

CASE 4327: Application of UNION
OIL CO. OF CALIF. FOR SALT WATER
DISPOSAL, LEA COUNTY, NEW MEXICO.

Cont. to
Sept 11-1973

CASE No.

4927

Application,

Transcripts,

Small Exhibits

ETC.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
OIL CONSERVATION COMMISSION CONFERENCE ROOM
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
Wednesday, April 11, 1973

EXAMINER HEARING

IN THE MATTER OF:

Application of Union Oil Company
of California for salt water
disposal, Lea County, New
Mexico.

Case No. 4927

BEFORE: Elvis A. Utz

TRANSCRIPT OF HEARING

1 MR. UTZ: Case 4927.

2 MR. CARR: Case 4927, application of Union Oil
3 Company of California for salt water disposal, Lea County,
4 New Mexico.

5 MR. JENNINGS: I'm James T. Jennings of Jennings,
6 Christy & Copple appearing for Union Oil Company of
7 California; and we will have two witnesses in this case,
8 Mr. J. B. Jordon and Mr. H. R. Willis. Mr. Jordon will
9 also testify in the ensuing case.

10 MR. UTZ: You have two witnesses?

11 MR. JENNINGS: Yes, sir.

12 MR.UTZ: Will they both stand and be sworn, please.
13 (Whereupon, the witnesses were sworn.)

14 MR. UTZ: Are there other appearances in this case?
15 You may continue.

16 J.B. JORDAN

17 called as a witness, and having been duly sworn according to
18 law, testified as follows:

19 DIRECT EXAMINATION

20 Q Would you state your name and occupation, please, sir?

21 A J.B. Jordan. I work for Union Oil Company of California
22 as development geologist in the Roswell district office.

23 Q Are you familiar with the application which has been
24 filed in case number 4927?

25 A Yes, I am.

1 Q This as an application for a salt water disposal well?

2 A That's right.

3 Q Mr. Jordan, please refer to what has been marked as
4 Exhibit 1 and identify this and tell generally the pool
5 that we are dealing with and identify the wells located
6 therein.

7 A Exhibit one is a land plat showing the proposed wells
8 to be injected into and all producing wells within a
9 two-mile radius thereof.

10 On the plat you will find the wells color-coated as
11 to the producing formation, red being San Andres; blue,
12 Bow C; orange, Atoka; and green, Devonian.

13 Q May I digress for a minute? I get carried away here.
14 Mr. Jordan, you have appeared before this Commission and
15 the Examiner on many occasions in the past and testified?

16 A Yes, I have.

17 MR. JENNINGS: Are Mr. Jordan's qualifications
18 acceptable?

19 MR. UTZ: Yes, sir. He has been previously qualified
20 to testify before the Commission.

21 Q Are you currently injecting water into any of the wells
22 located there?

23 A I believe I'll leave this to Hank, but they are currently
24 injecting into some, but I'll leave it to Hank as to --

25 Q Does this plat which has been marked as Exhibit 1 reflect

1 all of the producing wells within the two-mile radius
2 of the proposed well?

3 A That is correct.

4 Q Mr. Jordan, referring to what has been marked as Exhibit
5 2, would you identify that and explain what it is?

6 A Exhibit 2 is a structural contour map of the West Chacra
7 field. It's contoured on top of the devonian. The contour
8 interval is 50 feet. The scale of the map is one inch
9 equals 1,000 feet.

10 The devonian data is underlined in red on this map.

11 Q Now, referring to what has been marked Exhibit Number 3,
12 would you identify that and explain what it is?

13 A Exhibit Number 3 is a structure cross section in a
14 northwest-southeast direction across the West Crossroads
15 field. On the southeast end, I have projected in the
16 Pearly H down to approximate structural position on the
17 end of this structure there.

18 This cross section shows the approximate original
19 oil-water contact and the approximate water today, shows
20 the perforations of all the wells. The two perforations
21 are now from 12,000 to 12,010 and that is where we propose
22 to inject.

23 And as you can see, that is about the approximate
24 oil-water contact today. The perforations which are
25 producing in the D-1 the highest well in the field are

1 above that point. So they will be above the oil-water
2 contact and consequently we will be injecting below the
3 contact in this well.

4 Q Do you feel that the injection of water into this proposed
5 well will affect in any way any of the other wells in here?

6 A No, I don't believe it will.

7 Q This is the devonian production?

8 A Right. The production in this well is from the devonian.

9 Q Mr. Jordan, were Exhibits Number 1 through 3 prepared
10 by you or under your supervision?

11 A Yes, they were.

12 MR. JENNINGS: We have nothing further of this
13 witness.

14 MR. UTZ: Without objection Exhibits 1 through 3
15 will be entered into the record of this case.

16 CROSS-EXAMINATION

17 BY MR. UTZ:

18 Q Mr. Jordan, what is it that shows the perforations or
19 injections on your Exhibit Number 3?

20 A The perforations on the D-2 would be on the right-hand
21 side of your log there. Says the remedial perforations.
22 That is the perforations that are open today which will,
23 water will be put in those. And our D-1 on the left-hand
24 side of the log shows remedial perforations 1983 to 1989,
25 and that is the producing perforations in that well.

1 Q Now, how about the Federal G Number 1? Is it already
2 an injection well?

3 A G Number 1 is an injection well. It is converted disposal
4 well in 1967.

5 Q Now, where will this injection water come from?

6 A It will come, all of it will come out of the Federal D
7 Number 1.

8 Q How much water does that well make?

9 A Well --

10 Q Do you have a --

11 MR. JENNINGS: We have an engineer here.

12 MR. UTZ: Are there any questions of Mr. Jordan?
13 He may be excused.

14 MR. JENNINGS: Mr. Willis.

15 H.R. WILLIS

16 called as a witness, and having been duly sworn according to
17 law, testified as follows:

18 DIRECT EXAMINATION

19 BY MR. JENNINGS:

20 Q Would you please state your name and occupation?

21 A H.R. Willis, District Engineer, Union Oil Company of
22 California, Midland, Texas.

23 Q Mr. Willis, on many occasions in the past, have you
24 appeared and testified before the Oil Conservation
25 Commission or one of its examiners?

1 A Yes, sir. I have.

2 MR. JENNINGS: Are Mr. Willis' qualifications
3 acceptable?

4 MR. UTZ: Yes, sir. They are.

5 Q Mr. Willis, are you familiar with the application filed
6 herein on behalf of Union?

7 A Yes, sir. I am.

8 Q Just generally tell us about the nature of the application
9 and the purpose therefore.

10 A We request permission to convert our Federal D Well Number
11 2 to salt water disposal. Currently in the field the
12 only well now producing is our Federal D Number 1, and
13 it produces approximately 100 barrels of oil per day
14 and 5,000 barrels of water per day.

15 We are disposing of water into the Federal G Number 1
16 and have, up until just recently been disposing of water
17 into the Federal H Number 1.

18 All water is being obtained from the Federal D
19 Number 1. The Federal G Number 1 Well is accepting
20 approximately 3,000 barrels of water a day on a gravity
21 system and the Federal H was accepting approximately
22 2,000 barrels of water a day on the gravity system until
23 we just recently noticed a leak outside the production
24 casing.

25 At that time, we shut the well in and we now propose

1 to abandon that well since we believe it is a pollution
2 hazard rather than attempt remedial repairs, which could
3 be quite costly. And we will divert that water then into
4 the Federal D Number 2 at a rate of approximately 2,000
5 barrels of water a day on a gravity system.

