

**CASE 4281 Application of SUN OIL
COMPANY FOR SALT WATER DISPOSAL,
ROOSEVELT COUNTY, NEW MEXICO.**

— 222 — 222 222

4921

Application

Transcripts.

Small Exhibits

ETC.

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

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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 Sun Oil Company for)
salt water disposal, Roosevelt)
County, New Mexico)

Case No. 4921

BEFORE: Daniel S. Nutter
Examiner

TRANSCRIPT OF HEARING

1 MR. NUTTER: The Hearing will come to order, please. The next
2 case is Case 4921.

3 MR. CARR: Case 4921: Application of Sun Oil Company for salt
4 water disposal, Roosevelt County, New Mexico.

5 MR. KELLAHIN: Tom Kellahin of Kellahin & Fox, Santa Fe, New
6 Mexico, appearing on behalf of the Applicant, Sun Oil Company. I have one
7 witness to be sworn.

8 * * * *

9 DONALD R. AUTRY,
10 was called as a witness and after being duly sworn according to law,
11 testified as follows:

12 DIRECT EXAMINATION

13 BY MR. KELLAHIN:

14 Q Mr. Autry, will you please state your full name, by whom you are
15 employed, and in what capacity?

16 A Donald R. Autry, Sun Oil Company, as a Petroleum Engineer.

17 Q Have you previously testified before the Commission or one of its
18 Hearing Examiners?

19 A No, sir.

20 Q Where are you from, Mr. Autry?

21 A Midland, Texas.

22 Q Would you please state, for the benefit of the Hearing Examiner, your
23 educational background and your employment experience?

24 A I received a Bachelor of Science degree from Lamar University in
25 Beaumont, Texas, in 1955. I was employed by Phillips Petroleum

1 Company as a Geological Trainee from 1955 to 1956. I was employed
2 by Sun Oil Company in 1956 as a Petroleum Engineer and I have been
3 with Sun up until the present time. I am presently Senior Petroleum
4 Engineer in Midland, Texas.

5 Q Are you familiar with the Chaveroo-San Andres Pool in Roosevelt
6 County, New Mexico?

7 A Yes, sir.

8 Q Are you familiar with the facts surrounding this Application by Sun
9 Oil Company?

10 A Yes, sir.

11 MR. KELLAHIN: Are the Witness's qualifications acceptable?

12 MR. NUTTER: Yes, they are.

13 MR. KELLAHIN: In the advertising for this case, I note a
14 typographical error in about the 5th line. It says: "New Mexico A-3
15 State Well" and it should be: "New Mexico A-S".

16 MR. NUTTER: I don't think that is a fatal error.

17 MR. KELLAHIN: I just wanted you to know that.

18 MR. NUTTER: All right.

19 Q (By Mr. Kellahin) What is sought by the Applicant in this case?

20 A Sun Oil seeks authority to dispose of produced salt water from the San
21 Andres formation into the perforated interval from 4,267 feet to
22 4,416 feet in its New Mexico A-S State Well No. 5.

23 Q Would you please refer to what has been marked as Applicant's Exhibit
24 1 and identify it and explain what information it contains?

25 A Yes. Exhibit 1 is a field plat depicting the properties belonging to

1 Sun. These are outlined in yellow and are indicated in Sections 33
2 and 34. The well that is the subject of this Hearing is Well No. 5
3 in the northwest of the northwest of Section 33, circled in red.

4 Q What other wells indicated on your plat are also in the San Andres
5 formation?

6 A All of the wells on the Sun properties depicted in yellow are San
7 Andres completions. The offset wells are within those two circles
8 and are also San Andres productions.

9 Q Are there any other disposal wells in this Section?

10 A In Section 33, yes. In the southeast of the southeast quarter of
11 Section 33, the Skelly Well No. 11 is a disposal well in the San
12 Andres formation.

13 Q Would your proposed disposal well have any adverse affect on this
14 producing formation or any of the offsetting wells?

15 A We think not. The reservoir is in an advanced state of depletion
16 and no adverse affect would occur.

17 Q Would you please refer to what has been marked as Applicant's
18 Exhibit No. 2 and identify that, please, and state briefly what
19 information it contains?

