

CASE 2582: Application of WATER-FLOOD ASSOCIATES for a waterflood project in the ARTESIA POOL.

Dear Mr. [illegible]

-asa 110.

2582

plication, Transcript,
all Exhibits, Etc.

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER



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

P. O. BOX 871
SANTA FE

June 21, 1962

Mr. A. J. Leese
Leese & Stewart
Curper Building
P. O. Drawer 239
Artesia, New Mexico

Re: Case No. 2581 and 2582
Order No. B-2271 and B-2272
Applicant:
WATERFLOOD ASSOCIATES, INC.

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

ir/

Carbon copy of order also sent to:

Hobbs OCC X

Artesia OCC X

Aztec OCC

OTHER

Letter advising you the allowable which this project will be eligible
NOTE: to receive will follow.

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. 2582
Order No. R-2272

APPLICATION OF WATER FLOOD ASSOCIATES,
INC. FOR APPROVAL OF A WATERFLOOD PROJ-
ECT, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on June 7, 1962, at Santa Fe, New Mexico, before Daniel S. Wutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 21st day of June, 1962, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Wutter, 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, Water Flood Associates, Inc., is the operator of the SE/4 NE/4 of Section 20 and the W/2 NW/4 of Section 21, all in Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico.

(3) That the applicant requests approval of a waterflood project in the Artesia Pool on the above-described lands with the injection of water to be through its Marshon State Well No. 3, located in the SW/4 SW/4 NW/4 of said Section 21.

(4) That the wells in the proposed project area are in an advanced stage of depletion and should be classified as "stripper" wells.

(5) That approval of the subject application will neither cause waste nor impair correlative rights; provided, however,

also see
R-2272-A
Case 2588

-2-

CASE No. 2582
Order No. R-2272

that unless agreed to by all parties, the transfer of allowables across lease lines where royalty ownership is diverse should not be authorized.

IT IS THEREFORE ORDERED:

(1) That the applicant, Water Flood Associates, Inc., is hereby authorized to institute a waterflood project in the Artesia Pool by the injection of water through its Marshon State Well No. 3, located in the SW/4 SW/4 NE/4 of Section 21, Township 18 South, Range 28 East, MNPM, Eddy County, New Mexico.

(2) That the waterflood project shall be governed by Rule 701, including the allowable provisions thereof.

PROVIDED HOWEVER, That unless otherwise agreed to by all parties and evidence thereof furnished the Commission, the transfer of allowables within the project area of this waterflood shall be authorized only insofar as the transfer is made between wells having common royalty ownership.


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

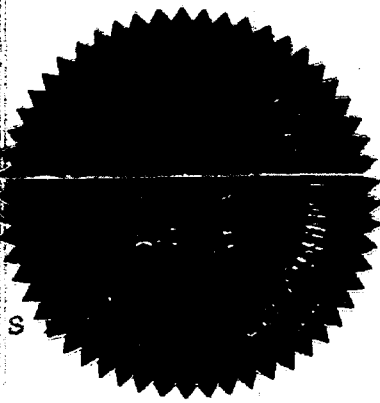
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


EDWIN L. MECHEM, Chairman


E. S. WALKER, Member


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



esr/

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 6-8-62

CASE 2582

Hearing Date 9am 6-7-62
DSN

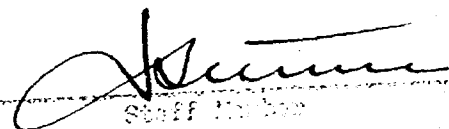
My recommendations for an order in the above numbered cases are as follows:

Enter an order approving water flood Associates
proposed water flood ^{project} in the Artesia Pool
Eddy County, New Mexico.

Authorize the conversion to water injection
of applicant's Marathon Steam Well No 3,
located in the SW/4 SW/4 NW/4
Sec 21, Township 18 South Range 28 East.

~~Injection is to be in to the~~

Use standard water flood order -


Staff Member

No. 17-62

DOCKET: EXAMINER HEARING - THURSDAY - JUNE 7, 1962

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
Elvis A. Utz, as Alternate Examiner:

CASE 2571:

Application of Randall F. Montgomery for an exception to Order R-111-A, or in the alternative for three unorthodox oil well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks exception to the provisions of Order R-111-A, insofar as it pertains to the re-entry and casing program on five plugged and abandoned wells in the Salt Lake Pool, four of which are located in Section 7, and one of which is located in Section 18, all in Township 20 South, Range 33 East, Lea County, New Mexico. Applicant further seeks permission, as an alternative request, to drill three new wells at unorthodox locations in the Salt Lake Pool as follows:

- (1) Brooks - 7 Well No. 6, to be located 10 feet from the South line and 2310 feet from the East line;
- (2) Brooks - 7 Well No. 7, to be located 330 feet from the South line and 1320 feet from the West line;
- (3) Brooks - 7 Well No. 8, to be located 1320 feet from the South line and 1980 feet from the West line;

all in Section 7, Township 20 South, Range 33 East, Lea County, New Mexico.

CASE 2572:

Application of Tenneco Oil Company for an exception to Rule 21-a of Order No. R-1670, Basin-Dakota Gas Pool, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks permission to commingle the gas production from two wells in the Basin-Dakota Gas Pool located on the H. O. Watson Lease in Section 22, Township 27 North, Range 12 West, San Juan County, New Mexico, as an exception to the provisions of Rule 21-a of the Rules for the prorated gas pools of Northwestern New Mexico, Order No. R-1670. Applicant proposes to install one common tank battery and separating facility and to allocate monthly gas production to each well on the basis of deliverability tests and average flowing tubing pressures.

