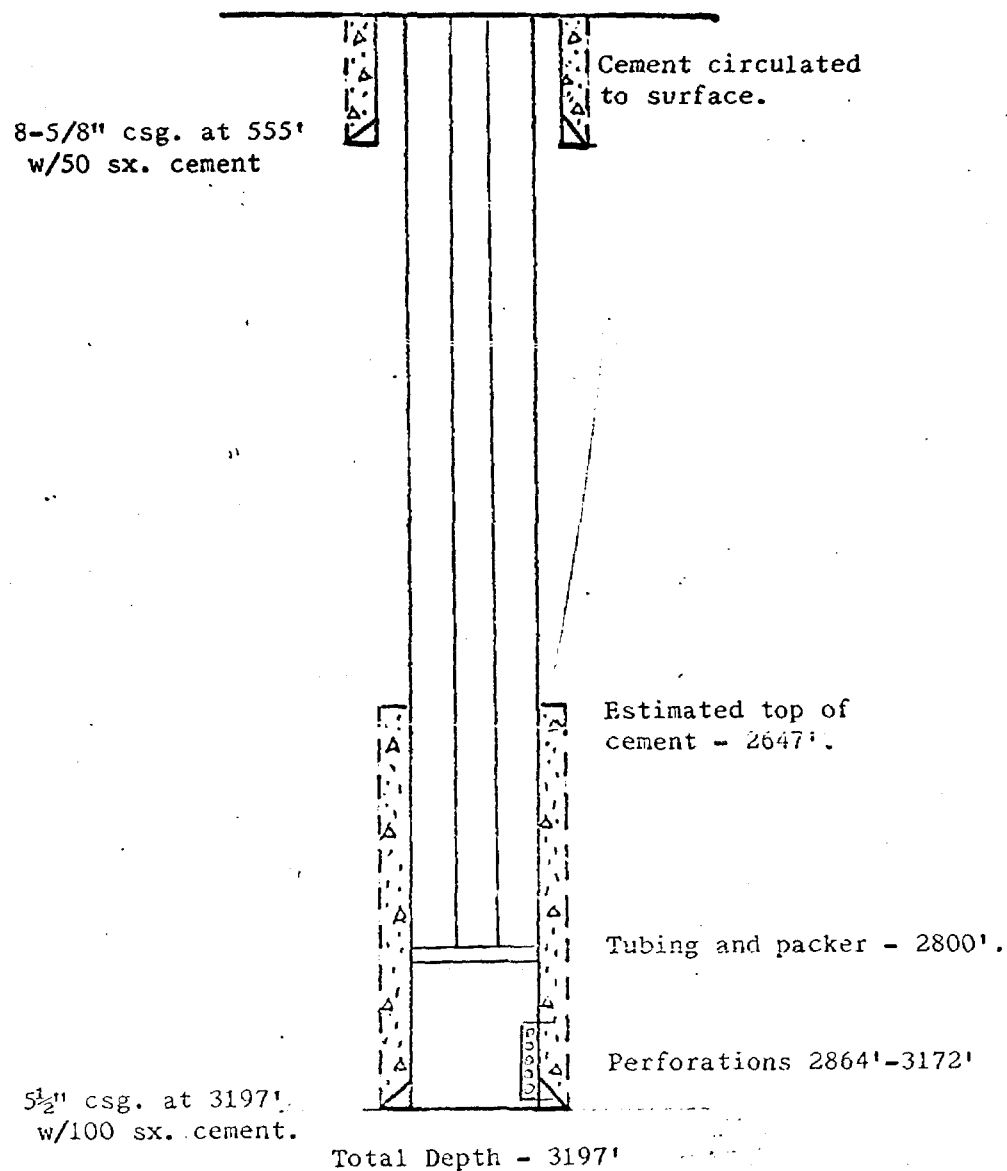


EXHIBIT "3-a"