20 A Exhibit 2 contains supplemental data relevant to this Hearing. The
21 subject well was completed in 1965 and its present status is that it
22 is temporarily abandoned in the San Andres formation. We propose to
23 inject produced salt water from the San Andres formation into the
24 perforated interval from 4267 feet to 4416 feet.

25 Q What is your anticipated volume, Mr. Autry?

- 1 A We anticipate 50 barrels a day, a minimum average of 50 barrels a day.
- 2 Q Will it be injected under pressure?
- 3 A Yes, a pressure of 1500 pounds.
- 4 Q Please refer to what has been marked as Applicant's Exhibit 3 and
5 identify it, please.
- 6 A Exhibit 3 is a location plat of the well showing it to be located
7 650 feet from the north line and 650 feet from the west line of
8 Section 33.
- 9 Q Please refer to what has been marked as Applicant's Exhibit 4 and
10 identify it.
- 11 A Exhibit No. 4 is a proposed -- a present and proposed schematic
12 diagram of the subject well.
- 13 Q What additional work will be required on this well to convert it to
14 an injection well?
- 15 A To make the conversion we run a packer model and 2-inch cement tubing
16 with a pressure guage at the surface and commence injection to the
17 perforated intervals as shown.
- 18 Q Is this cement tubing or plastic-coated tubing?
- 19 A Cement tubing, sir.
- 20 Q Please refer to what has been marked as Applicant's Exhibit No. 5 and
21 identify it, please.
- 22 A This is a Formation Density Log of the subject well and several of the
23 stringers in the San Andres perforation are marked on the Exhibit at
24 specific locations, depicted by arrows in the lower portion of the log
25 starting at 4,263 and the bottom perforation being 4,416.

1 Q Mr. Autry, what specifically will be the source of this produced
2 water?

3 A I understand it will be produced from the San Andres formation.

4 Q But from which wells?

5 A The produced water will come from nine of the 18 completions within
6 the yellow shaded area of Exhibit 1 and all of the water will be
7 produced by the San Andres.

8 Q Mr. Autry, in your opinion will the granting of this Application
9 prevent waste and not impair the ground rights of others?

10 A Yes, sir. We think approval of this will prevent waste -- extend the
11 economic life of the producing property and, thereby, prevent waste.

12 Q Were Exhibits 1 through 5 prepared by you or under your direction and
13 supervision?

14 A Yes, sir.

15 MR. KELLAHIN: We move for the introduction of Applicant's
16 Exhibits 1 through 5.

17 MR. NUTTER: Without objection Applicant's Exhibits 1 through 5
18 will be admitted in evidence.

19 (Whereupon, Applicant's Exhibits 1 through 5 were admitted in
20 evidence.)

21 * * *

22 CROSS EXAMINATION

23 BY MR. NUTTER:

24 Q Would you indicate which of the nine wells are now temporarily
25 abandoned?

1 A In the southwest of the southwest of Section 33, Well No. 4 is
2 temporarily abandoned. The subject well is temporarily abandoned.
3 In the northeast of the southeast of Section 33, Well No. 7 is
4 temporarily abandoned. In the northeast -- I believe that's all in
5 Section 33.

6 In Section 34 in the northeast of the southwest, Well No. 10 is
7 temporarily abandoned. In the northwest of the northeast of Section
8 34, Well No. 12 is temporarily abandoned. In the southeast of the
9 northeast of Section 33, Well No. 14 is temporarily abandoned. In the
10 southeast of the southwest, Well No. 15 is temporarily abandoned.

11 MR. NUTTER: Are there any further questions of Mr. Autry?

12 (No response.)

13 MR. NUTTER: He may be excused.

14 (Witness excused.)

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

16 MR. KELLAHIN: No, sir.

17 MR. NUTTER: Does anyone wish to offer any testimony in Case
18 4921?

19 (No response.)

20 MR. NUTTER: Are there any statements in this case?

21 (No response.)

