

Case Number
4681

Application

Transcripts

Small Exhibits

ETC.

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 15, 1972

EXAMINER HEARING

IN THE MATTER OF:)

Application of Anadarko)
Production Company for a)
waterflood expansion and)
for directional drilling,)
Lea County, New Mexico)

No. 4681

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

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1 MR. NUTTER: Case No. 4681.

2 MR. HATCH: Application of Anadarko
3 Production Company for a waterflood expansion
4 and for directional drilling, Lea County, New
5 Mexico.

6 MR. KELLAHIN: If the Examiner please,
7 Jason Kellahin, of Kellahin and Fox, appearing
8 for the Applicant. We have one witness I would
9 like to have sworn.

10 (Whereupon, the witness was sworn.)

11 (Whereupon, Exhibits 1, 2 and 3 were
12 marked for identification.)

13 C. W. STUMHOFFER

14 A Witness, having been first duly sworn on oath,
15 was examined and testified as follows:

16 DIRECT EXAMINATION

17 BY MR. KELLAHIN:

18 Q Would you state your name, please?

19 A My name is C. W. Stumhoffer, S-t-u-m-h-o-f-f-e-r.

20 Q Mr. Stumhoffer, have you testified before the Oil
21 Conservation Commission and made your qualifications a
22 matter of record?

23 A Yes, I have.

24 MR. KELLAHIN: Are the witness's
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1 qualifications acceptable?

2 MR. NUTTER: Yes, they are.

3 Q What is proposed by the Applicant in Case No. 4681?

4 A Anadarko Production Company, in Case No. 4681,
5 requests Commission approval for the expansion of waterflood
6 development of the Langlie-Mattix Penrose Sand in Lea County,
7 New Mexico, as an amendment of the Order No. R-4224.

8 MR. KELLAHIN: If the Commission please,
9 Order No. R-4225 was entered in Case No. 4627
10 and the only difference, actually, in the two
11 cases is the bottom hole locations of the wells
12 involved. So in the interest of saving some
13 repetition of the testimony, I would like to ask
14 the Commission to take note of the record and
15 exhibits that were offered in Case No. 4627.

16 MR. NUTTER: We will take notice of that
17 case file.

18 Q Now, referring to what has been marked as Applicant's
19 Exhibit No. 1, would you identify that exhibit?

20 A Exhibit No. 1 is a tabulation of the proposed
21 water injection wells that are proposed to be drilled at
22 nonstandard locations, both surface and bottom hole, and
23 a map is attached thereto to show a location of the wells
24 geographically.
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1 Q Is the map attached to Exhibit No. 1 essentially
2 the same map that was offered in the previous case?

3 A Yes, it is.

4 Q The surface locations are the same, is that
5 correct?

6 A The surface locations are not the same.

7 Q They are not the same?

8 A No, sir.

9 Q Would you tell us what the differences are?

10 A In Order No. R-4225, we obtained approval from the
11 Commission to drill wells number 1 - 2, 2 - 2, 8 - 5 and
12 40 - 1 at nonstandard locations. These locations were 1 - 2,
13 1310 feet from the south line, 1310 feet from the west line
14 of Section 14, Township 22 South, Range 37 East.

15 Q Are you moving that well now to 1220 from the
16 south and west lines?

17 A We are changing that location to 1220 feet from
18 the south line and 1220 feet from the west line of Section
19 14 and we propose to bottom this hole in 50 x 100 foot
20 rectangular area commencing at a point on the northeast
21 corner of the southwest quarter of the southwest quarter
22 of Section 14, proceeding west 50 feet, south 100 feet,
23 east 50 feet and then north 100 feet to the point of beginning.

24 MR. NUTTER: Mr. Stumhoffer, as you get
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1 to each of these, I think rather than describe
2 that location, if it is the same as shown here on
3 Exhibit 1, rather than give a lengthy
4 description, just say it is the same.

5 THE WITNESS: Fine.

6 A Well No. 2 - 2 was approved originally at a
7 surface location of 990 feet from the north line and 1310
8 feet from the west line of Section 23, same township and
9 range. In the future, I will leave township and range off
10 because it is all the same.

11 The new surface location will be 980
12 feet from the north line and 1250 feet from the west line
13 of Section 23 and it will be completed as shown on Exhibit 1.

14 Q I think you can say it's the same as to the surface
15 locations.

16 A 8 - 5 was approved 10 feet from the north line
17 and 10 feet from the west line, the new surface location
18 is shown in Exhibit 1.

19 Well No. 40-1 was approved to be
20 drilled at a location 1650 feet from the south line 1310 feet
21 from the west line of Section 23. The new location is shown
22 on Exhibit 1.

23 In addition to those four wells, we
24 propose to now drill three additional injection wells at
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1 nonstandard locations. These are Well No. 6 - 2, to be located
2 as shown on Exhibit 1; Well No. 583 and Well No. 7 - 4,
3 as shown on Exhibit 1, also.

4 Q On each of these, the bottom hole location will
5 not coincide with the surface location, is that correct?

6 A That's correct.

7 Q Do you propose to deviate the wells to reach the
8 locations you are proposing here?

9 A That is correct.

10 Q Would you run surveys on the wells, or how do you
11 propose to determine where those wells are bottomed?

12 A Eastman Surveys will run surveys, we will conduct
13 a survey at approximately -- the initial survey on each
14 well at approximately 2200 feet, and if it's not going to
15 where went to bottom it up, we will then deviate to correct
16 for any we need to insure that we bottom up with the locations
17 we have indicated on Exhibit 1.

18 Q What has been your experience on the deviation
19 of the well bore without any conscious effort to deviate
20 the well in this area?

21 A The last well we drilled on the Langlie-Mattix,
22 we ran a deviation survey on it and we found that the tendencies
23 for the wells without any controls will drift to the north
24 and east and we have located our surface locations
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1 accordingly and hope that the natural drift will take care
2 of it.

3 Q But you will determine that at each stage of the
4 drilling at what did you say, 2200 feet?

5 A Yes. We do have one that we will have to
6 intentionally deviate and that's Well No. 8-5. We cannot
7 rig up on a surface location to the southwest of the proposed
8 bottom hole location, and we will have to control drill
9 that well all the way.

10 Q Now, will all these wells be bottomed upon the
11 Langlie-Mattix Penrose Sand units?

12 A Yes, sir. This is the purpose of the deviating
13 the holes, so we can check where the bottom hole location is,
14 to assure that we are on the unit area.