WINDFOHR OIL COMPANY

JACKSON "B" #4

PROPOSED WATER INJECTION WELL

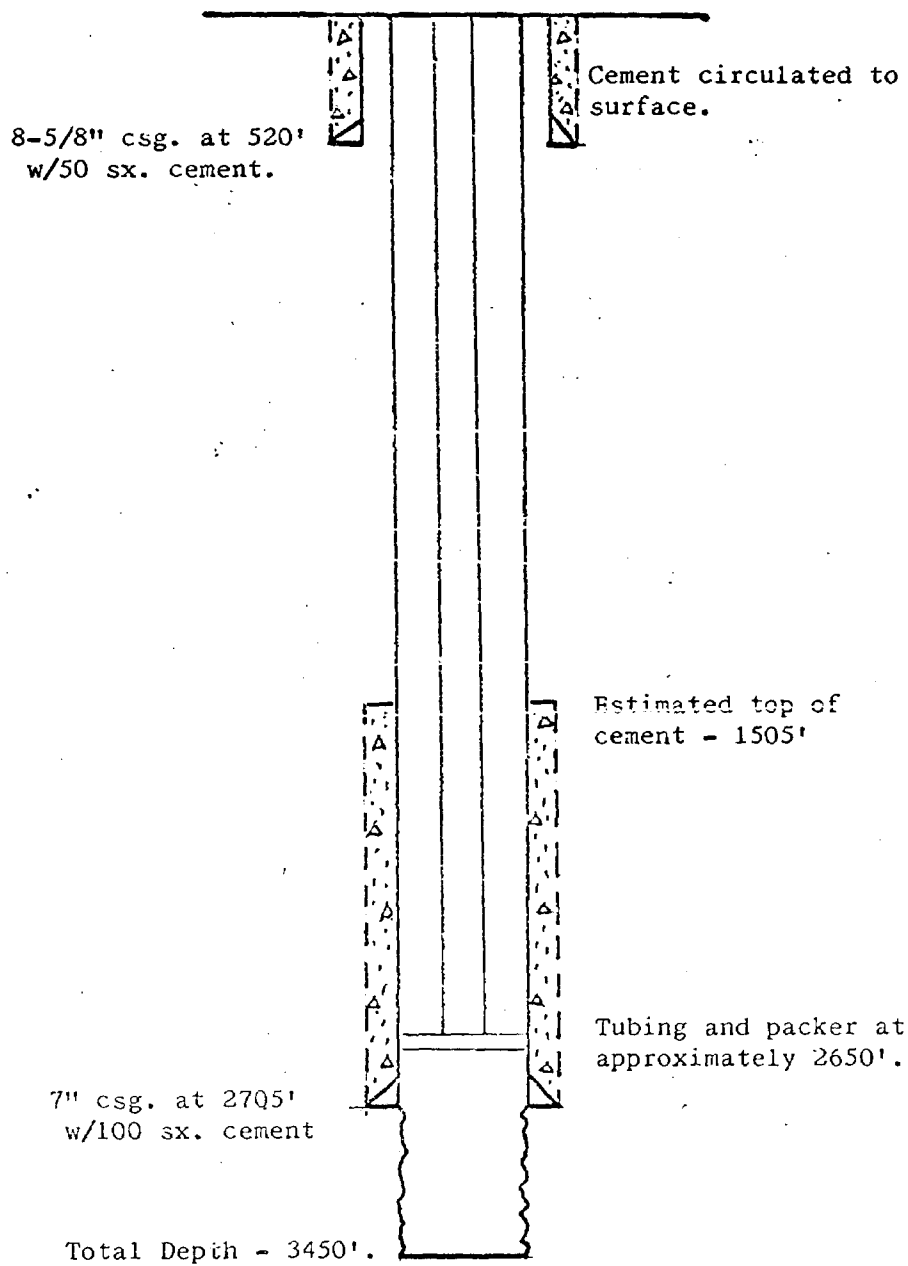


EXHIBIT "3-d"