22 MR. NUTTER: Case 4921 will be taken under advisement.

23

* * *

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25

1 STATE OF NEW MEXICO)
)ss
2 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 *Richard E. McCormick*
9 Certified Shorthand Reporter

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I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 4921
heard by me on 2/28, 1979
Samuel K. Miller Examiner
New Mexico Oil Conservation Commission

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I N D E X

WITNESS

PAGE

DONALD R. AUTRY

3

Direct Examination by Mr. Kellahin

3

Cross Examination by Mr. Nutter

7

* * * *

E X H I B I T S

ADMITTED
7

OFFERED
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Exhibit #1 - Field plat

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Exhibit #2 - Supplemental data

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Exhibit #3 - Location plat

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Exhibit #4 - Schematic diagram

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Exhibit #5 - Formation Density Log

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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. 4921
Order No. R-4509

APPLICATION OF SUN OIL COMPANY
FOR SALT WATER DISPOSAL,
ROOSEVELT COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

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

NOW, on this 19th 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, Sun Oil Company, is the owner and operator of the New Mexico AZ State Well No. 5, located in Unit D of Section 33, Township 7 South, Range 33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the San Andres formation, with injection into the perforated interval from approximately 4,263 feet to 4,416 feet.
- (4) That the injection should be accomplished through 2 3/8-inch cement-lined tubing installed in a packer set at approximately 4,225 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus 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. 4921
Order No. R-4509

IT IS THEREFORE ORDERED:

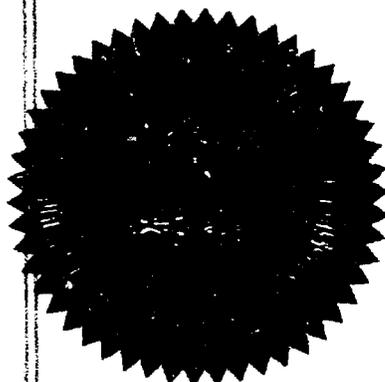
(1) That the applicant, Sun Oil Company, is hereby authorized to utilize its New Mexico AZ Well No. 5, located in Unit D of Section 33, Township 7 South, Range 33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4,225 feet, with injection into the perforated interval from approximately 4,263 feet to 4,416 feet;

PROVIDED HOWEVER, that the tubing shall be cement-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus 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

Bruce King
BRUCE KING, Chairman

Alex J. Armiijo
ALEX J. ARMIJO, Member

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

S E A L

dr/

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 28, 1973

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

The following cases will be heard before Daniel S. Nutter, Examiner, or Elvis A. Utz, Alternate Examiner:

CASE 4913: (Continued from the February 28, 1973 Examiner Hearing)

Application of Lone Star Industries, Inc. for compulsory pooling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the N/2 of Section 12, Township 30 North, Range 5 West, to be dedicated to a well to be drilled at a standard location to the Basin-Dakota Pool.

Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4919: Application of Mobil Oil Corporation for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 320-acre non-standard gas proration unit comprising the W/2 SW/4 and SE/4 SW/4 of Section 28, and the NW/4 and SW/4 NE/4 of Section 33, all in Township 21 South, Range 37 East, adjacent to the Eumont Gas Pool, Lea County, New Mexico, to be dedicated to its E. O. Carson Well No. 4 located in Unit N of said Section 28.

CASE 4920: Application of Mobil Oil Corporation for down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle marginal production from the Blinebry, Tubb, Drinkard, Paddock, and Wantz-Abo Oil Pools in the well-bore of its Stephens Estate Well No. 1 located in Unit L of Section 24, Township 21 South, Range 37 East, Lea County, New Mexico.

CASE 4921: Application of Sun Oil Company for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from 4267 feet to 4416 feet in its New Mexico A-3 State Well No. 5 located in Unit D of Section 33, Township 7 South, Range 33 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.

CASE 4922: Application of Pennzoil Company for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a producing well at an unorthodox location 1330 feet from the North and West lines of Section 20, Township 17 South, Range 33 East, Maljamar Pool, Lea County, New Mexico. Applicant further seeks the adoption of a procedure for administrative approval of additional producing and injection wells at unorthodox locations in its Western State Waterflood Project in Sections 17 and 20, Township 17 South, Range 33 East.