6 Q Mr. Willis, have you previously obtained permission of
7 this Commission to inject water into the Federal G Well?

8 A Yes, sir. We have. I don't have the order right in front
9 of me, but we did have Commission approval to do so.

10 MR. NUTTER: What's the location of that H-1 that
11 you are going to abandon?

12 THE WITNESS: It's in Section 32, would be the
13 Northwest of the Southwest of Section 32.

14 MR. UTZ: There is two wells shown there. Which
15 one is it?

16 THE WITNESS: It would be the deep, actually the
17 big circle. I believe the deep one there is a shallow,
18 dry test there, too, as I understand.

19 MR. UTZ: This is the one you are going to abandon?

20 THE WITNESS: Yes, sir.

21 Q (By Mr. Jennings) And on the Federal H, you obtained
22 administrative approval in 1965 to convert that well to
23 a water injection well?

24 A Yes, sir.

25 Q Now, what wells in the --. Referring to what has been

1 marked as Exhibit 1, would you identify the presently
2 producing wells in that?

3 A The presently producing well is the Federal D Number 1,
4 which would be located in the Southeast, Southeast of
5 Section 31.

6 Q And what is the nature of the present production from
7 that well?

8 A Approximately 100 barrels of oil a day and 5,000 barrels
9 of water a day.

10 Q When will that well no longer be economic, at what stage
11 of oil production?

12 A Currently our economic limit calculates to be about
13 30 barrels of oil per day.

14 Q Mr. Willis, please refer to Exhibit 4 and identify that
15 and explain what it shows.

16 A Exhibit 4 is a well schematic of the mechanical completion
17 of the well as it now exists and as we would propose to
18 recomplete it for salt water disposal.

19 As you can see, we have 11 and 3/4 inch casing
20 cemented at 326 feet. The cement did circulate to the
21 surface.

22 Eight and five-eighths inch casing was cemented at
23 4,099 feet with 1328 sacks of cement; and again it
24 circulated to surface.

25 We have five and a half inch casing cemented at

1 12,048, and we cemented it with 250 sacks, our
2 calculated top being 10,100 feet. Perforations exist
3 12,000 to 12,010. We do have tubing and packer in the
4 hole at this time.

5 We would propose to pull that tubing and packer,
6 inspect the tubing plastic coated internal diameter and
7 then re-run it and set the packer again at about 11,900
8 feet. It's two and seven-eighths inch tubing.

9 Q Will you fill the casing tubing annulus with an inert
10 fluid?

11 A Yes, sir. We would do that, of course, to protect
12 corrosion.

13 Q Have you completed other disposal wells in the area in
14 the same plans?

15 A In the general area, yes, we have.

16 Q Has it been successful?

17 A Yes.

18 Q Mr. Willis, is this, I believe it's on Federal land?

19 A Yes, sir.

20 Q Have you notified the USGS of your intention to convert
21 this well to salt water disposal?

22 A Yes, we did, as shown on Exhibit Number 5, I believe.

23 Q And did the USGS approve your notice?

24 A Yes, they did. We notified them of the proposed conversion
25 and also our method of doing it, and they did approve this

1 procedure.

2 Q Referring to what has been marked as Exhibit 6, is this
3 a letter from the USGS, a copy of the letter from the
4 USGS, approving the conversion?

5 A Yes. This transmitted their approval and so notes that
6 they do approve of it and that they also state that if
7 water is to be brought on lease from off lease that
8 we will need a special land-use permit.

9 However, this is not the case. We intend to
10 dispose of water solely from our Federal D Number 1 Well.

11 Q Have you contacted the surface owner?

12 A Yes. We contacted Mrs. Dessie Sawyer requesting her
13 waiver of objection to the conversion of this well to
14 disposal, and she did reply favorably, which is, I believe,
15 in the packet.

16 Q Have you notified all of the offset operators of your
17 intention to convert this well?

18 A Yes, sir. We notified all operators within a two-mile
19 radius of the proposed conversion and did receive
20 waivers from all immediate offset operators and did not
21 have any objection from one M. P. Grace.

22 Q I believe that you filed a log of the Federal D Well
23 along with your application; did you not?

24 A Yes, sir. We did.

25 Q I hand you what has been marked as Exhibit 7 and ask you

1 if that is a copy of the log.

2 A This is a copy of the radioactivity log on the Federal D
3 Number 2 Well.

4 MR. JENNINGS: If it please the Examiner, this is
5 the only extra copy we have. We only have two copies.

6 Q (By Mr. Jennings) Mr. Willis, do you feel that the
7 conversion of that well to a salt water disposal well
8 will be in the interest of conservation and prevent
9 waste?

10 A Yes, sir. I do.

11 Q Will it prevent the premature abandonment of the well?

12 A The premature abandonment of the Federal D-1? Yes, it
13 will.

14 Q Was Exhibit 4 prepared by you?

15 A Yes, it was.

16 Q And Exhibits 5, 6, and 7 were instruments received by
17 you in the ordinary course of business?

18 A Yes, sir. They were.

19 MR. JENNINGS: We would offer these Exhibits. We
20 have nothing else.

21 MR. UTZ: Without objection Exhibits 4 through 7
22 will be entered into the record of this case.

23 CROSS-EXAMINATION

24 BY MR. UTZ:

25 Q Mr. Willis, do you plan to put a gauge on the annulus?

1 A Well, sir, yes. It's common practice and we will certainly
2 monitor the pressure.

3 Q Did you state you would use inert fluid in the annulus,
4 also?

5 A Yes, sir.

6 Q Okay. And the tubing will be internally plastic coated
7 as shown on Exhibit 4?

8 A Yes, sir. It will.

9 Q Now, from the top of the cement on the five and a half
10 inch, I believe it is, 10,100 feet to the bottom of the
11 eight and five-eighths, there is some 6,001 feet which is
12 open. Is there any producing zones in that area?

13 A None that I know of.

14 Q How long did you inject in the well that you are
15 abandoning which was the H-1; is that correct?

16 A The H-1.

17 Q Before you discovered a leak?

18 A We commenced injection in the H Number 1 Well July, 1965
19 and have injected from that time to date, and just
20 discovered the leak here.

21 Q That would be approximately 3-73 then. So about eight
22 years?

23 A Yes, sir.

24 Q In your opinion, was it the injection that corroded the
25 casing and caused your leak?

1 A It's rather hard to say. I would suspect more that it
2 was probably some external corrosive source that may have
3 caused the hole to be created in the casing string; and
4 when this happened we did notice it.

5 Q That water did go out into this 6,001 foot area somewhere
6 before you quit injecting?

7 A For some small limited time, yes. How long, of course,
8 I really don't know; but as soon as we discovered the
9 leak, we stopped.

10 Q Were you treating that water for anti-corrosion?

11 A No. I don't believe we were.

12 Q Do you plan to treat this water?

13 A I am really not too sure of the quality of the water;
14 but if we do find it's a very corrosive water, naturally,
15 we would, right.

16 Our big thing that we would be doing, of course, is
17 plastic coating that tubing to prevent any leaks in the
18 tubing string of the proposed conversion.