WINDFOHR OIL COMPANY

GISSLER "B" #7

PROPOSED WATER INJECTION WELL

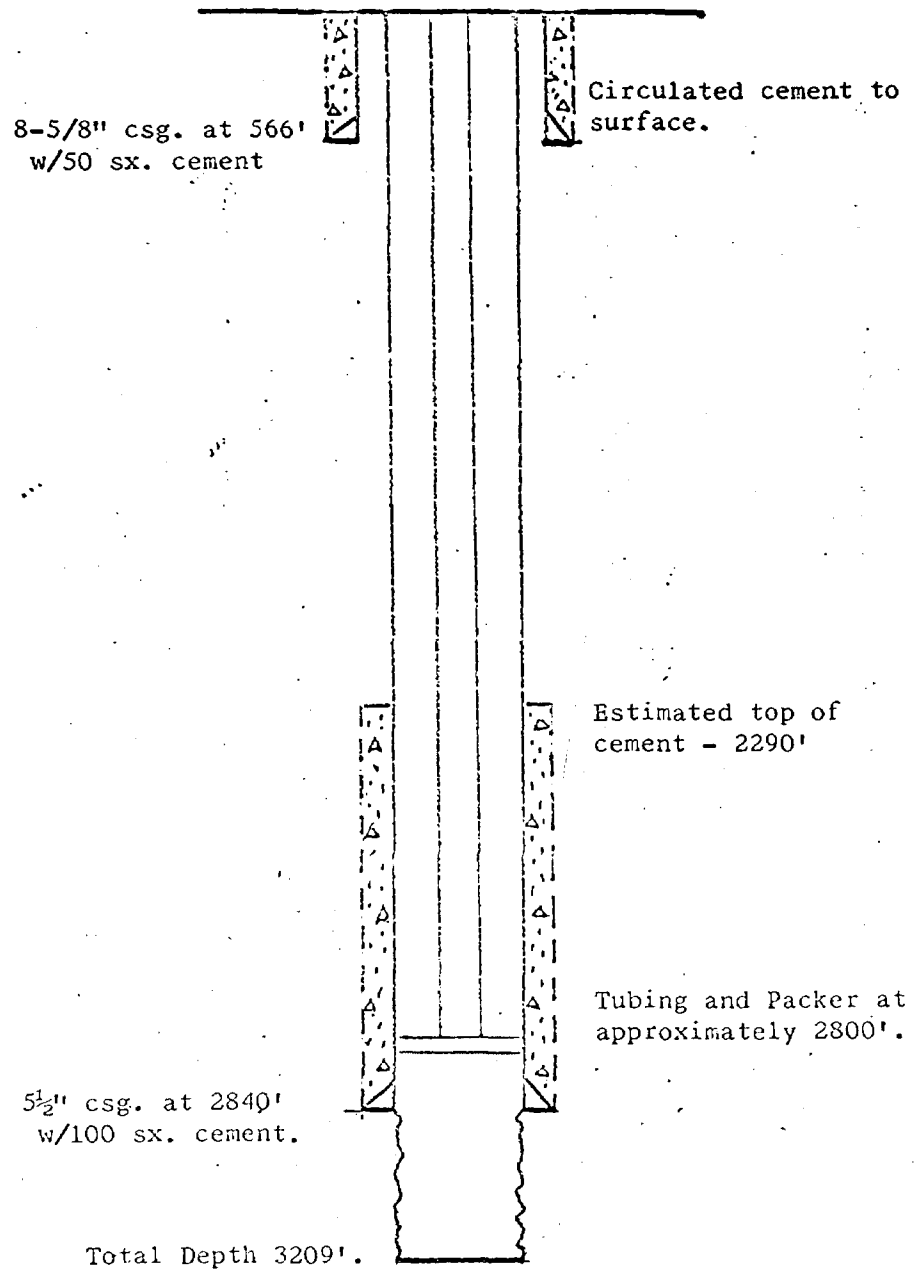


EXHIBIT "3-e"