15 Q Are all of these going to be used for injection
16 wells?

17 A Yes, correct.

18 Q As part of your recovery program?

19 A Yes, sir.

20 Q That, of course, has already been approved by
21 the Commission, your water injection program?

22 A Yes, sir.

23 Q Is there any change in the source of your water
24 you are injecting into these wells?
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1 A No, it will be the same water supply we have been
2 using all the time.

3 Q About the same volume you will be injecting?

4 A Yes.

5 Q Referring now to what has been marked as Exhibit
6 No. 2, would you identify that exhibit?

7 A Exhibit No. 2 is the log of a typical water
8 injection well completion on the unit. It's a log of --
9 it's a Dresser-Atlas log of Well No. 25-3, located in
10 Section 28, 22 South, 37 East, and on this log we have
11 indicated the top and bottom of the zone that is being
12 water produced in the Penrose Sand.

13 Q Exhibit 3, will you identify that, please?

14 A Exhibit No. 3 is a schematic diagram of a typical
15 water injection completion on the Langlie-Mattix Unit.

16 MR. NUTTER: This that you have
17 identified as Exhibit 2 -- what was Exhibit 2?

18 THE WITNESS: Exhibit 2 was the log.
19 This is a typical completion of a new water
20 injection well, and the seven wells that we are
21 requesting approval for of this same type. We
22 propose to drill to a T D of approximately 3700
23 feet, run logs, run 4 1/2 inch casing to be
24 cemented with approximately -- I think about two
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1 hundred fifty sacks, enough to bring cement up
2 to around 2,000 feet. And then we will perforate
3 the pay zone, the Penrose Sand, and set --run
4 plastic coated tubing, set on a packer immediately
5 above the top of the Penrose Sand perforation, and
6 inject down the tubing.

7 The annulus between the casing and
8 tubing will be open and we will have a valve
9 on the outlet at the surface and a pressure
10 gauge. It will normally be open so we can
11 detect any leakage.

12 Q (By Mr. Kellahin) Is this the same type of
13 completion you have used in your other injection wells?

14 A Yes.

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

17 A Yes, sir.

18 MR. KELLAHIN: At this time, I would
19 like to offer into Evidence Exhibits 1, 2 and 3.

20 MR. NUTTER: Anadarko's Exhibits 1, 2 and
21 3 will be admitted.

22 (Whereupon, Applicant's Exhibits 1, 2
23 and 3 were offered and admitted in evidence.)
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CROSS EXAMINATION

BY MR. NUTTER:

Q Is that annulus loaded with inhibited fluid?

A We have not been using an inhibited fluid. It's normally the water we use on the Unit.

Q Now, the case of directional drilling or crooked hole drilling, Mr. Strumhoffer, it's normally the Commission's policy to require multi-shot directional surveys be run, continuous multi-shot surveys, to shoot points not more than 100 feet apart to determine the bottom hole location. Is this satisfactory with Anadarko?

A Yes, sir.

Q This casing and cementing program that you show here on Exhibit 3, would apply to the wells that were approved by the previous Orders, as well as to these new ones?

A Yes, sir, it will be a standard procedure used on all seven wells, as shown on the typical diagram.

MR. NUTTER: Are there further questions of Mr. Strumhoffer? You may be excused.

(Whereupon, the witness was excused.)

MR. NUTTER: Do you have anything further Mr. Kellahin?

MR. KELLAHIN: No, Mr. Examiner.

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MR. NUTTER: Does anyone have anything
to offer in Case No. 4681? We will take the
case under advisement, and the hearing is
adjourned.

STATE OF NEW MEXICO)
) ss
COUNTY OF SANTA FE)

I, BETTY J. LANPHERE, Notary Public in and for the
County of Santa Fe, 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.

Betty J. Lanphere
Notary Public

My Commission Expires
March 22, 1975

I do hereby certify that the foregoing is
a true and correct record of the proceedings in
Case No. 4681
3/15/75
New Mexico Oil Conservation Commission



OIL CONSERVATION COMMISSION

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

GOVERNOR
BRUCE KING
CHAIRMAN
LAND COMMISSIONER
ALEX J. ARMijo
MEMBER

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

March 21, 1972

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

Re: Case No. 4681

Order No. R-4284

Applicant:

Anadarko Production Company

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director *es*

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC

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. 4681
Order No. R-4284

APPLICATION OF ANADARKO PRODUCTION COMPANY
FOR A WATERFLOOD EXPANSION AND FOR DIREC-
TIONAL DRILLING, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 15, 1972, at Santa Fe, New Mexico, before Examiner Daniel S. Sutter.

NOW, on this 21st day of March, 1972, 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 by Order No. R-4225, dated November 19, 1971, the applicant, Anadarko Production Company, was authorized to expand its Langlie-Mattix Penrose Sand Unit Waterflood Project by the injection of water through four additional wells at unorthodox locations in Township 22 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

(3) That the applicant now seeks authority to change the surface location of said four wells, to drill additional injection wells at unorthodox surface locations, and to directionally drill each of the seven wells.

(4) That the surface locations of the seven proposed wells, all in Township 22 South, Range 37 East, NMPM, Lea County,

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CASE No. 4681

Order No. R-4284

New Mexico, would be:

Well No. 1-2, 1220 feet from the South line and 1220 feet from the West line of Section 14;

Well No. 8-5, 290 feet from the North line and 290 feet from the West line of Section 21;

Well No. 7-4, 55 feet from the North line and 2630 feet from the East line of Section 21;

Well No. 6-2, 55 feet from the North line and 90 feet from the East line of Section 21;

Well No. 5A-3, 55 feet from the North line and 2550 feet from the West line of Section 22;

Well No. 2-2, 980 feet from the North line and 1250 feet from the West line of Section 23;

Well No. 40-1, 1610 feet from the South line and 1220 feet from the West line of Section 23; and

each of the above wells would be directionally drilled and would be bottomed within a 50 x 100 foot rectangle in the extreme: NE corner of Unit M, Section 14; NW corner of Unit D, NW corner of Unit B, and NE corner of Unit A, Section 21; NE corner of Unit C, Section 22; East side of Unit D, and East side of Unit L, Section 23, respectively.

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

(6) That the proposed expansion of the Langlie-Mattix Penrose Sand Unit Waterflood Project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(7) That the subject application should be approved and the expanded project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations; provided, however, that the showing of well response as required by Rule 701 E-5 should not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

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CASE No. 4681

Order No. R-4284

(8) That Order No. R-4225 should be superseded.