- CASE 2573: Application of Phillips Petroleum Company for approval of an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval to locate its Santa Fe Well No. 68 at an unorthodox oil well location in the Vacuum-Abo Pool, 1650 feet from the North line and 1090 feet from the East line of Section 34, Township 17 South, Range 35 East, Lea County, New Mexico.
- CASE 2574: Application of J. Gregory Merrion and Associates for compulsory pooling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks an order of the Commission force pooling all interests in the Basin-Dakota Pool in the W/2 of Section 35, Township 25 North, Range 6 West, Rio Arriba County, New Mexico.
- CASE 2575: Application of Val R. Reese & Associates, Inc. for the creation of a new oil pool and for special pool rules, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Gallup production in Township 23 North, Range 7 West, Rio Arriba County, New Mexico, and further seeks the adoption of special rules and regulations for said pool similar to the special rules presently governing the Escrito-Gallup Oil Pool which provide for 320-acre gas proration units and 80-acre oil proration units (Order No. R-1793-A).
- CASE 2576: Application of Sinclair Oil & Gas Company for approval of a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of a waterflood project in the Grayburg-Jackson Pool, Eddy County, New Mexico, with the injection of water to be through seven wells located on the H. E. West "A" and "B" leases in Sections 3 and 4, Township 17 South, Range 31 East; applicant proposes to operate the waterflood project under the provisions of Rule 701.
- CASE 2577: Application of Newmont Oil Company for approval to drill a water injection well, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks permission to drill the State "A" Well No. 3, to be located 1295 feet from the South line and 2615 feet from the East line of Section 36, Township 17 South, Range 29 East, Eddy County, New Mexico, for use as a water injection well in the Loco Hills Pool Waterflood Project.
- CASE 2578: Application of Newmont Oil Company for approval of a development plan for the Loco Hills Waterflood Project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of a plan of development for the Loco Hills Waterflood Project, Eddy County, New Mexico, which would permit

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Docket No. 17-62

CASE 2578: (Continued)

the conversion of wells to water injection by stages. The applicant proposes to operate said waterflood project under the terms and conditions of Order No. R-2178 which established a buffer zone in a portion of the project area.

CASE 2579:

Application of Neil E. Salsich for approval of a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of a waterflood project in the Square Lake Pool with the injection of water into the Grayburg formation of the Square Lake Pool through five wells located in Section 36, Township 16 South, Range 29 East, Eddy County, New Mexico. Applicant requests that the waterflood be governed by Rule 701 except that administrative approval is sought to allow expansion of the waterflood by the conversion of one additional well in Unit H of Section 35 prior to response from water injection.

CASE 2580:

Application of Waterflood Associates, Inc., for approval of a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of a waterflood project in the Robinson Pool with the injection of water to be through six wells located in Section 35, Township 16 South, Range 31 East, Eddy County, New Mexico; applicant requests that the waterflood project be governed by Rule 701.

CASE 2581:

Application of Waterflood Associates, Inc. for approval of a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of a waterflood project in the Square Lake Pool by the injection of water to be through two wells located in the NE/4 of Section 3, Township 17 South, Range 30 East, Eddy County, New Mexico; applicant requests that the waterflood project be governed by Rule 701.

CASE 2582:

Applicant of Waterflood Associates, Inc., for approval of a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of a waterflood project in the Artesia Pool by the injection of water to be through one well located in the W/2 NW/4 of Section 21, Township 18 South, Range 28 East, Eddy County, New Mexico; applicant requests that the waterflood project be governed by Rule 701.

WATER FLOOD ASSOCIATES, INC.

301 BOOKER BLDG.
ARTESIA, NEW MEXICO

P. O. BOX 376
MAIL OFFICE CCC

MAY 24, 1962

PHONE SH 6-6032

1962 MAY 25 AM 8:25

OIL CONSERVATION COMMISSION
Box 871
SANTA FE, NEW MEXICO

ATTENTION: MR. DAN NUTTER

GENTLEMEN:

PLEASE ACCEPT THIS LETTER AS THE APPLICATION OF WATER FLOOD ASSOCIATES, INC. FOR A WATER-FLOOD PROJECT IN THE ARTESIA POOL, EDDY COUNTY, NEW MEXICO.

WE REQUEST PERMISSION TO CONVERT OUR MERSHON STATE No. 3 TO WATER INJECTION. THIS WELL IS LOCATED IN SW/4 NW/4 SECTION 21, T-18S, R-20E, AS SHOWN ON THE ATTACHED PLAT.

WE FURTHER REQUEST THAT A "BUFFER ZONE" BE ESTABLISHED TO INCLUDE THIS LEASE. THIS LEASE DIRECTLY OFFSETS GRARIDGE FLOOD #2 WHICH IS A CAPACITY-TYPE PROJECT.

PLEASE SCHEDULE THIS MATTER FOR HEARING AT THE JUNE 7TH HEARING, IF POSSIBLE.