WINDFOHR OIL COMPANY

GISSLER "B" #8

PROPOSED WATER INJECTION WELL

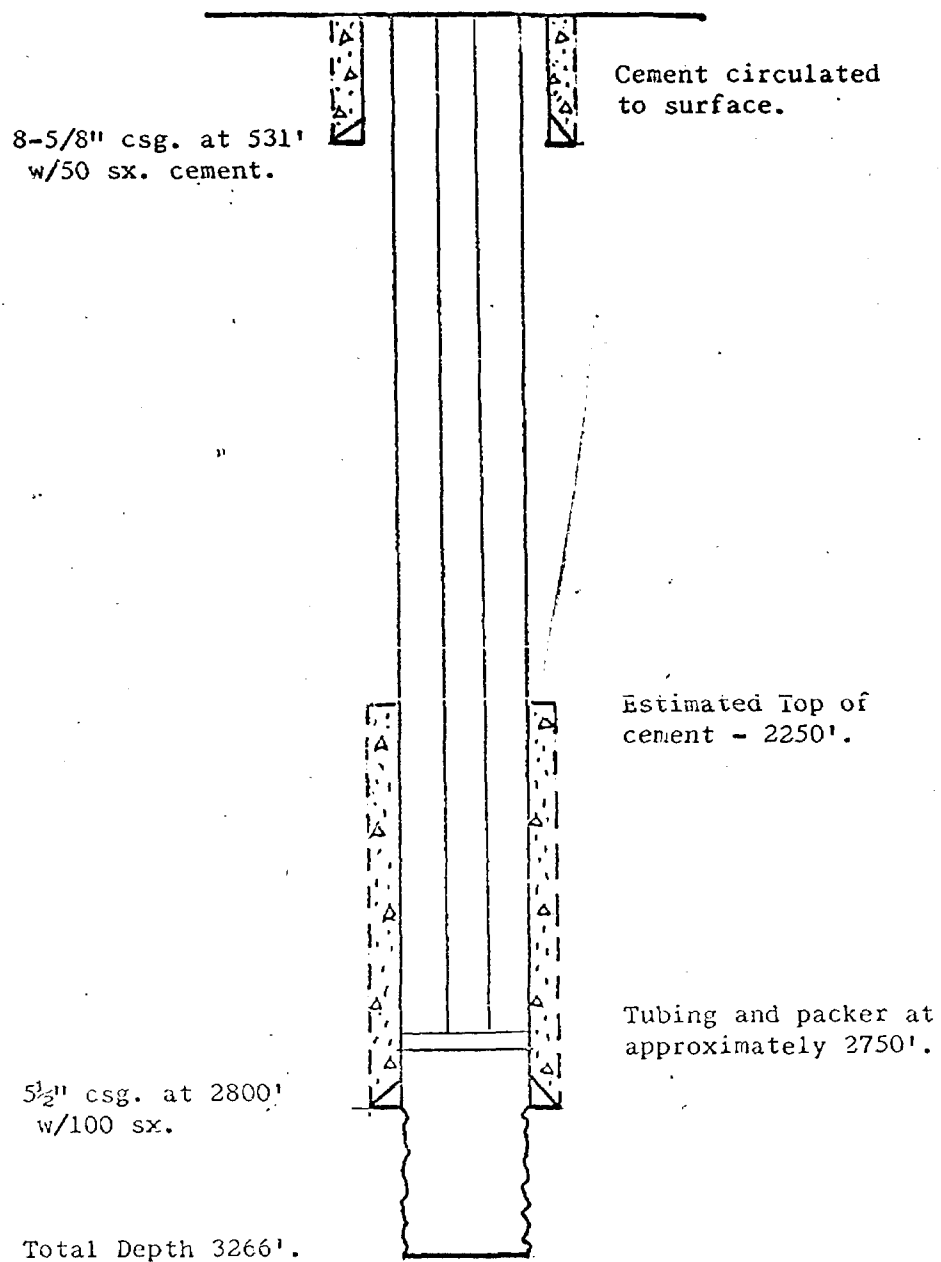


EXHIBIT "3-f"