IT IS THEREFORE ORDERED:

(1) That the applicant, Anadarko Production Company, is hereby authorized to expand its Langlie-Mattix Penrose Sand Unit Waterflood Project, Langlie-Mattix Pool, Lea County, New Mexico, by the injection of water into the Penrose Sand of the Queen formation through the following-described wells at unorthodox surface locations to be directionally drilled to bottom the wells as follows:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
LEA COUNTY, NEW MEXICO

WELL NO.	SURFACE LOCATION	BOTTOM HOLE LOCATION
1-2	1220 feet from the South line and 1220 feet from the West line of Section 14.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NE/corner of the SW/4 SW/4 of Section 14 proceed West 50', thence South 100', thence East 50', thence North 100' to point of beginning.
8-5	290 feet from the North line and 290 feet from the West line of Section 21.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NW/corner of Section 21 proceed East 50', thence South 100', thence West 50', thence North 100' to point of beginning.
7-4	55 feet from the North line and 2630 feet from the East line of Section 21.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NW/corner of the NE/4 of Section 21 proceed East 100', thence South 50', thence West 100', thence North 50' to point of beginning.

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CASE No. 4681
Order No. R-4284

(1) - Continued from Page 3 -

WELL NO.	SURFACE LOCATION	BOTTOM HOLE LOCATION
6-2	55 feet from the North line and 90 feet from the East line of Section 21.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NE/corner of Section 21 proceed West 100', thence South 50', thence East 100', thence North 50' to point of beginning.
5A-3	55 feet from the North line and 3550 feet from the West line of Section 22.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NE/corner of the NW/4 of Section 22 proceed West 100', thence South 50', thence East 100', thence North 50' to point of beginning.
2-2	980 feet from the North line and 1250 feet from the West line of Section 23.	Within 50' x 100' rectangular area described as follows: commencing at a point 900' from North line and 1320' from West line of Section 23 proceed West 50', thence South 100', thence East 50', thence North 100' to point of beginning.
40-1	1610 feet from the South line and 1220 feet from the West line of Section 23.	Within 50' x 100' rectangular area described as follows: commencing at a point 1600' from South line and 1320' from West line of Section 23 proceed West 50', thence North 100', thence East 50', thence South 100' to point of beginning.

(2) That a continuous multi-shot directional survey shall be made of each of the well bores from total depth to the surface

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CASE No. 4681

Order No. R-4284

with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward copies of the survey reports directly to the Santa Fe office of the Commission, Box 2088, Santa Fe, New Mexico, and that the operator shall notify the Commission's Hobbs District Office of the date and time surveys are to be commenced.

(3) That Form C-105 shall be filed in accordance with Commission Rule 1108 and the operator shall indicate thereon true vertical depths in addition to measured depths.

(4) That the expanded waterflood project shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve such additional injection wells within said project area as may be necessary to complete an efficient injection pattern; that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

(5) That monthly progress reports of the expanded waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(6) That Order No. R-4225, dated November 19, 1971, is hereby superseded.

(7) 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


BRUCE KING, Chairman

ALEX J. ARMIJO, Member

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

esr/

(Case 4677 continued)

water disposal well, located in Unit S of Section 2, Township 21 South, Range 33 East, Lynch Pool, Lea County, New Mexico, should not be equipped and operated as required by Commission Order No. R-3797.

CASE 4678: Application of HNG Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Elliott Federal "31" Well No. 1 located in Unit A of Section 31, Township 24 South, Range 38 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Dollarhide Fusselman and Dollarhide Ellenburger Pools through parallel strings of tubing.

CASE 4679: Application of Burk Royalty Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates-Seven Rivers formations in the perforated interval from 3705 feet to 3714 feet in its Neal Well No. 3 located in the NW/4 NE/4 NE/4 of Section 35, Township 20 South, Range 34 East, Lynch Yates-Seven Rivers Pool, Lea County, New Mexico.

CASE 4681: Application of Anadarko Production Company for a waterflood expansion and for directional drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the expansion of its Langlie-Mattix Penrose Sand Waterflood Project, Langlie-Mattix Pool, Lea County, New Mexico, by the injection of water into the Penrose Sand through seven directionally drilled wells which would be drilled in lieu of and/or in addition to those wells authorized by Commission Order No. R-4225. Surface locations of the seven proposed wells, all in Township 22 South, Range 37 East, would be: Well No. 1-2, 1220 feet from the South and West lines of Section 14; Well No. 8-5, 290 feet from the North and West lines of Section 21; Well No. 7-4, 55 feet from the North line and 2630 feet from the East line of Section 21; Well No. 6-2, 55 feet from the North line and 90 feet from the East line of Section 21; Well No. 5 A-3, 55 feet from the North line and 2550 feet from the West line of Section 22; Well No. 2-2, 980 feet from the North line and 1250 feet from the West line of Section 23; and Well No. 40-1, 1610 feet from the South line and 1220 feet from the West line of Section 23. Each of the above wells would be

directionally drilled and would be bottomed within a 50 X 100 foot rectangle in the extreme: NE corner of Unit M, Section 14; NW corner of Unit D, NW corner of Unit B, and NE corner of Unit A, Section 21; NE corner of Unit C, Section 22; East side of Unit D, and East side of Unit L, Section 23, respectively.