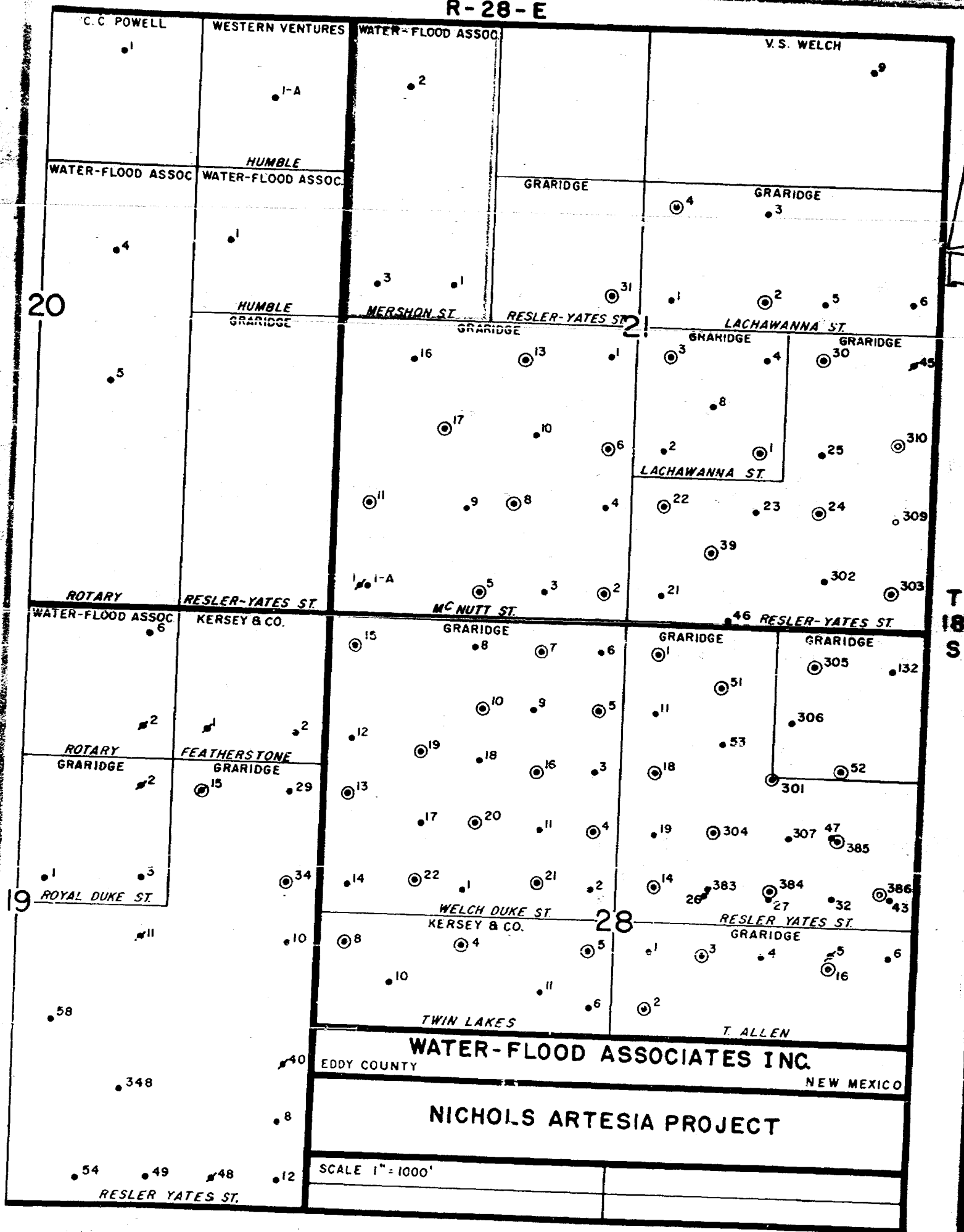
VERY TRULY YOURS,

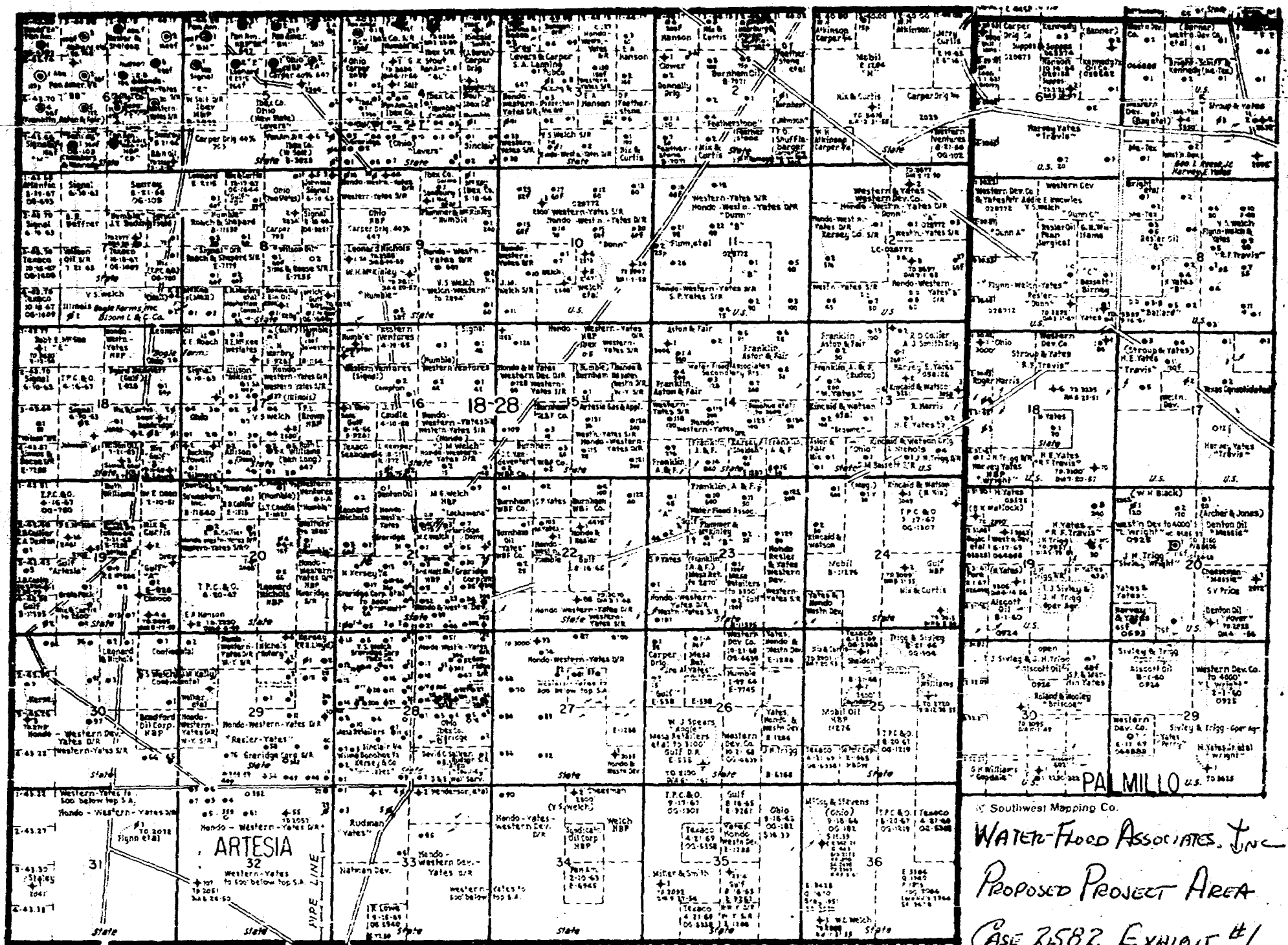
WATER FLOOD ASSOCIATES, INC.