19 Q You did not have plastic coated tubing in the H-1 Well?

20 A No. That was actually done in four and a half inch
21 casing by the Commission Order.

22 Q I see.

23 MR. UTZ: Are there other questions of the witness?

24 The witness may be excused. Are there statements in
25 this case? The case will be taken under advisement.

1 STATE OF NEW MEXICO)
2) ss.
3 COUNTY OF BERNALILLO)

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

11
12
13 Janet Russell
14 NOTARY PUBLIC

15
16
17
18
19
20
21
22
23 I do hereby certify that the foregoing is
24 a complete record of the proceedings in
the Examining of Case No. 4927.
heard by me on 4-11-33.

25 James B. [Signature], Examiner
New Mexico Oil Conservation Commission

I N D E X

1

2

WITNESSPAGE

3

J.B. JORDAN

4

Direct Examination by Mr. Jennings

3

5

Cross-Examination by Mr. Utz

6

6

H.R. WILLIS

7

Direct Examination by Mr. Jennings

7

8

Cross-Examination by Mr. Utz

13

9

10

11

E X H I B I T S

12

ADMITTEDOFFERED

13

Exhibit #1

6

6

14

Exhibit #2

6

6

15

Exhibit #3

6

6

16

Exhibit #4

13

13

17

Exhibit #5

13

13

18

Exhibit #6

13

13

19

Exhibit #7

13

13

20

21

22

23

24

25

dearnley, meier & mc cormick

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
1216 FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
March 28, 1973

EXAMINER HEARING

IN THE MATTER OF:

Application of Union Oil Company of
California for salt water disposal,
Lea County, New Mexico

Case No. 4927

BEFORE: Daniel S. Nutter
Examiner

TRANSCRIPT OF HEARING

1 MR. NUTTER: Case 4927: Application of Union Oil Company of
2 California for salt water disposal, Lea County, New Mexico.

3 At the request of the Applicant, this case will be continued to
4 the Examiner Hearing to be held at this same place at 9:00 o'clock A.M.
5 on April 11th, 1973.

6 * * *

1 STATE OF NEW MEXICO)
2) ss
COUNTY OF BERNALILLO)

3 I, RICHARD E. McCORMICK, a Certified Shorthand Reporter, do hereby
4 certify that the foregoing and attached Transcript of Hearing before the
5 New Mexico Oil Conservation Commission was reported by me; and that the
6 same is a true and correct record of the said proceedings, to the best of
7 my knowledge, skill and ability.

8
9 Richard E. McCormick
Certified Shorthand Reporter

10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 4927,
heard by me on 2/28/73, 19 73.
Samuel H. Newman Examiner
New Mexico Oil Conservation Commission

Case 1727

Rec'd 4-11-73

Rec. 4-24-73

Krant Union, Calif. per-
mission to connect their
Ded D#2 J-31-95-56 & W. Cross-
road ^{Dev.} to an SWD well.

Injection will be thru 2 7/8"

P.C.-D.D. tubing & under a packer
it oil approx. 12000 ft. Interval
to be filled w/ inert fluid & a
pressure gauge at surface.
Dug to be in the Had zone of
the Permian fm.

Jim O'Neil



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

May 21, 1973

Mr. James T. Jennings
Jennings, Christy & Copple
Attorneys at Law
Post Office Box 1180
Roswell, New Mexico 88201

Re: Case No. 4927
Order No. R-4517
Applicant:
Union Oil Co. of California

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC X
Artesia OCC
Aztec OCC

Other Bureau of Land Management, Santa Fe, N. M.

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. 4927
Order No. R-4517

APPLICATION OF UNION OIL COMPANY
OF CALIFORNIA FOR SALT WATER
DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 11, 1973, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 17th day of May, 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, Union Oil Company of California, is the owner and operator of the Federal "D" Well No. 2, located in Unit J of Section 31, Township 9 South, Range 36 East, NMPM, West Crossroads-Devonian Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Devonian formation, with injection into the perforated interval from approximately 12,000 feet to 12,010 feet.

(4) That the injection should be accomplished through 2 7/8-inch plastic-lined tubing installed in a packer set at approximately 11,900 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

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

-2-

Case No. 4927
Order No. R-4517

IT IS THEREFORE ORDERED:

(1) That the applicant, Union Oil Company of California, is hereby authorized to utilize its Federal "D" Well No. 2, located in Unit J of Section 31, Township 9 South, Range 36 East, NMPM, West Crossroads-Devonian Pool, Lea County, New Mexico, to dispose of produced salt water into the Devonian formation, injection to be accomplished through 2 7/8-inch tubing installed in a packer set at approximately 11,900 feet, with injection into the perforated interval from approximately 12,000 feet to 12,010 feet;

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

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



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

Alex J. Armijo
ALEX J. ARMILLO, Member

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

S E A L

dr/

Union Oil and Gas Division: Central Region

Union Oil Company of California

500 North Marionfield, Midland, Texas 79701

Telephone (915) 682-9751

Union

Midland District

March 20, 1973

File

Mr. D. S. Nutter
Chief Engineer
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Nutter:

This is to advise that Union Oil Company of California has been selling gas from its Pipeline Federal lease, well No. 1, La Rica Morrow Pool, Unit M, Section 4, T-9-S, 34-E, Lea County, New Mexico, with first sales being delivered October 12, 1971. The La Rica Morrow Gas Pool is currently operating under temporary special rules and regulations, and, since sales have continued in excess of one year, it is our understanding that this cause will now be reopened for an examiner hearing to show cause why the La Rica Morrow Gas Pool should not be developed on 320 acre spacing units in accordance with Rule 3 of Order No. R-4058 setting forth rules and regulations pertaining to the La Rica Morrow Gas Pool. As discussed in phone conversation this date, it is our further understanding that this cause will be reopened on April 11, 1973, at which time we will endeavor to demonstrate that 640 acre spacing is advantageous for continued exploitation and development in this pool.

As you are aware, we are currently scheduled for an examiner hearing on March 28, 1973 (Case 4927) seeking approval to utilize our No. 2 Federal "D" well, Unit J, Section 31, T-9-S, R-36-E, West Crossroads-Devonian Pool, Lea County, for disposal of produced water into the Devonian formation. In order that these cases might be heard the same day, we would appreciate this latter hearing being rescheduled for April 11, 1973 if such meets with your approval.

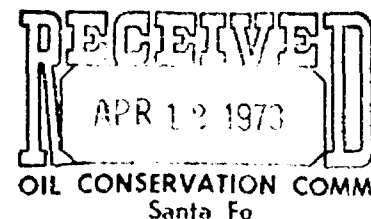
Your favorable consideration in this matter would be most appreciated.