ANADARKO PRODUCTION COMPANY
LANGLIE-MATTIX PENROSE SAND UNIT
LANGLIE-MATTIX OIL POOL CASE NO.
LEA COUNTY, NEW MEXICO

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION

EXHIBIT NO. 1

4681

Submitted by *Strom*

Hearing Date *Mar. 15, 1972*

Non-Standard Water Injection Wells
Proposed Surface and Bottom Hole Locations

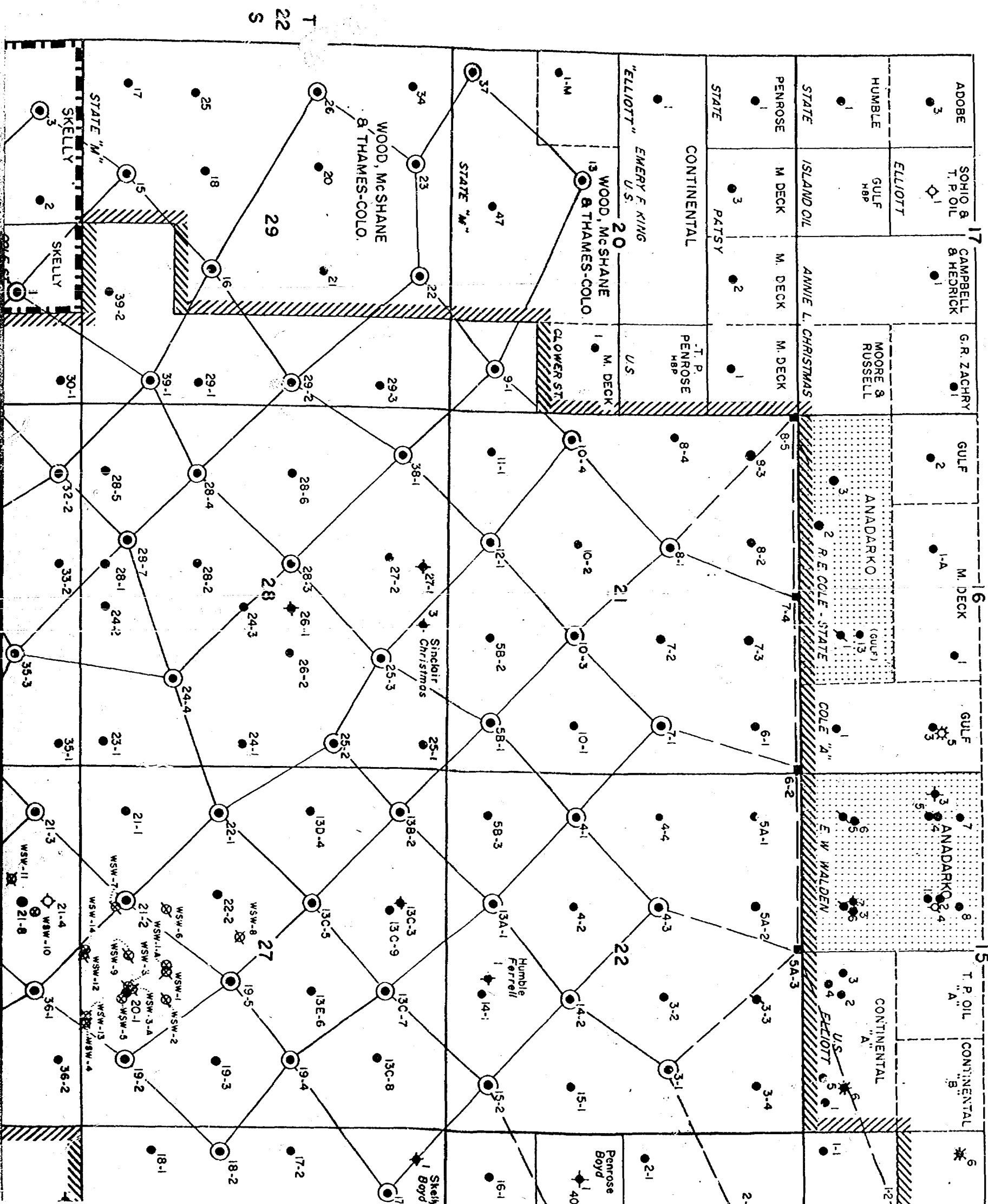
Well No.	Surface Location	Bottom Hole Location
Well No. 1-2 ✓	1220' from South Line and 1220' from West Line of Section 14-T22S-R37E.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NE/corner of the SW/4 SW/4 of Section 14 proceed West 50', thence South 100', thence East 50', thence North 100' to point of beginning.
Well No. 2-2 ✓	980' from North Line and 1250' from West Line of Section 23-T22S-R37E.	Within 50' x 100' rectangular area described as follows: commencing at a point 900' from North Line and 1320' from West Line of Section 23 proceed West 50', thence South 100', thence East 50', thence North 100' to point of beginning.
<i>new well not in R-4225</i> Well No. 6-2	55' from North Line and 90' from East Line of Section 21-T22S-R37E.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NE/corner of Section 21 proceed West 100', thence South 50', thence East 100', thence North 50' to point of beginning.
<i>new well not in R-4225</i> Well No. 5A-3	55' from North Line and 2550' from West Line of Section 22-T22S-R37E.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NE/corner of the NW/4 Section 22 proceed West 100', thence South 50', thence East 100', thence North 50' to point of beginning.
Well No. 7-4	55' from North Line and 2630' from East Line of Section 21-T22S-R37E.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NW/corner of the NE/4 Section 21 proceed East 100', thence South 50', thence West 100', thence North 50' to point of beginning.
Well No. 8-5 ✓	290' from North Line and 290' from West Line of Section 21-T22S-R37E.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NW/corner of Section 21 proceed East 50', thence South 100', thence West 50', thence North 100' to point of beginning.

*✓ = wells approved by R 4225 @ different
surface location.*

Well No.	Surface Location	Bottom Hole Location
Well No. 40-1 ✓	1610' from South Line and 1220' from West Line of Section 23-T22S-R37E.	Within 50' x 100' rectangular area described as follows: commencing at a point 1600' from South Line and 1320' from West Line of Section 23 proceed West 50', thence North 100', thence East 50', thence South 100' to point of beginning.

NOTE: Well Numbers reflect the Tract bottom hole location of each well.

R 37 E



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SAMEDAN, et al

J. O. PARKS

ARCO TEXAS PACIFIC

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GULF SAMEDAN (UNION TEXAS) GULF (UNION TEXAS)

OLLIE BOYD "LEE"

SKELLY McGraw SKELLY

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"BAKER"
OLLIE BOYD

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ANADARKO HEDRICK & CAMPBELL

M.W. COLL. R. LOWE "LEE"