H. C. Porter
H. C. PORTER
SUPERINTENDENT

HCP:EL
CC: STATE ENGINEER
CURTIS MCBROOM
FILE

R-28-E





Southwest Mapping Co.
WATER-FLOOD ASSOCIATES, INC.
PROPOSED PROJECT AREA
CASE 2582 EXHIBIT #1

WATER FLOOD ASSOCIATES, INC.

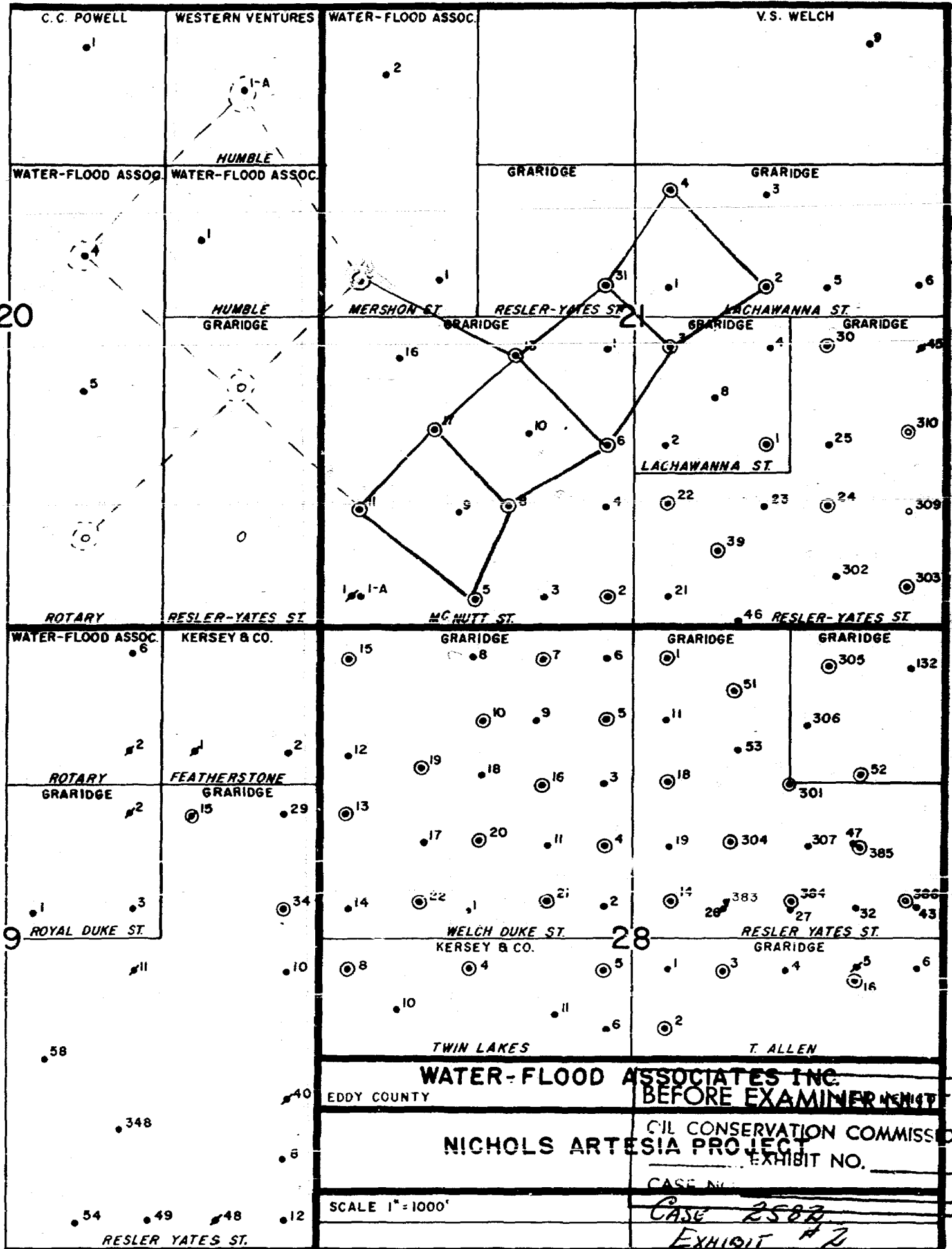
Oil Production History &
Mississippi State Wells 1 & 2