Very truly yours,

John R. Gray
John R. Gray
Acting District Operations Manager

HRW:rb

EXXON COMPANY, U.S.A.
NEW YORK, N.Y. 10020



April 9, 1973

Case No. 4927
Union Oil Company of California
Federal "D" Well No. 2
Section 31, 9-S, 36-E
West Crossroads Devonian Pool
Lea County, New Mexico

22-2

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

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

Gentlemen:

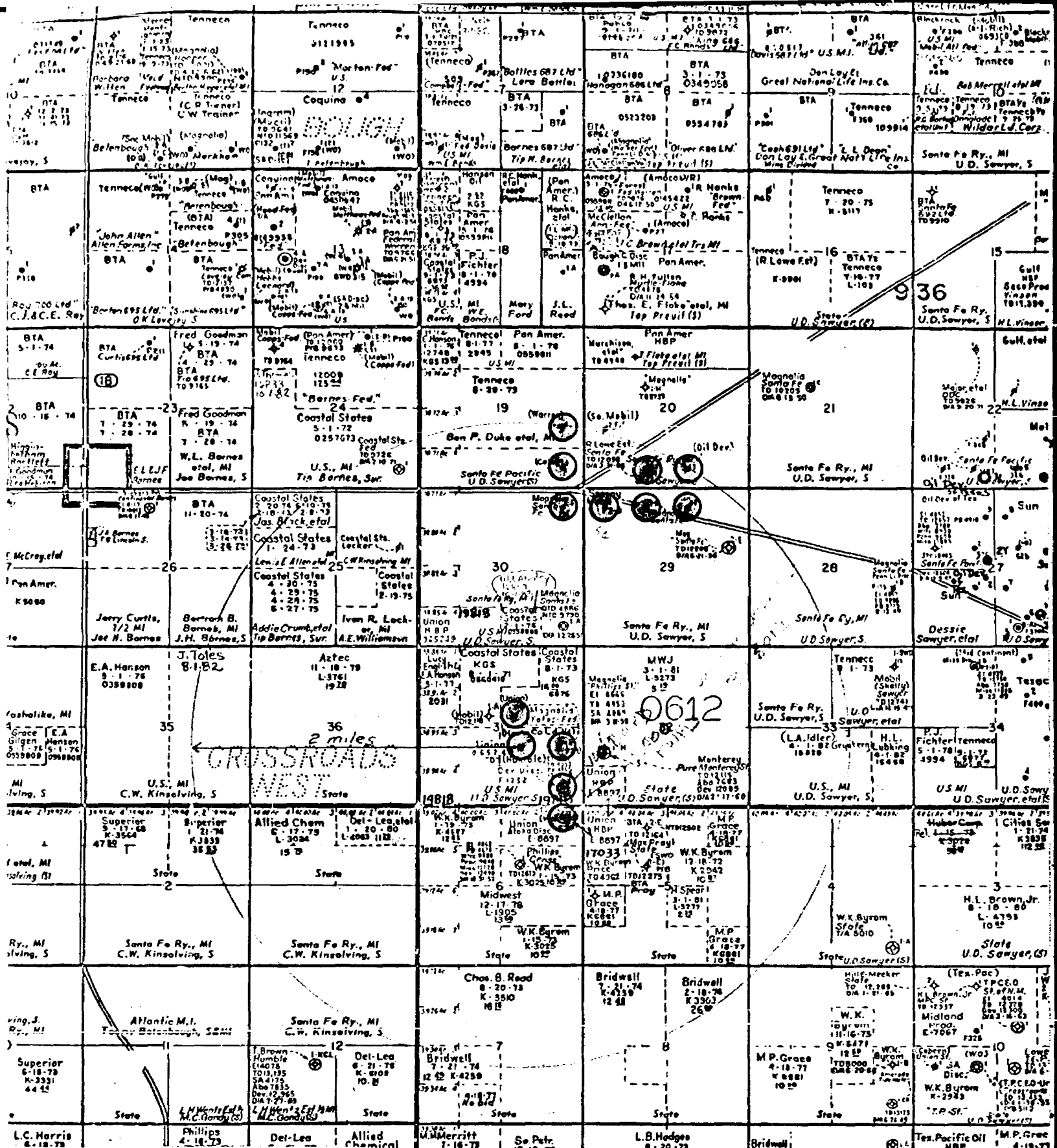
Union Oil Company of California has an application for saltwater disposal into their Federal "D" Well No. 2 in the West Crossroads Devonian Pool. This will be heard at a hearing on April 11, 1973. Exxon, as a working interest owner in this well, supports their application.

Yours very truly,


R. E. Hammond

HNR/aw

- CASE 4923: Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 360-acre non-standard gas proration unit comprising Lots 16, 17, and 18 and the SE/4 and E/2 SW/4 of Section 4, Township 21 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to be dedicated to its Meyer B-4 Well No. 4 located in Unit S of said Section 4.
- CASE 4924: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the perforated interval from 7025 feet to 7366 feet in its New Mexico "BZ" State Well No. 1, a triple tubingless completion, located in Unit K of Section 2, Township 25 South, Range 37 East, North Justis-Devonian Pool, Lea County, New Mexico.
- CASE 4925: Application of Shenandoah Oil Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Robinson-Jackson Unit Area comprising 1160 acres, more or less, of Federal lands in Township 17 South, Range 29 East, Eddy County, New Mexico.
- CASE 4926: Application of Shenandoah Oil Corporation for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Robinson-Jackson Unit Area by the injection of water into the Grayburg-San Andres formation through 16 wells in Sections 27, 34, and 35, Township 17 South, Range 29 East, Grayburg-Jackson Pool, Eddy County, New Mexico.
- CASE 4927: Application of Union Oil Company of California for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the perforated interval from 12,000 feet to 12,010 feet in its Federal "D" Well No. 2 located in Unit J of Section 31, Township 9 South, Range 36 East, West Crossroads-Devonian Pool, Lea County, New Mexico.
- CASE 4928: Application of Union Oil Company of California for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying all of Section 11, Township 21 South, Range 25 East, Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico, to be dedicated to the Atlantic Richfield Oil Company Pure-Federal Well No. 11 located in Unit K of said Section 11. Applicant further seeks a provision for the payment of proper costs to be borne by applicant for such well and the related well equipment, a provision for allocation of actual operating costs, and the establishment of charges for supervision of such well and the designation of an operator thereof; and for such other relief as proper. Also to be considered will be the risk involved in drilling the subject well.