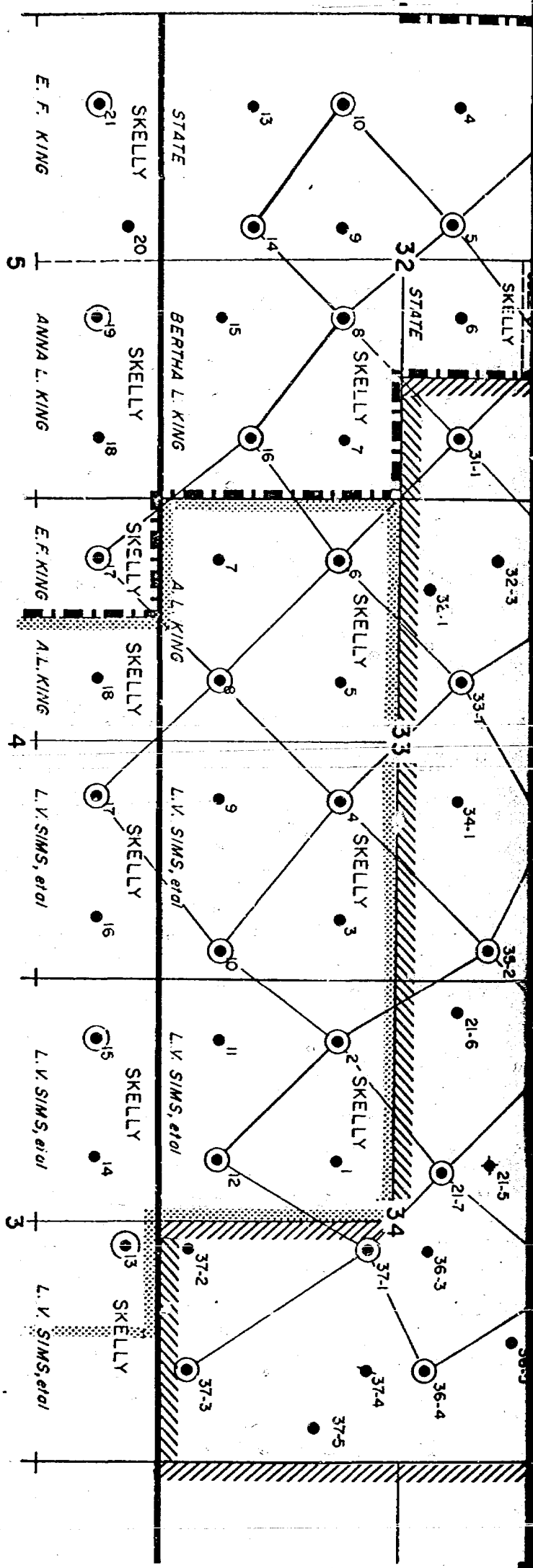
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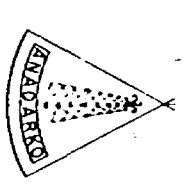
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LEGEND

- - Proposed Bottom Hole Location
- Water Injection Wells
- - Oil Well
- ◆ - Plugged & Abandoned
- ✱ - Temporarily Abandoned
- ◇ - Dry & Abandoned
- ⊗ - Gas Well
- ✱ - Dual Completion (Oil & Gas)
- ⊙ - Water Injection Well
- ⊙ - Proposed Water Injection Well
- ⊙ - Water Supply Well
- ⊗ - WSW - Plugged & Abandoned
- /// - Langlie Mattix Penrose Sand Unit
- ▨ - Skelly Penrose "A" Unit
- ▨ - Skelly Penrose "B" Unit
- - Proposed Location