Unit E, Sec. 21, T-10S, R-20E

Month	1960	1961	1962	1963	1964	1965	1966
Jan	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100
Jun	100	100	100	100	100	100	100
Jul	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100
Sep	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100
Total	1200	1200	1200	1200	1200	1200	1200
Jan	100	100	100	100	100	100	100
Feb	100	100	100	100	100	100	100
Mar	100	100	100	100	100	100	100
Apr	100	100	100	100	100	100	100
May	100	100	100	100	100	100	100
Jun	100	100	100	100	100	100	100
Jul	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100
Sep	100	100	100	100	100	100	100
Oct	100	100	100	100	100	100	100
Nov	100	100	100	100	100	100	100
Dec	100	100	100	100	100	100	100
Total	1200	1200	1200	1200	1200	1200	1200

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. _____
CASE NO. _____

R-28-E



WATER FLOOD ASSOCIATES, INC.
ARTESIA-NICHOLS PROJECT

ARTESIA FIELD, EDDY COUNTY
T-18S, R-28E

WELL DATA

<u>LEASE NAME & WELL NO.</u>	<u>UNIT/ SEC.</u>	<u>ELEV.</u>	<u>DATE COMPLETED</u>	<u>SURFACE CASING</u>	<u>PRODUCTION CASING</u>	<u>T. D.</u>	<u>REMARKS</u>
MERSON STATE No. 1	E/21	3593 (EST.)	6/2/50	8 5/8" @ 339 w/25 sx	7" @ 1718	2172	OH: 1718-2172
" " No. 2	D/21	3600 (EST.)	9/21/50	8 5/8" @ 853 w/50 sx	N. R.	2548	OH: 853-2548
" " No. 3	E/21	3596	11-1-58	8 5/8" @ 520 w/50 sx	5 1/2" @ 2368 w/100 sx	2460	PERF: 2030-50, 2174- 2190, 2280-2310
ROTARY STATE No. 4	G/20	3594	11/6/57	8 5/8" @ 530	5 1/2" @ 2445 w/160 sx	2431	PERF: 1990-2010, 2090- 2120, 2220-2260, 2415- 2425
" " No. 5	J/20	3586	1/5/58	8 5/8" @ 530 w/50 sx	5 1/2" @ 2448 w/160 sx	2448	PERF: 1968-88, 2080- 2100, 2120-30, 2232- 62, 2390-2408
" " No. 6	B/29	3553	8/6/58	8 5/8" @ 513 w/50 sx	5 1/2" @ 2276 w/100 sx	2276	PERF: 1952-62, 2092- 98, 2222-32
POWELL STATE No. 1	M/17	3600 (EST.)	10/26/56	8 5/8" @ 435 w/50 sx	4 1/2" @ 2330 w/50 sx	2390	OH: 2330-2390
HUMBLE STATE No. 1	H/20	3598	2/9/58	8 5/8" @ 500 w/100 sx	5 1/2" @ 2485 w/175 sx	2485	PERF: 2023-31, 2128- 32, 2135-42, 2243-57, 2279-86, 2294-97, 2302-06, 2454-60

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. _____
CASE NO. _____

EXHIBIT NO. 5-A

WATER FLOOD ASSOCIATES, INC.
ARTESIA-NICHOLS PROJECT

WELL DATA

ARTESIA FIELD, EDDY COUNTY
T-18S, R-28E

<u>LEASE NAME & WELL No.</u>	<u>UNIT/ SEC.</u>	<u>STIMULATIONS</u>	<u>I. P. (B/D)</u>	<u>PRESENT RATE-B/D</u>	<u>CON. PRI. REC.-BBLs.</u>	<u>PRODUCING INTERVAL</u>
MERSON STATE No. 1	E/21	SHOT: 120 QTS. 2145-2170	61	25	8,000	ZONES 1 & 2
" " No. 2	D/21	SHOT: 120 QTS. 2050-2072	12	1	9,239	ZONES 1, 2, & 4
" " No. 3	E/21	FRAC: 30,000 GAL., 45,000#	60	1	4,075	ZONES 1, 2 & 3
ROTARY STATE No. 4	G/20	FRAC: 35,000 GAL., 50,000#	75	2	14,165	ZONES 1, 2, 3, & 4
" " No. 5	J/20	FRAC: 40,000 GAL., 40,000#	65	2	10,749	ZONES 1, 2, 3, & 4
" " No. 6	B/29	FRAC: 40,000 GAL., 60,000#	9	2	2,511	ZONES 1, 2, & 3
POWELL STATE No. 1	H/17	FRAC: 20,000 GAL., 30,000#			7,478	
HUMBLE STATE No. 1	H/20	FRAC: 50,000 GAL., 60,000#	80	2	5,980	ZONES 1, 2, 3, & 4

EXHIBIT No. 5-B

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
____ EXHIBIT NO. ____
CASE NO. ____

WATER FLOOD ASSOCIATES, INC.