West Cross Roads Field
Lea County, New Mexico

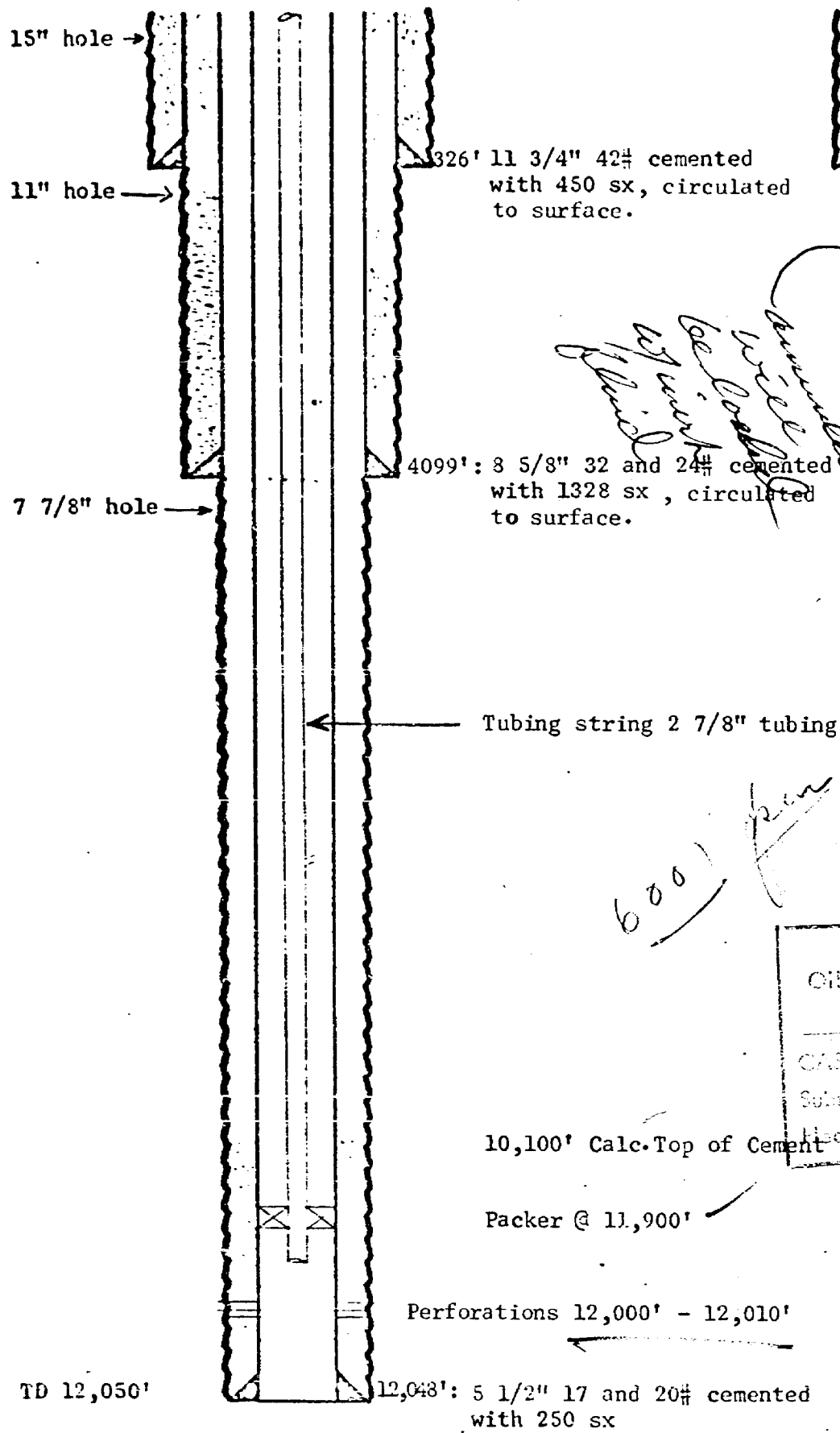
Producing Formation

- San Andres
- Bough 'C'
- Atoka
- Devonian

4927
Union
4-11-73

BEFORE

AFTER



Handwritten: Cemented with 450 sx, circulated to surface.

Handwritten: 15" hole? Plastic casing? 11" hole? 7 7/8" hole?

Handwritten: 600' per

BUREAU OF LAND MANAGEMENT	
OIL CONSERVATION COMMISSION	
WELL NO.	4
CASE NO.	4927
Submitter	MAIDEN
Posting Date	4-11-73

Packer @ 11,900'

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TRIPLICATE
(Other instructions on re-
verse side)Form approved.
BUREAU OF REVENUE NO. 42-11929.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO. LC 065249
2. NAME OF OPERATOR Union Oil Company of California		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR P. O. Box 671, Midland, Texas 79701		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface Unit J 1980' FSL and 1980' FEL, Sec. 31, T-9-S, R-36-E		8. FARM OR LEASE NAME Federal D
14. PERMIT NO.		9. WELL NO. 2
15. ELEVATIONS (Show whether DF, WT, OR, etc.) 4059' SCF		10. FIELD AND POOL, OR WILDCAT West Crossroads Devonian
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA 31-98-36E
		12. COUNTY OR PARISH Lea
		13. STATE New Mexico

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐FRACTURE TREAT ☐SHOOT OR ACIDIZE ☐REPAIR WELL ☐(Other) Convert to Salt Water Disposal ☐PULL OR ALTER CASING ☐MULTIPLE COMPLETE ☐ABANDON* ☐CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐FRACTURE TREATMENT ☐SHOOTING OR ACIDIZING ☐(Other) ☐REPAIRING WELL ☐ALTERING CASING ☐ABANDONMENT* ☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

- 1) Move in pulling unit.
- 2) Pull tubing and packer.
- 3) Run 2 7/8" PCID tubing with packer to approximately 11,900'.
- 4) Load 2 7/8" tubing-5 1/2" casing annulus with packer fluid and set packer.
- 5) Rig down and put well on disposal service.

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

WELL NO. 5

CASH NO. 4927

Submitted by H. H. H. H.

Hearing Date 4-11-73

18. I hereby certify that the foregoing is true and correct

SIGNED John R. Gray

TITLE Acting District Opers. Mgr. DATE March 2, 1973

(This space for Federal or State office use)

APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

TITLE

*See Instructions on Reverse Side
APPROVED
MAR 15 1973
SAMUEL R. BROWN
DISTRICT ENGINEER

W A I V E R

As surface owner of Union Oil Company of California's Federal "D" No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S, R-36-E, Lea County, New Mexico, in the West Crossroads Devonian Field, I waive objection to Union's application to dispose of salt water by injection into the Devonian formation of this well.

W. J. R. Gray

Mar - 17 - 73
Date

RETURN TO:

Union Oil Company of California
Attn: Mr. J. R. Gray
P. O. Box 671
Midland, Texas 79701

H.R.W.
MAR 7 1973

W A I V E R

As offset operator to Union Oil Company of California's Federal "D" No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S, R-36-E, Lea County, New Mexico, in the West Crossroads Devonian Field, we waive objection to Union's application to dispose of salt water by injection into the Devonian formation of this well.

Union Texas P&T.
Company

Chs Heard
By

3-6-73
Date

RETURN TO:

Union Oil Company of California
Attn: Mr. John R. Gray
P. O. Box 671
Midland, Texas 79701

W A I V E R

As offset operator to Union Oil Company of California's Federal "D" No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S, R-36-E, Lea County, New Mexico, in the West Crossroads Devonian Field, we waive objection to Union's application to dispose of salt water by injection into the Devonian formation of this well.

AZTEC OIL & GAS COMPANY

Company

L. J. Eaton
By

March 5, 1973

Date

RETURN TO:

Union Oil Company of California
Attn: Mr. John R. Gray
P. O. Box 671
Midland, Texas 79701

ARTIS OIL & GAS COMPANY

2000 FIRST NATIONAL BANK BUILDING
DALLAS, TEXAS 75202

H.R.W.

MAR 8 1973

PRODUCTION DEPARTMENT

March 5, 1973

Union Oil Company of California
Post Office Box 671
Midland, Texas 79701

Attention: Mr. John R. Gray

Re: Union-Federal D #2
West Crossroads Devonian Field
Lea County, New Mexico

Gentlemen:

Attached please find an executed copy of your waiver
signifying that we have no objection to Union's application for
salt water disposal into the Devonian formation of subject well.

Yours very truly,


L. D. Eaton

LDE:bjr

Attachment

H. R. W.
MAR 8 1973

W A I V E R

As offset operator to Union Oil Company of California's Federal "D"
No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S,
R-36-E, Lea County, New Mexico, in the West Crossroads Devonian
Field, we waive objection to Union's application to dispose of salt
water by injection into the Devonian formation of this well.

W. K. Byrom

Company

R. R. Anderson

By R. R. Anderson

305-73

Date

RETURN TO:

Union Oil Company of California
Attn: Mr. John R. Gray
P. O. Box 671
Midland, Texas 79701

H. R. W.

MAR 12 1973

W A I V E R

As offset operator to Union Oil Company of California's Federal "D"
No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S,
R-36-E, Lea County, New Mexico, in the West Crossroads Devonian
Field, we waive objection to Union's application to dispose of salt
water by injection into the Devonian formation of this well.