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AND UNIT

TY, NEW MEXICO

EXHIBIT

OX WATER INJECTION
L LOCATIONS

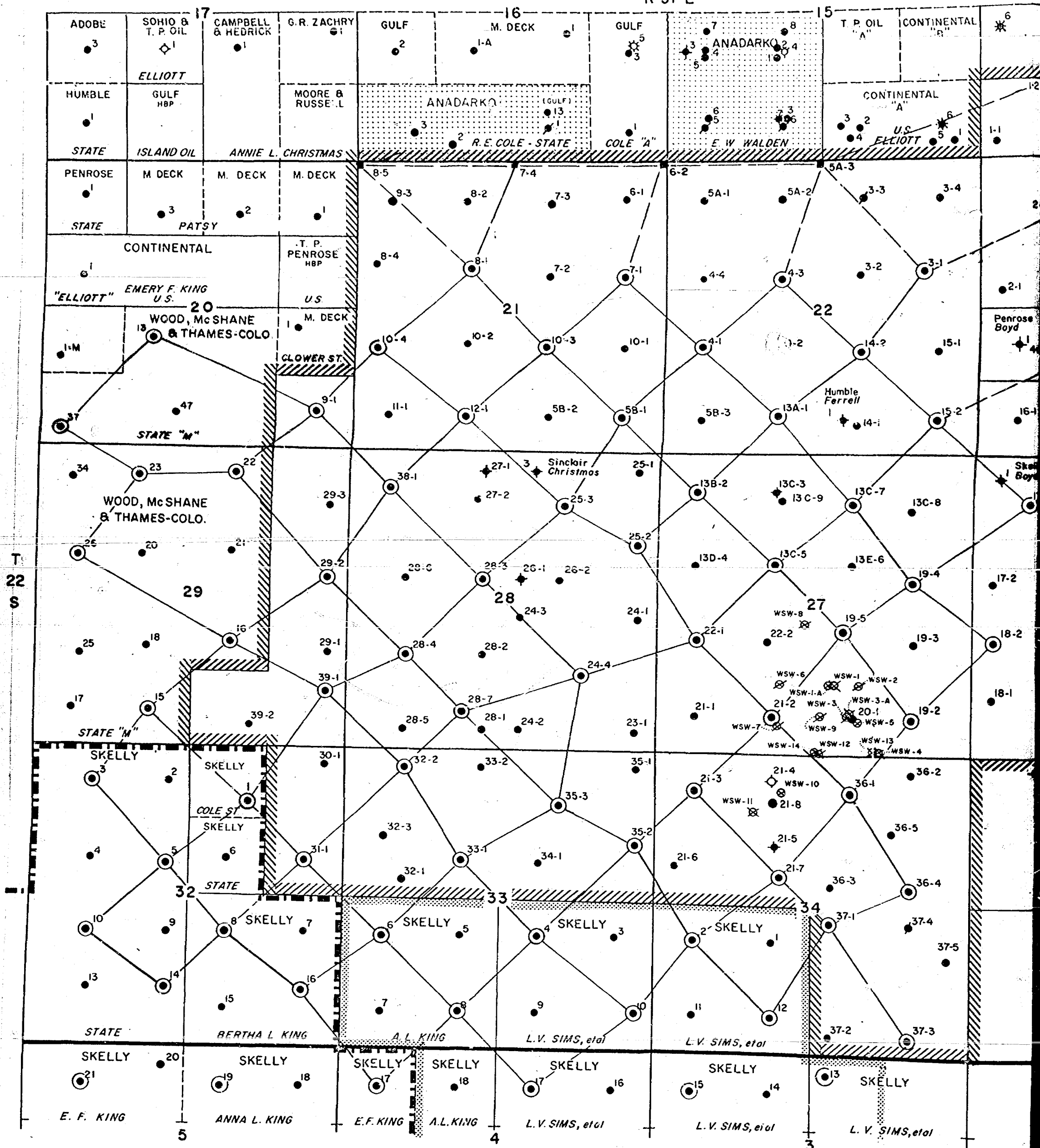
3000

4500

6000

SCALE FEET

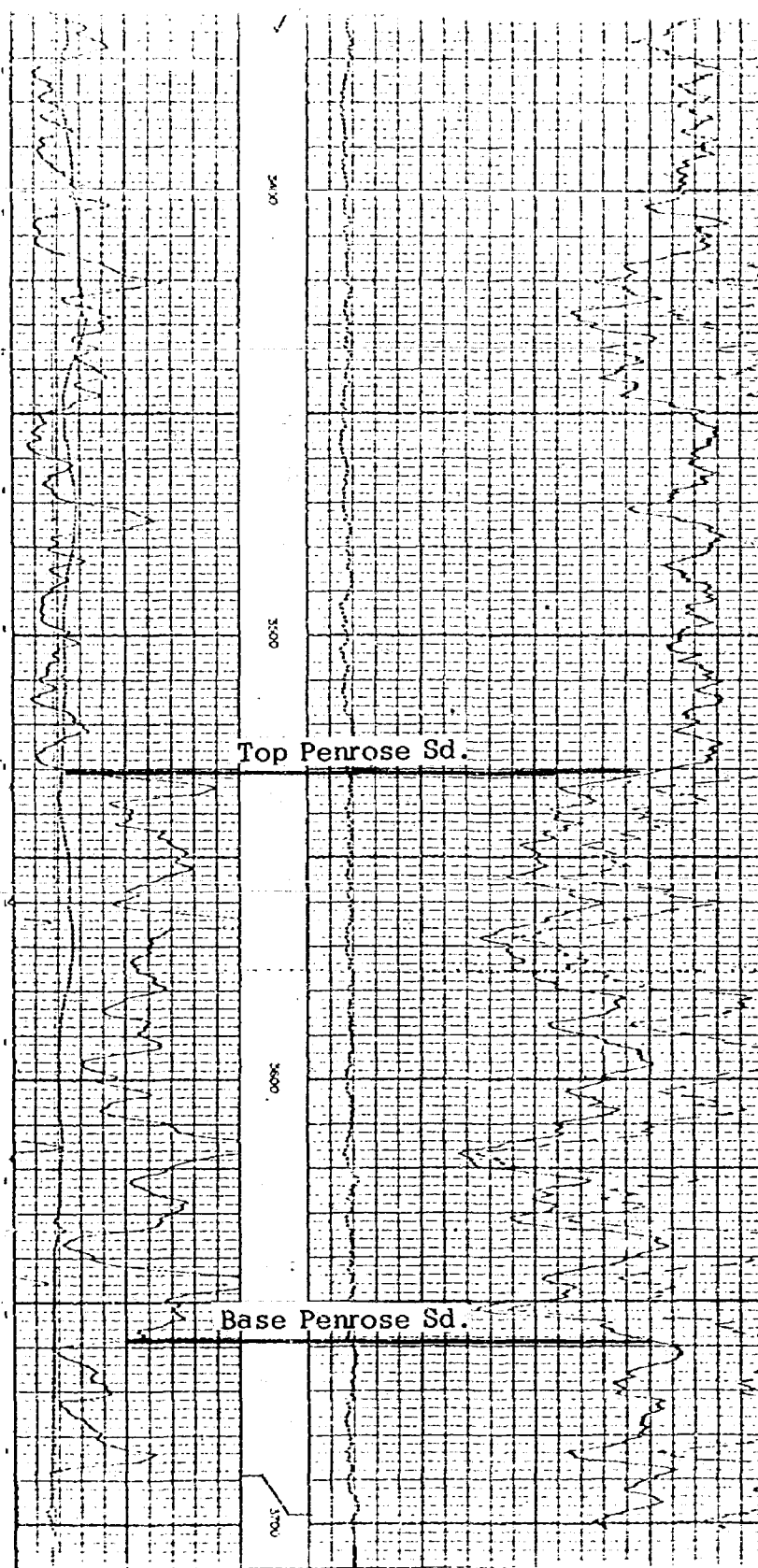
R 37 E



Anadarko Production Company
Unit Operator
Langlie-Mattix Penrose Sand Unit
Lea County, New Mexico

EXHIBIT

OCC March 15, 1972 Examiner Hearing
Unorthodox Water Injection Well Locations



Proposed Injection Rate:
500 BPD @ 2100 PSI
Injection Water Source:
Nonpotable water purchased from
Skelly Oil Company's Jal Water
System.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION

Anadarko EXHIBIT NO. 23

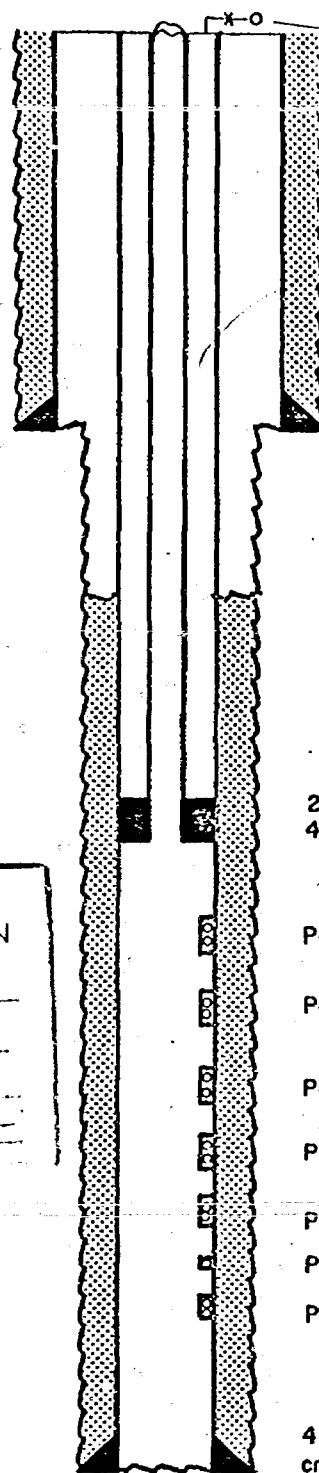
CASE NO. 4681

Submitted by _____

Hearing Date March 15, 1972

L.M.P.S.U. 25-3
1650 FEL & 990 FNL
Sec. 28, T-22-S, R-37-E
Lea Co., New Mexico

TYPICAL WATER INJECTION
WELL COMPLETION



Valve and Pressure gauge
on annular space between
Tbg. and Csg.

*0 inches at
3000'*

8 5/8" Casing @ 390'
cmt. circ. w/250 sks.