301 BOOKER BLDG.
ARTESIA, NEW MEXICO

P. O. BOX 376

MAY 29, 1962

PHONE SH 6-6032

STATE ENGINEER
SANTA FE, NEW MEXICO

ATTENTION: MR. FRANK IRBY, CHIEF
WATER RIGHTS DIVISION

DEAR MR. IRBY:

RE: OIL CONSERVATION COMMISSION
CASE NO. 2582

UNDER THE ABOVE CASE TO BE HEARD ON JUNE 7, 1962, WATER FLOOD ASSOCIATES, INC. IS REQUESTING A PERMIT TO INJECT WATER INTO THEIR MERRISON STATE WELL NO. 3, LOCATED IN SW/4 NW/4 SECTION 21, T-18S, R-28E, EDDY COUNTY. THIS IS AN EXTENSION OF THE GRARIDGE FLOOD NO. 2 IN THE SAME SECTION. THIS LEASE IS NOT IN A DECLARED WATER BASIN.

THIS WELL WAS DRILLED IN 1958. IT IS EQUIPPED WITH 8 5/8" CASING SET AT 520' AND CEMENTED WITH 50 SACKS. CALCULATED TOP OF THIS CEMENT IS 304'. THE PRODUCTION STRING IS NEW 1 1/2" CASING SET AT 2368' AND CEMENTED WITH 100 SACKS. TOP OF THE CEMENT BEHIND THIS STRING OF PIPE IS 1051'. THE UPPERMOST PERFORATION IS AT 2030'.

WE PROPOSE TO INJECT INTO THE GRAYBURG FORMATION DOWN THE PRODUCTION CASING. MAXIMUM ANTICIPATED INJECTION PRESSURE WILL BE 1100 PSI.

WATER WILL BE PURCHASED FROM THE GRARIDGE PLANT.

I WOULD APPRECIATE YOUR CONSIDERATION OF OUR PLANS AND A LETTER FROM YOU IN THE EVENT YOU HAVE NO OBJECTION TO THIS METHOD OF INJECTION. IF THERE IS ANY FURTHER INFORMATION WHICH YOU DESIRE, PLEASE CALL ME.

VERY TRULY YOURS,

WATER FLOOD ASSOCIATES, INC.

H. C. PORTER
ENGINEER

HCP:EL

EXHIBIT #6

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

June 7, 1962

EXAMINER HEARING

IN THE MATTER OF:

Application of Waterflood Associates, Inc.,
for approval of a waterflood project, Eddy
County, New Mexico. Applicant, in the above-
styled cause, seeks approval of a waterflood
project in the Artesia Pool by the injection
of water to be through one well located in the
W/2 NW/4 of Section 21, Township 18 South,
Range 28 East, Eddy County, New Mexico; appli-
cant requests that the waterflood project be
governed by Rule 701.

CASE No. 2582

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We will call Case 2582.

MR. MORRIS: Application of Waterflood Associates, Inc.
for approval of a waterflood project, Eddy County, New Mexico.

MR. LOSEE: A. J. Losee, Losee and Stewart, appearing
for the applicant. One witness, Harold Porter.

MR. PORTER: Let the record show Mr. Porter was sworn in
Case 2580.

(Whereupon Applicant's Exhibits
1 through 6 marked for
identification.)

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-669



HAROLD PORTER.

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

DIRECT EXAMINATION

BY MR. LOSEE:

Q You are Harold Porter of Artesia, New Mexico, and a petroleum geologist, and have previously testified before this Commission?

A Yes, sir.

MR. LOSEE: Are his qualifications acceptable, Mr. Examiner?

MR. NUTTER: Yes, sir.

Q (by Mr. Losee) Please refer to what has been marked as Exhibit 1 and state what that portrays.

A Exhibit 1 is a plat of a portion of the Artesia Field showing the Waterflood Associates Mershon and Walters leases outlined in yellow. These are the West Half Northwest Quarter of Section 21, and the Southeast and Northeast of Section 20. Also shows the offset operators, and I would like to draw attention to the Southwest Quarter of Section 21 which is the Graridge waterflood in that area, or part of the Graridge waterflood.

Q It shows the wells and the leases within two miles of your project area?

A Yes, sir.

Q Please refer to Exhibit 2 and explain what that portrays.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1162

ALBUQUERQUE, N. M.
PHONE 243-6691



A Exhibit 2 is a plat of the same area showing the water injection wells of Graridge Corporation connected by a green line. These wells have been on injection for considerable amount of time and the red lines show, the solid red line shows how we propose to expand this pattern by converting Mershon State No. 3 to water injection, and then the dashed red line shows how possibly later on the same pattern will be expanded from the 10-acre location to the 40-acre location pattern further to the west.

Q Your injection well would then be the Mershon No. 3?

A Yes, sir, that's the well that we are applying for for injection well at this time. As you notice, it falls -- the injection pattern would fall -- this "4" would be in an injection location. By our putting water in No. 3 and Graridge injecting in 13, a fairly equal, logical lease line balance can be maintained between these two leases.

Q Is Graridge receiving any response in their present program?

A Yes, sir. Their waterflood has been very successful.

Q Please refer to Exhibit 3A and explain what that portrays.