Coastal States Gas Prod. Co.
Company

James S. Shepherd
By

3-8-73

Date

RETURN TO:

Union Oil Company of California
Attn: Mr. John R. Gray
P. O. Box 671
Midland, Texas 79701

H. R. W.
MAR 8 1973

W A I V E R

As offset operator to Union Oil Company of California's Federal "D"
No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S,
R-36-E, Lea County, New Mexico, in the West Crossroads Devonian
Field, we waive objection to Union's application to dispose of salt
water by injection into the Devonian formation of this well.

Lea- Lea, Inc.
Company

E. M. Hudgens, Pres.
By

3-5-73
Date

RETURN TO:

Union Oil Company of California
Attn: Mr. John R. Gray
P. O. Box 671
Midland, Texas 79701

H. R. W.
MAR 9 1973

W A I V E R

As offset operator to Union Oil Company of California's Federal "D" No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S, R-36-E, Lea County, New Mexico, in the West Crossroads Devonian Field, we waive objection to Union's application to dispose of salt water by injection into the Devonian formation of this well.

Company

Luey M. English
By

Date

3-7-73

RETURN TO:

Union Oil Company of California
Attn: Mr. John R. Gray
P. O. Box 671
Midland, Texas 79701

W A I V E R

As offset operator to Union Oil Company of California's Federal "D"
No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S,
R-36-E, Lea County, New Mexico, in the West Crossroads Devonian
Field, we waive objection to Union's application to dispose of salt
water by injection into the Devonian formation of this well.

Ernest A. Hanson
Company

By Hyle L. Hattle, Jr.

March 5, 1973
Date

RETURN TO:

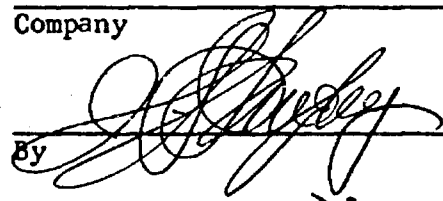
Union Oil Company of California
Attn: Mr. John R. Gray
P. O. Box 671
Midland, Texas 79701

H.R.W.
MAR 7 1973

H. R. W.
MAR 16 1973

W A I V E R

As offset operator to Union Oil Company of California's Federal "D"
No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S,
R-36-E, Lea County, New Mexico, in the West Crossroads Devonian
Field, we waive objection to Union's application to dispose of salt
water by injection into the Devonian formation of this well.

Company _____
By  _____
Date 3-13-73

RETURN TO:

Union Oil Company of California
Attn: Mr. John R. Gray
P. O. Box 671
Midland, Texas 79701

H. R. W.

MAR 12 1973

W A I V E R

As offset operator to Union Oil Company of California's Federal "D" No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S, R-36-E, Lea County, New Mexico, in the West Crossroads Devonian Field, we waive objection to Union's application to dispose of salt water by injection into the Devonian formation of this well.

Midwest Oil Corp.
Company

John Bull
By

3-9-73
Date

RETURN TO:

Union Oil Company of California
Attn: Mr. John R. Gray
P. O. Box 671
Midland, Texas 79701

W A I V E R

H.R.W.
MAR 16 1973

As offset operator to Union Oil Company of California's Federal "D" No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S, R-36-E, Lea County, New Mexico, in the West Crossroads Devonian Field, we waive objection to Union's application to dispose of salt water by injection into the Devonian formation of this well.

MWJ Producing Company
Company

Edward H. Jordon
By

3-15-73
Date

RETURN TO:

Union Oil Company of California
Attn: Mr. John R. Gray
P. O. Box 671
Midland, Texas 79701

H. R. W.

MAR 16 1973

W A I V E R

As offset operator to Union Oil Company of California's Federal "D" No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S, R-36-E, Lea County, New Mexico, in the West Crossroads Devonian Field, we waive objection to Union's application to dispose of salt water by injection into the Devonian formation of this well.



Company

By



Date

RETURN TO:

Union Oil Company of California
Attn: Mr. John R. Gray
P. O. Box 671
Midland, Texas 79701



United States Department of the Interior

GEOLOGICAL SURVEY

P. O. Box 1157
Hobbs, New Mexico 88240

March 15, 1973

Union Oil Company of California
500 North Marienfeld
Midland, Texas 79701

Attention: Mr. John R. Gray

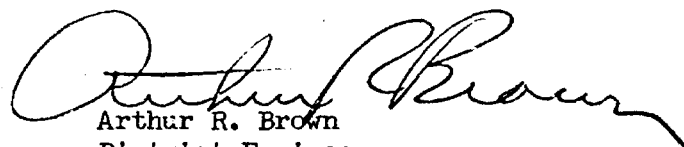
Gentlemen:

Your letter of March 2 transmitted your proposal to convert well No. 2 Federal "D", lease Las Cruces 065249, to salt water disposal.

An approved copy of your Notice of Intention to Convert to Salt Water Disposal is enclosed.

If water other than that produced on the leasehold is to be disposed of into the well, a Special Land-Use Permit from the Bureau of Land Management is required.

Sincerely yours,

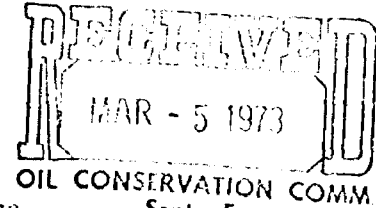

Arthur R. Brown
District Engineer

FEDERAL ENGINEER UTZ	
ON THE STATE OF NEW MEXICO	
NO.	6
4927	
Union	
4-11-73	

Union Oil and Gas Division: Central Region

Union Oil Company of California
500 North Marienfeld, Midland, Texas 79701
Telephone (915) 682-9731

UNION 76



Midland District

March 2, 1973

Santa Fe

Case 4927

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

Gentlemen:

Union Oil Company of California
Federal "D" No. 2
West Crossroads Devonian Field
Lea County, New Mexico

Enclosed are copies of Form C-108, "Application to Dispose of Salt Water by Injection into a Porous Formation", and other necessary data to support Union's request for permission to dispose of salt water in the Devonian formation of the above captioned well.