2 3/8" Tubing @ 3494'
4 1/2" Packer @ 3496'

Perfs. 3546' - 3556'

Perfs. 3567' - 3576'

Perfs. 3586' - 3590'

Perfs. 3614' - 3620'

Perfs. 3630' - 3634'

Perfs. 3642' - 3644'

Perfs. 3650' - 3654'

PENROSE SAND

4 1/2" Casing @ 3700'
cmt. w/400 sks. *250 sks. (enough
to bring well to 2200')*



ANADARKO
PRODUCTION COMPANY

Unit Operator
Langlie-Mattix Penrose Sand Unit
Lea County, New Mexico

EXHIBIT

OCC March 15, 1972
Examiner Hearing
Unorthodox Water Injection
Well Locations

See phone book

JASON W. KELLAHIN
ROBERT E. FOX

KELLAHIN AND FOX
ATTORNEYS AT LAW
54 1/2 EAST SAN FRANCISCO STREET
POST OFFICE BOX 1769
SANTA FE, NEW MEXICO 87501

TELEPHONE 982-4315
AREA CODE 505

February 25, 1972

RECEIVED

FEB 28 1972

OIL CONSERVATION COMM.
SANTA FE

Case 4681

JW

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

Re: Application of Anadarko Production Company

Gentlemen:

Enclosed in original and two copies is subject application.

We understand the case will be advertised for hearing on March 15, 1972.

Yours very truly,

Jason W. Kellahin
Jason W. Kellahin

JWK:abs

Enclosures (3)

DOCKET MAILED

Date 3/3/72

RECEIVED

FEB 28 1972

COMMISSIONER OF LANDS

BEFORE THE

OIL CONSERVATION COMMISSION OF NEW MEXICO

gms

IN THE MATTER OF THE APPLICATION
OF ANADARKO PRODUCTION COMPANY
FOR APPROVAL OF EXPANSION OF A
WATERFLOOD PROJECT, WITH INJECTION
WELLS TO BE DRILLED AT UNORTHODOX
LOCATIONS, WITH PERMISSION TO DIREC-
TIONALLY DRILL, AND AMENDMENT OF
ORDER R-4225

Case 4681

7

A P P L I C A T I O N

Comes now Anadarko Production Company and applies to the Oil Conservation Commission of New Mexico for approval of the expansion of the Langlie-Mattix Penrose Sand Unit waterflood project by the drilling of seven water injection wells at unorthodox well locations, with the further permission to directionally drill said wells, and for amendment of Commission Order R-4225, and in support thereof would show the Commission:

1. Applicant proposes to drill the following wells at the surface locations hereinafter shown, said wells to be completed at a bottom-hole location as hereinafter stated, all within the Langlie-Mattix Penrose Sand Unit, to be utilized as water injection wells in the Langlie-Mattix Penrose Sand Unit waterflood project:

✓ Well No. 1-2, to be located 1220 feet from the South line and 1220 feet from the West line of Section 14, Township 22 South, Range 37 East, N.M.P.M. Well to be bottomed within a rectangular area 50 feet by 100 feet, described as follows: Commencing at the northeast corner of the SW1/4 SW1/4 of Section 14, thence West 50 feet; South 100 feet; East 50 feet; North 100 feet to point of beginning.

Well No. 2-2, to be located 980 feet from the North line and 1250 feet from the West line of Section 23, Township 22 South, Range 37 East, N.M.P.M. Well to be bottomed within a rectangular area 50 feet by 100

feet, described as follows: Commencing at a point 900 feet from the North line and 1320 feet from the West line of Section 23, thence West 50 feet; South 100 feet; East 50 feet; North 100 feet to point of beginning.

Well No. 5-2, to be located 55 feet from the North line and 90 feet from the East line of Section 21 Township 22 South, Range 37 East, N.M.P.M. Well to be bottomed within a rectangular area 50 feet by 100 feet, described as follows: Commencing at the Northeast corner of Section 21, thence West 100 feet; South 50 feet; East 100 feet; North 50 feet to point of beginning.

Well No. 5A-3, to be located 55 feet from the North line and 2550 feet from the West line of Section 22, Township 22 South, Range 37 East, N.M.P.M. Well to be bottomed within a rectangular area 50 feet by 100 feet, described as follows: Commencing at the Northeast corner of the NW1/4 of Section 22, thence West 100 feet; South 50 feet; East 100 feet; North 50 feet to point of beginning.

Well No. 7-4, to be located 55 feet from the North line and 2630 feet from the East line of Section 21, Township 22 South, Range 37 East, N.M.P.M. Well to be bottomed within a rectangular area 50 feet by 100 feet, described as follows: Commencing at the Northwest corner of the NE1/4 of Section 21, thence East 100 feet; South 50 feet; West 100 feet; North 50 feet to the point of beginning.

Well No. 8-5, to be located 90 feet from the North line and 290 feet from the West line of Section 21, Township 22 South, Range 37 East, N.M.P.M. Well to be bottomed within a rectangular area 50 feet by 100 feet, described as follows: Commencing at the Northwest corner of Section 21, thence East 50 feet; South 100 feet; West 50 feet; North 100 feet to the point of beginning.

Well No. 40-1, to be located 1610 feet from the South line and 1220 feet from the West line of Section 23, Township 22 South, Range 37 East, N.M.P.M. Well to be bottomed within a rectangular area 50 by 100 feet, described as follows: Commencing at a point located 1600 feet from the South line and 1320 feet from the West line of Section 23, thence West 50 feet; North 100 feet; East 50 feet; South 100 feet, to the point of beginning.

2. Unorthodox well locations were heretofore approved by this Commission for the following wells: Well No. 1-2, Well No. 2-2, Well No. 8-5, and Well No. 40-1. These locations differ from the locations applied for in this application, and to that extent, the provisions of Commission

Order No. R-4225 should be amended. Said order also made provision for approval of further unorthodox well locations, and the conversion of wells from production to injection, by an administrative procedure. These provisions should be retained, and Order No. R-4225 should not be rescinded by the Commission.

3. Approval of this application is in the interests of conservation and the prevention of waste, and the correlative rights of other operators will not be impaired.

WHEREFORE applicant prays that this application be set for hearing before the Commission or the Commission's duly appointed examiner, and that after notice and hearing as required by law, the Commission enter its order granting approval of the unorthodox well locations and directional drilling, as applied for.

Respectfully submitted,

ANADARKO PRODUCTION COMPANY

By Jason W. Kellahin
Kellahin & Fox
P. O. Box 1769
Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT

amend R 4225
1-2, 2-2, 8-5, 40-1

Case 4681

1-2
~~2~~

1220' FS 1220 FW Sec 14. 225. 372 -
within 50' x 100' rectangular area ✓
Commencing at a point on the NE Corner
of the SW 1/4 Sec 14. W. 50' S 100'
E 50' N 100' to part of fencing.