A Exhibit 3A is a tabulation of the oil production from the Mershon lease from the time it was drilled in 1950 up to the present time. I do not have the oil production history from our Powell lease which is offsetting this lease to the west. I do not have it with me; however, that lease has produced on the order of 6,000 barrels of primary oil and is now producing only approximately

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6691



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6631

a barrel and a half a day. From this tabulation and with reference to Exhibit 3B, which is merely a graphic presentation of this same data, you can see that these wells declined down. Well 1 and 2 declined down to approximately 28 barrels per month in 1958 and then Well No. 3 was drilled and it declined until November of 1961. It declined down to approximately 100 barrels. The lease declined down to approximately a hundred barrels per month, which is about a barrel per day per well for the lease, and at that point production began to increase. This was caused by waterflood response in the Mershon State No. 1 well, as a result of Graridge's injection.

Q Actually, then, on 3A your figures for the months of December '61 and January through April of '62 reflect the response that your Mershon No. 1 is receiving from the Graridge flood?

A Yes, sir, that's correct. That well has increased up to approximately 30 barrels of oil per day. The other two wells are making approximately one barrel a day each.

Q Did you, yourself, do anything to that well to stimulate the production in it?

A No, sir, we didn't do a thing. The production just began coming up. Now, as these exhibits show, these wells were in an advanced stage of depletion at one time, until they started getting this waterflood response and they would be classed as stripper wells, prior to this response.

Q All right, now, is the same thing true with respect to



your -- I'm kind of lost. You call it the Humble lease, the Powell lease?

A Yes, sir, those are the same one. We bought it from Mr. Powell and it is, as I testified before, also down in the stripper stage, about a barrel and a half per day.

Q Please refer to your Exhibit 4B, well, 4A and 4B-- if you'll explain those.

A Exhibit 4A is a copy, reproduction of an electric log run on Graridge Corporation McNutt No. 16, which is the new well just to the south of our Merston State lease shown on the plat, and Exhibit 4B is an electric log run on our Well No. 3, Merston State No. 3, which is the one we are applying for for conversion; and from these two exhibits it's possible to see where these wells are producing from and the zones that we intend to waterflood. The zone shown at about 2,050 is the first Grayburg. The zones, that's on Exhibit 4A, the zones shown at about 2150 are the second Grayburg, which is the Metex and the zone shown at approximately 2300 is the Premier, and the top of the San Andres on that log is about 2326, and these zones do correlate across very well.

Q Are these same zones present in your Merston State No. 3, the 4B?

A Yes, sir, they are.

Q Those are the zones that will be opened to water injection?

A Yes, sir, they are all open now, as you can see on 4B.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

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I have the perforation marked and also the individual frac treatments that each zone was given.

Q Do you have any other logs on the other wells in your lease, electric logs?

A No, sir, I don't have an electric log on either of the wells immediately offsetting this well. This is the only log I have. I do have some, however, further to the west, but I didn't think that they were significant to this case.

Q You don't have any logs on the wells in this case, though?

A No, sir, none other than these right here.

Q Please refer to Exhibit 5A.

A Exhibit 5A shows the well data and this, the well that we are applying for for an injection well is the Mershon State No. 3. You will notice that it has 8 5/8ths-inch casing set at 520 feet and cemented with 50 sacks. Now, this is set into the salt section. The production string is set at 2368 and cemented with 100 sacks. The perforations are shown to the right. The 5 1/2-inch casing is cemented with sufficient amount of cement to give a top of that cement column at 1,051 feet below the surface, and any shallow water which might be present in this area is sufficiently protected by two strings of casing and two cement jobs to where we feel -- and we request permission to inject water down the casing in this instance, and we feel any shallow water will properly be protected by the casing.

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Q Is there any sufficient amounts of water available in the area?

A No, sir, there's not. Grayburg Corporation did some exploratory work and they couldn't find enough water to justify or to satisfy their requirements and they had to build a pipeline approximately eight miles north into the Red Lake where they are getting their water, and it's being piped down to them, and we have made arrangements with them to purchase pressure water for this particular project from their plant.

Q Your system will be closed?

A Yes, sir, it will be a closed system.

Q Please refer to Exhibit 5B and explain what it portrays.

A Exhibit 5B is a continuation of 5A and shows further information on the various wells, the stimulations and the initial potentials and the producing rates and the zones which are producing and the cumulative primary recovery. We feel that this will be a successful waterflood and that we will recover possibly as high as two times primary from this program.

Q Has Graridge experienced anything close to two times primary down in their --

A Yes, sir, some of their individual wells have gone that high and higher.

Q Please refer to your Exhibit 6, which is a copy of the letter to the State Engineer and tell whether you have discussed this application with the State Engineer's office.

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A Yes, sir, I have discussed it with the State Engineer's Office and Exhibit 6 is a letter dated May 29, 1962, to Mr. Frank Irby setting out the details of this case. Also, I have given a copy of each one of these exhibits to the State Land Office.

A Is the State of New Mexico the beneficiary under these leases?

A Yes, sir, it is a state lease. Now, I'm not sure of which institution is the beneficiary; however, discussing with Mrs. Rhea, I told her that we intended to operate on a lease line agreement and that agreement would be submitted to her for her approval.

Q Do you feel this project will promote the conservation of natural resources and prevent their waste?

A Yes, sir, it certainly will.

Q Were Exhibits 1 through 5B prepared by you or under your direction?

A Yes, sir.

Q Exhibit 6 is a copy of a letter that you mailed the State Engineer?

A Yes, sir.

MR. LOSEE: Applicant moves the introduction of Exhibits 1 through 6.

MR. NUTTER: Applicant's Exhibits 1 through 6 will be admitted in the record.

(Whereupon Applicant's Exhibits 1 through 6 admitted in evidence.)



MR. LOSEE: I have no further questions.

MR. NUTTER: Does anyone have any questions of Mr. Porter? Go ahead, Mr. Irby.