SUPPLEMENTAL DATA
FOR CONVERTING NEW MEXICO STATE "AZ" No. 5
TO WATER INJECTION SERVICE

LEASE: New Mexico State "AZ"

FIELD: Chaveroo

WELL NO: 5

LOCATION: 660' FNL & 660' FWL of Section 33, T-7-S, R-33-E, Roosevelt
County, New Mexico.

DATE COMPLETED: 8-30-65

PRESENT STATUS: T.A. - Below Economic Limit

PRODUCING FORMATION: San Andres

PROPOSED STATUS: Convert to water injection service in San Andres

TYPE INJECTION FLUID: Produced Salt Water

FORMATION IN WHICH WATER IS TO BE INJECTED: San Andres

TOP OF FORMATION: 3471'

BOTTOM OF FORMATION: Not penetrated. TD - 4470'

PROPOSED INJECTION INTERVAL: Present perforations - 10 holes - 4263 - 4416'

SOURCE OF INJECTION WATER: Produced salt water from Sun's New Mexico
"AZ" State Lease.

ANTICIPATED VOLUMES: 50 BPD min.; 500 BPD max.

ANTICIPATED INJECTION PRESSURE: 1500 psig

MAXIMUM INJECTION PRESSURE: 2000 psig

BEFORE EXAMINATION NUTTER
OIL CONSERVATION COMMISSION
3-28-73 EXHIBIT NO. 2
CASE NO. 4921

RECEIVED
DATE
TIME

MEXICO OIL CONSERVATION COMM.
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form O-162
Supersedes O-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

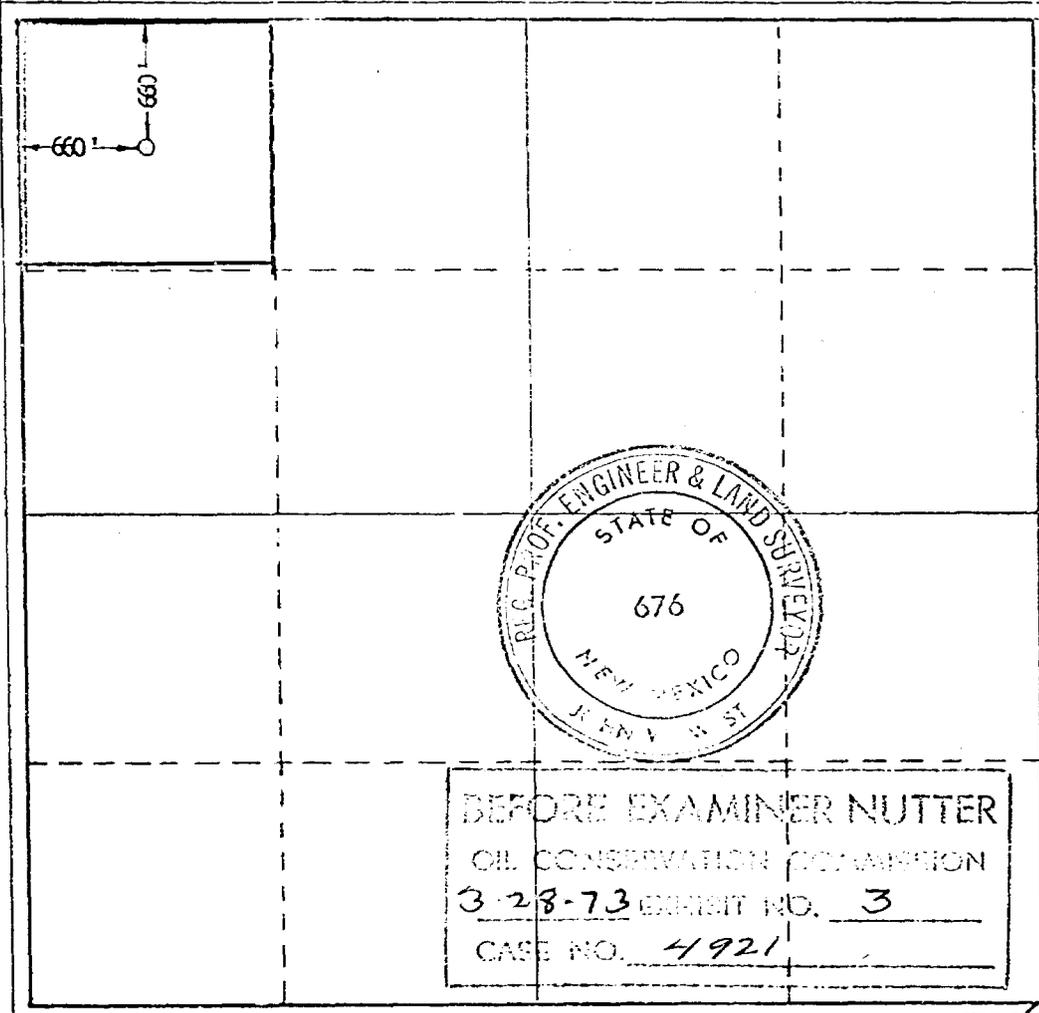
Operator SUNRAY D-X OIL COMPANY		Lease NEW MEXICO STATE AZ		Well No. 5
Unit Letter D	Section 33	Township 7 SOUTH	Range 33 EAST	County ROOSEVELT