2-2
~~2~~

980 FN 1250 FW 23-225. 372
50' x 100'
900 F from NW 1/4 1320 FW
23 -
W 50 - S 100 E 50 N 100

6-2

6-2

55 FN 90 FE. 21-22 -37
Commencing ^{at a point} on NE corner of Sec 21.
W 100 - S 50 E 100 - N 50.

5A-3

5A-3

55 FN. 2550 WL - Sec 22 -
Commencing NE corner of NW 1/4 Sec 22
thence. W 100 S 50 E 100 N 50

7-4

7-4

55 FN 2630 FE. 21-225. 372
NW corner NE 1/4 Sec 21.
E 100 S 50 W 100 N 50

8-5

5

290 FN 290 FW. 21-225-378
NW Sec 21 -
S 50 S 100 W 50 N 100

40-1

1610 FS - 1320 FW Sec. 23
1600 FS 1320 FW 23
W 50 N 100 - E 50 S 100

##

Case
#681

1320
1250
70

M

8-5
290 FNL
290 FWL
D

7-4
55 FNL
2050 FEL
B

6-2
55 FNL
90 FEL
A

5A-3
55 FNL
2550 FNL
C

2-2
90 FNL
1250
D

900 FNL
1520 FNL

21

22

23

40-1
1610 FSL
1220 FNL

1600 FSL
1520

DRAFT

GMH/esr
3-16-72

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. 4681

Order No. R-R-4225

APPLICATION OF ANADARKO PRODUCTION COMPANY
FOR A WATERFLOOD EXPANSION AND FOR DIREC-
TIONAL DRILLING, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 15, 1972,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this day of March, 1972, 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 by Order No. R-4225, ^{*dated November 19, 1971,*} the applicant, Anadarko
Production Company, was authorized to expand its Langlie-Mattix
Penrose Sand Unit Waterflood Project ^{*Langlie-Mattix Pool*} by the injection of water
through four additional wells at unorthodox locations in Township
22 South, Range 37 East, NMPM, ^{*Langlie-Mattix Pool,*} Lea County, New Mexico.

(3) That the applicant now seeks authority to change the
said
surface location of/four wells, to drill additional injection
wells at unorthodox surface locations, and to directionally
drill each of the seven wells.

(4) That the surface locations of the seven proposed wells, all in Township 22 South, Range 37 East, NMPM, Lea County, New Mexico, would be:

Well No. 1-2, 1220 feet from the South line and 1220 feet from the West line of Section 14;

Well No. 8-5, 290 feet from the North line and 290 feet from the West line of Section 21;

Well No. 7-4, 55 feet from the North line and 2630 feet from the East line of Section 21;

Well No. 6-2, 55 feet from the North line and 90 feet from the East line of Section 21;

Well No. 5 A-3, 55 feet from the North line and 2550 feet from the West line of Section 22;

Well No. 2-2, 980 feet from the North line and 1250 feet from the West line of Section 23;

Well No. 40-1, 1610 feet from the South line and 1220 feet from the West line of Section 23; and

each of the above wells would be directionally drilled and would be bottomed within a 50 x 100 foot rectangle in the extreme: NE corner of Unit M, Section 14; NW corner of Unit D, NW corner of Unit B, and NE corner of Unit A, Section 21; NE corner of Unit C, Section 22; East side of Unit D, and East side of Unit L, Section 23, respectively.

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

(6) That the proposed expansion of the Langlie-Mattix Penrose Sand Unit Waterflood Project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

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

provided, however, that the showing of well response as required by Rule 701 E-5 should not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

(8) That Order No. R-4225 should be superseded.

IT IS THEREFORE ORDERED:

(1) That the applicant, Anadarko Production Company, is hereby authorized to expand its Langlie-Mattix Penrose Sand Unit Waterflood Project, Langlie-Mattix Pool, Lea County, New Mexico, by the injection of water into the Penrose Sand of the Queen formation through the following-described wells at unorthodox surface locations to be directionally drilled to bottom the wells as follows:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
LEA COUNTY, NEW MEXICO

WELL NO.	SURFACE LOCATION	BOTTOM HOLE LOCATION
✓ 1-2	1220 feet from the South line and 1220 feet from the West line of Section 14.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NE/corner of the SW/4 SW/4 of Section 14 proceed West 50', thence South 100', thence East 50', thence North 100' to point of beginning.
✓ 8-5	290 feet from the North line and 290 feet from the West line of Section 21.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NW/corner of Section 21 proceed East 50', thence South 100', thence West 50', thence North 100' to point of beginning.
✓ 7-4	55 feet from the North line and 2630 feet from the East line of Section 21.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NW/corner of the NE/4 of Section 21 proceed East 100', thence South 50', thence West 100', thence North 50' to point of beginning.

WELL NO.	SURFACE LOCATION	BOTTOM HOLE LOCATION
6-2 ✓	55 feet from the North line and 90 feet from the East line of Section 21.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NE/corner of Section 21 proceed West 100', thence South 50', thence East 100', thence North 50' to point of beginning.
5A-3 ✓	55 feet from the North line and 2550 feet from the West line of Section 22.	Within 50' x 100' rectangular area described as follows: commencing at a point on the NE/corner of the NW/4 of Section 22 proceed West 100', thence South 50', thence East 100', thence North 50' to point of beginning.
2-2 ✓	980 feet from the North line and 1250 feet from the West line of Section 23.	Within 50' x 100' rectangular area described as follows: commencing at a point 900' from North line and 1320' from West line of Section 23 proceed West 50', thence South 100', thence East 50', thence North 100' to point of beginning.
40-1 ✓	1610 feet from the South line and 1220 feet from the West line of Section 23.	Within 50' x 100' rectangular area described as follows: commencing at a point 1600' from the South line and 1320' from West line of Section 23 proceed West 50', thence North 100', thence East 50', thence South 100' to point of beginning.

(2) That ~~subsequent to the above-described directional drilling,~~ a continuous multi-shot directional survey shall be made of each of the well bores from total depth to the surface ~~point~~ with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward copies of the survey reports directly to the Santa Fe Office of the Commission, Box 2088, Santa Fe, New Mexico, and that the operator shall notify the Commission's Hobbs District Office of the date and time surveys are to be commenced.

(3) That Form C-105 shall be filed in accordance with Commission Rule 1108 and the operator shall indicate thereon true vertical depths in addition to measured depths.

(4) That the expanded waterflood project shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve such additional injection wells within said project area as may be necessary to complete an efficient injection pattern; that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

(5) That monthly progress reports of the expanded waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(6) That Order No. R-4225, dated November 19, 1971, is hereby superseded.

(7) 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.

**CASE 4682: Application of EL PASO
FOR AMENDMENT OF RULES GOVERNING
THE BLANCO-MESAVERDE GAS POOL.**

Case 4682