WINDFOHR OIL COMPANY

GISSLER "B" #9

PROPOSED WATER INJECTION WELL

8-5/8" csg. at 530'
w/50 sx. cement

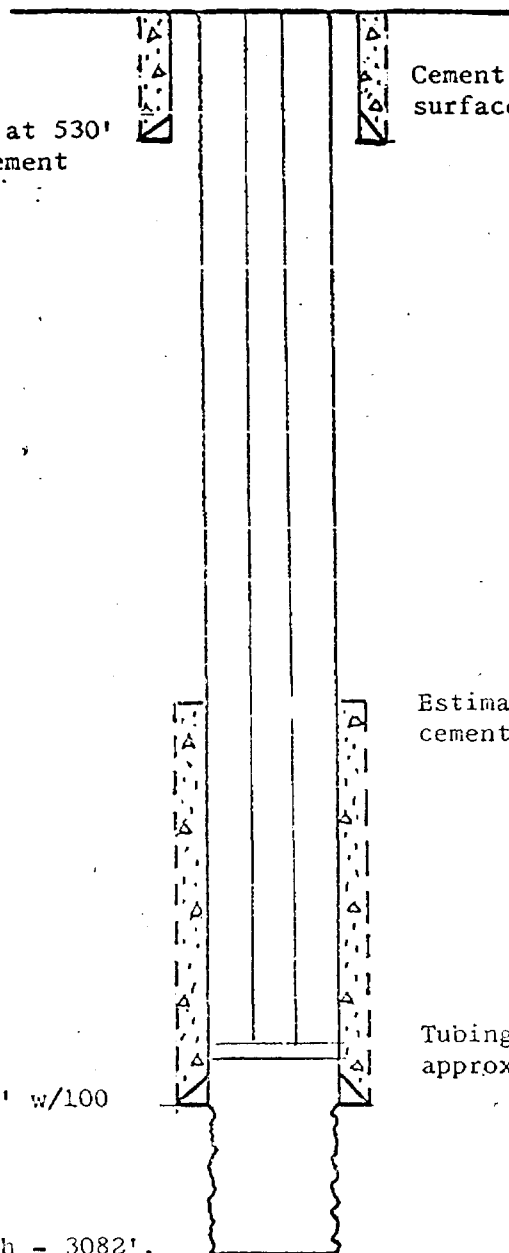
Cement circulated to
surface.

Estimated top of
cement - 2258'.

5 1/2" at 2808' w/100
sx. cement

Tubing and packer at
approximately 2750'.

Total Depth - 3082'.



DRAFT

dr/

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. 5102

Order No. R-4676

APPLICATION OF ANNE BURNETT TANDY
dba WINDFOHR OIL COMPANY FOR TWO
WATERFLOOD PROJECTS, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 14, 1973,
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this day of November, 1973, 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, Anne Burnett Tandy dba Windfohr
Oil Company, seeks authority to institute two waterflood
projects in the Square Lake Pool, Eddy County, New Mexico, by the
injection of water into the Grayburg and San Andres formations
through 9 injection wells in Sections 1 and 11, Township
17 South, Range 30 East, NMPM.

(4) That the operator shall immediately notify the supervisor of the Commission's Artesia district office of the failure of the tubing or packer in any of said injection wells, 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 and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(5) That the ^{above-authorized} ~~subject~~ waterflood projects are hereby designated the ~~Windfohr Gissler B-11 Waterflood Project and the Windfohr Jackson B-1 Waterflood Project~~ ^{and the Windfohr Gissler B-11 Waterflood Project,} and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(6) 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.

respective/43