Actual Footage Location of Well:

660 feet from the **NORTH** line and **660** feet from the **WEST** line.

Ground Level Elev. **Will Furnish Later** Prevailing Formation **San Andres** Pool **Undesignated** Dedicated Acreage **40** Acres

- Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?
 Yes No If answer is "yes," type of consolidation _____
 If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____
 No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



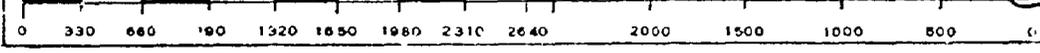
CERTIFICATION

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

Name **John Hastings**
 Position **District Engineer**
 Company **Sunray DX Oil Company**
 Date **August 3, 1965**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

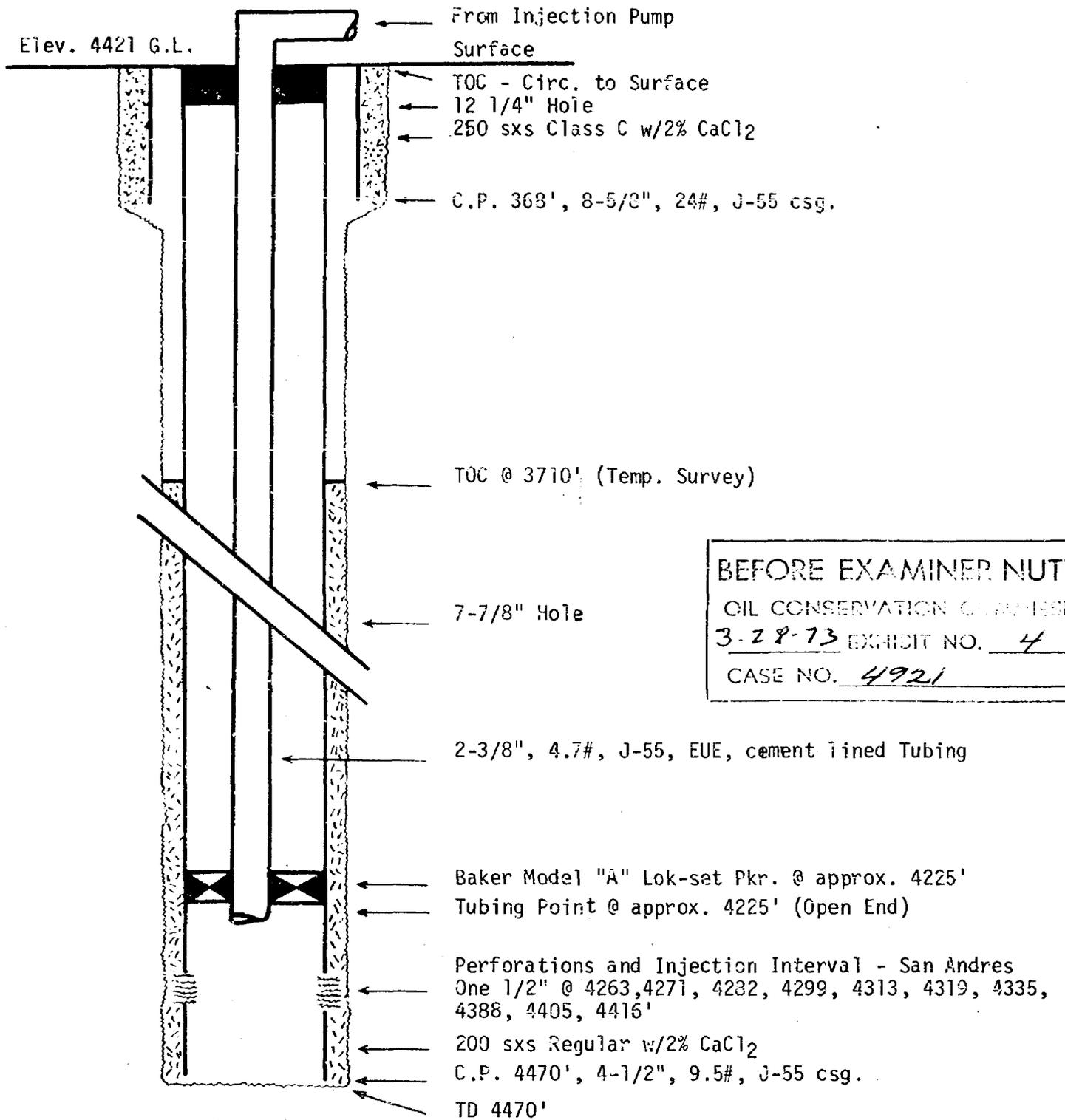
Date Surveyed **7/29/65**
 Registered Professional Engineer and/or Land Surveyor **John W West**
 Certificate No. **NM PE & LS 576**