Requests for waivers and a copy of this application have been submitted to the State Engineer, the surface owner, and the offset operators.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

John R. Gray

John R. Gray
Acting District Operations Manager

HRW:rb
Attachments

DOCKET MAILED

Date 3/28/73 *for 4/11/73*

DOCKET MAILED

Date 3/15/73

NEW MEXICO OIL CONSERVATION COMMISSION

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

OPERATOR Union Oil Company of California		ADDRESS P. O. Box 671, Midland, Texas 79701	
LEASE NAME Federal "D"	WELL NO. 2	FIELD West Crossroads Devonian	COUNTY Lea
LOCATION UNIT LETTER <u>J</u> : WELL IS LOCATED <u>1980</u> FEET FROM THE <u>South</u> LINE AND <u>1980</u> FEET FROM THE <u>East</u> LINE, SECTION <u>31</u> TOWNSHIP <u>9-South</u> RANGE <u>36-East</u> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING SURFACE CASING 42#	SIZE 11 3/4"	SETTING DEPTH 326'	SACKS CEMENT 450
INTERMEDIATE 24 and 32#	8 5/8"	4099'	1328
LONG STRING 15.5 and 17#	5 1/2"	12,048'	250
TUBING PCID	2 7/8"	11,900	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Lok-Set 11,900'
NAME OF PROPOSED INJECTION FORMATION Devonian		TOP OF FORMATION 11,966'	BOTTOM OF FORMATION TD 12,050'
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES 12,000-12,010'	PROPOSED INTERVAL(S) OF INJECTION 12,000 - 12,010'
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Development oil well		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH NA			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 225'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 11,324'	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA Unknown
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 2000	MINIMUM 1000	MAXIMUM 3000	OPEN OR CLOSED TYPE SYSTEM Closed
IS INJECTION TO BE BY GRAVITY OR PRESSURE? Gravity		APPROX. PRESSURE (PSI) -	
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes		NATURAL WATER IN DISPOSAL ZONE Yes	
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Mrs. Dessie Sawyer, Crossroads, New Mexico		ARE WATER ANALYSES ATTACHED? No	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL See attached list of Offset Operators			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes			
SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes		ELECTRICAL LOG Yes	
		DIAGRAMATIC SKETCH OF WELL Yes	

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

John D. Rot
(Signature)

Petroleum Engineer
(Title)

3/2/73
(Date)

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

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

OPERATOR Union Oil Company of California		ADDRESS P. O. Box 671, Midland, Texas 79701	
LEASE NAME Federal "D"	WELL NO. 2	FIELD West Crossroads Devonian	COUNTY Lea
LOCATION UNIT LETTER <u>J</u> : WELL IS LOCATED <u>1980</u> FEET FROM THE <u>South</u> LINE AND <u>1980</u> FEET FROM THE <u>East</u> LINE. SECTION <u>31</u> TOWNSHIP <u>9-South</u> RANGE <u>36-East</u> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING 42#	11 3/4"	326'	450
INTERMEDIATE 24 and 32#	8 5/8"	4099'	1328
LONG STRING 15.5 and 17#	5 1/2"	12,048'	250
TUBING PCID	2 7/8"	11,900	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Lok-Set 11,900'
NAME OF PROPOSED INJECTION FORMATION Devonian		TOP OF FORMATION 11,966'	BOTTOM OF FORMATION TD 12,050'
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PENETRATIONS OR OPEN HOLES? 12,000-12,010'	PROPOSED INTERVAL(S) OF INJECTION 12,000 - 12,010'
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Development oil well		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH NA			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 225'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 11,324'	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA Unknown
ANTICIPATED DAILY INJECTION VOLUME (BBLS.) 2000	MINIMUM 1000	MAXIMUM 3000	OPEN OR CLOSED TYPE SYSTEM Closed
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -		WATER TO BE DISPOSED OF Yes	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Gravity
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Mrs. Dessie Sawyer, Crossroads, New Mexico		NATURAL WATER IN DISPOSAL ZONE Yes	APPROX. PRESSURE (PSI) -
ARE WATER ANALYSES ATTACHED? No			
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL See attached list of Offset Operators			
<div style="text-align: center;"> <p>10,150</p> <p>4,099</p> <p>6,001</p> <p>open hole</p> </div>			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL	
SURFACE OWNER Yes		Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		ELECTRICAL LOG	
PLAT OF AREA Yes		Yes	
		DIAGRAMMATIC SKETCH OF WELL Yes	

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

John D. Rose
(Signature)

Petroleum Engineer
(Title)

3/2/73
(Date)

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

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

OPERATOR Union Oil Company of California		ADDRESS P. O. Box 671, Midland, Texas 79701	
LEASE NAME Federal "D"	WELL NO. 2	FIELD West Crossroads Devonian	COUNTY Lea
LOCATION UNIT LETTER <u>J</u> ; WELL IS LOCATED <u>1980</u> FEET FROM THE <u>South</u> LINE AND <u>1980</u> FEET FROM THE <u>East</u> LINE, SECTION <u>31</u> TOWNSHIP <u>9-South</u> RANGE <u>36-East</u> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING 42#	11 3/4"	326'	450
INTERMEDIATE 24 and 32#	8 5/8"	4099'	1328
LONG STRING 15.5 and 17#	5 1/2"	12,048'	250
TUBING PCID	2 7/8"	11,900	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Lok-Set 11,900'
NAME OF PROPOSED INJECTION FORMATION Devonian		TOP OF FORMATION 11,966'	BOTTOM OF FORMATION TD 12,050'
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES 12,000-12,010'	PROPOSED INTERVAL(S) OF INJECTION 12,000 - 12,010'
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Development oil well		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH NA			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 225'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 11,324'	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA Unknown
ANTICIPATED DAILY INJECTION VOLUME (BBL/D) 2000	MINIMUM 1000	MAXIMUM 3000	OPEN OR CLOSED TYPE SYSTEM Closed
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -		WATER TO BE DISPOSED OF Yes	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Gravity
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Mrs. Dessie Sawyer, Crossroads, New Mexico		NATURAL WATER IN DISPOSAL ZONE Yes	APPROX. PRESSURE (PSI) -
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL See attached list of Offset Operators			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes			
SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes		ELECTRICAL LOG Yes	DIAGRAMMATIC SKETCH OF WELL Yes

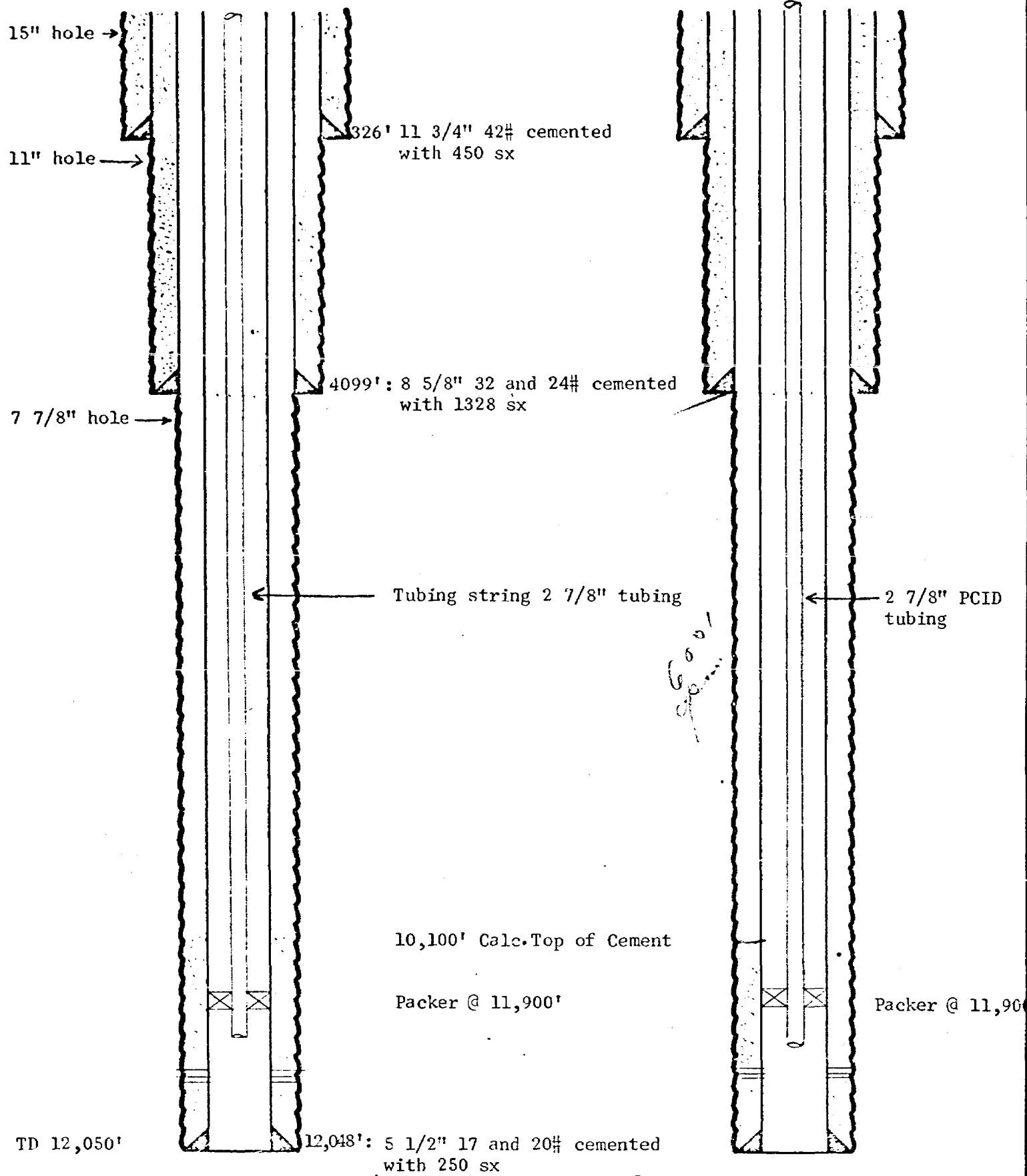
I hereby certify that the information above is true and complete to the best of my knowledge and belief.