CROSS EXAMINATION

BY MR. IRBY:

Q Mr. Porter, you didn't testify, or at least if you did I missed it, as to where this surface string of casing is landed, what formation it's in.

A Sir, it's set into the salt. It's set at 520 feet. It's set deep into the salt. The salt should be around 200 feet, right here.

Q Thank you.

CROSS EXAMINATION

BY MR. NUTTER:

Q Well, Mr. Porter, in the last three cases, I have noticed that you have testified that any shallow water sands will be protected by two strings of pipe and two sheaths of cement. Now, I don't understand how you arrive at that conclusion. Now here in this case you have got this Mershon No. 3, which is the injection well, it's at 8 5/8ths at 520 feet, cemented with 50 sacks. Now, how high up would 50 sacks come then?

A I don't have the table to calculate that right now; however, I believe 50 sacks behind 8 5/8ths in an 11-inch hole will give about 300 feet of cement.

Q The salt is at 200 feet, didn't you say?

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A Yes, sir.

Q So where would the shallow water be? It would be pretty high.

A If there were any shallow water it would be above that. Now, what I meant was the cement job and the casing would be the protection because the cement job would seal off the bottom of the shoe and the annulus.

Q You haven't meant to imply there would be two strings of pipe and two sheaths of cement opposite any fresh waters up there?

A No, sir, I haven't meant to imply that at all. I meant the shoe of the pipe, the bottom of the pipe would be sealed by the cement.

Q I see.

A And the casing of course would extend up and protect it.

Q Now, the Mershon No. 3 is perforated in three intervals, whereas the offsetting Mershon No. 1 has only two intervals perforated. You anticipate opening up that third interval in that well?

A I don't know whether we will or not. It will depend a whole lot on whether we can get water in that bottom zone or not. I'm not sure. We may want to go in there and do that; however, that will have to be evaluated as we go along.

Q Do you know what Graridge is doing in their well to the southeast, how many zones do they have open in it?

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A They drilled that well down and presently it's a relatively new well to start with and they opened up the premier section.

Q Now are you referring to the No. 16 --

A Yes, sir.

Q -- or their injection well No. 13?

A I'm referring to their No. 16, which the log is Exhibit 4A, and they have perforated in the premier which is the zone in the vicinity of 2300 feet. And they cored that and of course they know where their pay is and they are evaluating that, but they intend to come up and perforate all the porous sections up to including zone 1 of the Grayburg.

Q Do you know if they are flooding this third zone in the 13 well?

A No, sir, they are not. They are not that deep, and one thing they are doing is this No. 16, trying to evaluate as to whether or not it would be economical for them to go in and have a deepening program.

Q There may be a possibility then if No. 16 shows a pay there in the lower zone, that they might deepen No. 13 and inject in there?

A Yes, and in all their wells in that area.

Q In which case you would probably feel you would have to deepen your No. 1 to the third zone also?

A Yes, sir, that's right, depending upon their economic



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evaluation of this Well No. 16. Now, as you go to the east, or pardon me, to the west, all these zones start being productive. As you go to the east, most of the wells quit up in the first Grayburg. It was so good that they didn't feel like it was necessary to keep digging. It's possible that they will go in and have a deepening program. However, as you move west and flood further west, we need to flood all the zones because they are open and they are productive.

Q I see. Now, on these production charts that you were showing, you were showing the production on this Mershon lease of only the No. 1 and 3 well. What's No. 2 up there in the north of that lease making?

A It's making about one barrel per day.

Q And then the Powell Humble well to the west you said was making about a barrel and a half a day?

A Yes, sir.

Q You going to use fresh water here?

A This water is not fresh. It has about 70,000 parts per million of chlorides.

Q What water will you be using?

A It's the water that Graridge is using.

Q Is it the recirculated water?

A Part of the water is recirculated; however, part of it is made up from water they piped from the Red Lake water wells, which is about eight miles north of here, and depending upon the



corrosiveness of this water, we may elect to set tubing and packer and inject underneath the packer. However, we would like to be able to determine that ourselves, based upon actual performance and the economics of the situation.

Q Is Graridge going down the casing in their wells in this area?

A In most instances they are going down tubing under packer and I feel like we probably will too.

Q Because of the corrosive nature of the water?

A Yes, sir.

Q Some of these wells in this area are pretty old, aren't they?

A Yes, sir, some of them are, down where Graridge's main part of their flood was in Section 28. They were some of the first wells drilled in New Mexico.

Q So that may not be in the best of condition?

A No, it may not; however, our wells are relatively new. This No. 3 being drilled shown on Exhibit 5A was drilled in 1958 and it's in real good shape.

Q And the No. 1 was drilled in 1950, I guess, wasn't it?

A Yes, sir.

MR. NUTTER: Any further questions of Mr. Porter?

You may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Losee?

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MR. LOSEE: No, sir.

MR. NUTTER: Do you have anything, Mr. Irby?

MR. IRBY: No.

MR. NUTTER: Does anyone have anything they wish to offer in Case No. 2582?

We will take the case under advisement and the Hearing is adjourned.

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STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss.

I, MARIANNA MEIER, NOTARY PUBLIC in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached transcript of proceedings was reported by me in stenotype and that the same was reduced to typewritten transcript under my personal supervision and contains a true and correct record of said proceedings, to the best of my knowledge, skill and ability.

Marianne Meier
NOTARY PUBLIC

My Commission Expires:

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2582, heard by me on June 7, 1962.

Arthur, Examiner
New Mexico Oil Conservation Commission

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