John D. Roe
(Signature)Petroleum Engineer
(Title)3/2/73
(Date)

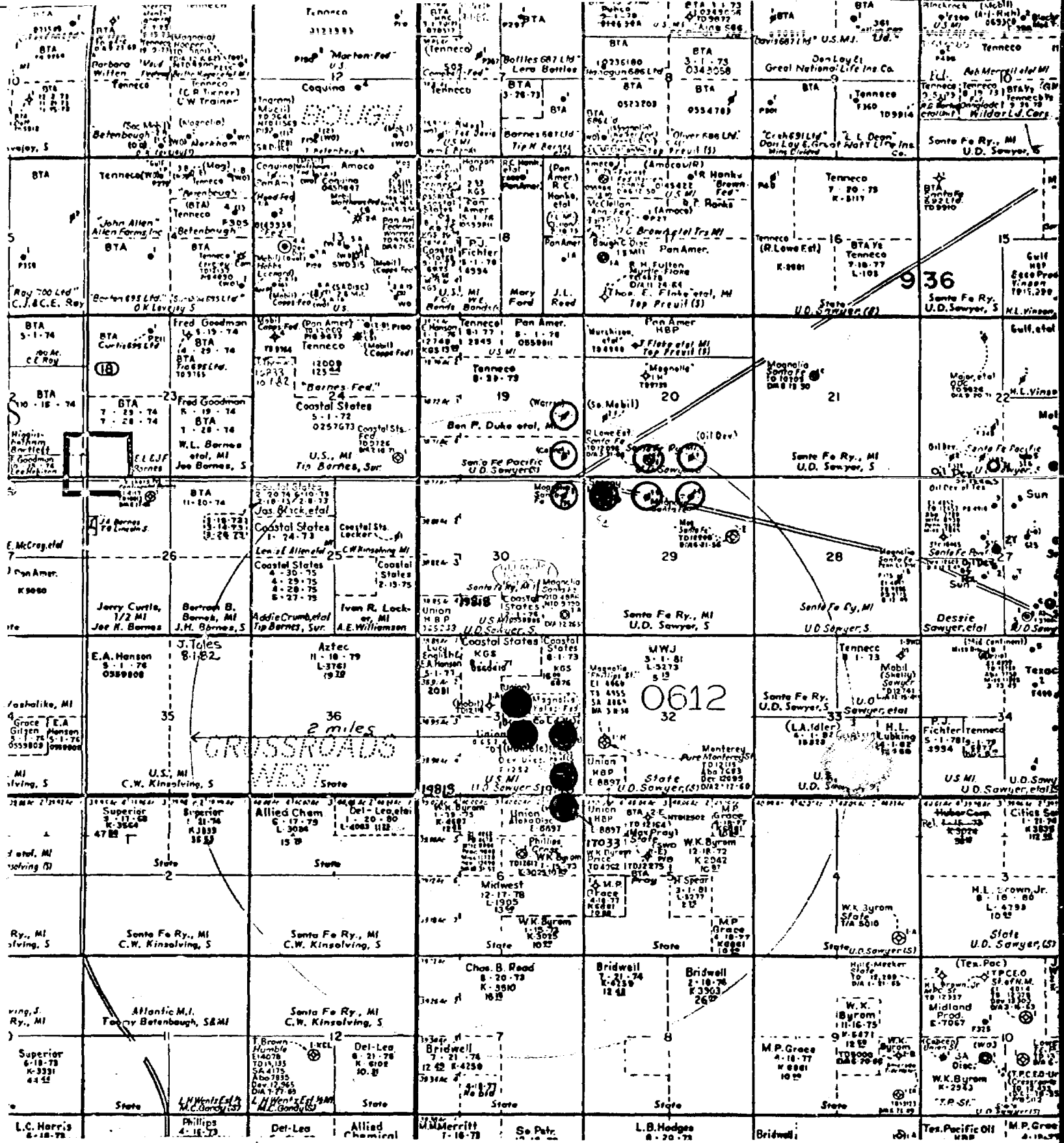
NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office.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

BEFORE

AFTER



Case 4927



West Cross Roads Field Lea County, New Mexico

Producing Formation

- San Andres
- Bough "C"
- Atoka
- Devonian

4927

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. 4927

Order No. R-4517

APPLICATION OF UNION OIL COMPANY
OF CALIFORNIA FOR SALT WATER
DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on ~~March 28~~ April 11, 19⁷³,
at Santa Fe, New Mexico, before Examiner ~~Daniel S. Nutter~~ Elvis R. Utz

NOW, on this May day of April, 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, Union Oil Company of California,
is the owner and operator of the Federal "D" Well No. 2,
located in Unit J of Section 31, Township 9 South, Range
36 East, NMPM, West Crossroads-Devonian Pool, Lea
County, New Mexico.

(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the Devonian
formation, with injection into the perforated interval
from approximately 12,000 feet to 12,010 feet.

(4) That the injection should be accomplished through
2 7/8-inch plastic-lined tubing installed in a packer set at

CASE No. 4927

approximately 11,900 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Union Oil Company of California, is hereby authorized to utilize its Federal "D" Well No. 2, located in Unit J of Section 31, Township 9 South, Range 36 East, NMPM, West Crossroads-Devonian Pool, Lea County, New Mexico, to dispose of produced salt water into the Devonian formation, injection to be accomplished through 2 $\frac{7}{8}$ -inch tubing installed in a packer set at approximately 11,900 feet, with injection into the perforated interval from approximately 12,000 feet to 12,010 feet;

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

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

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