NEW MEXICO STATE "AZ" No. 5

660' FNL & 660' FWL OF SECTION 33, T-7-S, R-33-E

ROOSEVELT COUNTY, NEW MEXICO



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
3-28-73 EXHIBIT NO. 4
CASE NO. 4921

BEFORE THE
OIL CONSERVATION COMMISSION OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF SUN OIL COMPANY FOR APPROVAL
OF SALT WATER DISPOSAL, ROOSEVELT
COUNTY, NEW MEXICO

OIL CONSERVATION COM.
Santa Fe

A P P L I C A T I O N

Case 4921

COMES NOW Sun Oil Company and applies to the Oil Con-
servation Commission of New Mexico for approval of salt
water disposal in the Chaveroo Field, Roosevelt County, New
Mexico, and in support thereof would show the Commission:

1. Applicant proposes to utilize a well in Unit D,
Section 33, Township 7 South, Range 33 East, N.M.P.M.,
Roosevelt County, New Mexico, for disposal of produced water.
The water will be disposed of in Sun Oil Company's New Mexico
A-3 State Well No. 5.

2. Disposal will be in the perforated interval between
4257 feet and 4416 feet, in the San Andres formation. The
San Andres is a producing formation in this area, and disposal
of produced water into the formation requires approval of the
Oil Conservation Commission.

3. Approval of the application is in the interests of
conservation and the prevention of waste, and no damage will
be done to the reservoir, nor to any producing well in the area
as a result of utilizing the well for water disposal.

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 approval water disposal as prayed
for.

Respectfully submitted,

SUN OIL COMPANY

By

W. F. Kellahin

KELLAHIN & FOX
P. O. Box 1769
Santa Fe, New Mexico

DOCKET MAILED Attorneys for Applicant

Date

3-15-13

DRAFT

dr/

(DW)

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. 4921

APPLICATION OF SUN OIL COMPANY
FOR SALT WATER DISPOSAL,
ROOSEVELT COUNTY, NEW MEXICO.

Order No. R- 4509

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 28, 19 73
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 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, Sun Oil Company,
is the owner and operator of the New Mexico ^{AZ} ~~A-3~~ State Well No. 5
located in Unit D of Section 33, Township 7 South, Range
33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt
County, New Mexico.

(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the San Andres
formation, with injection into the perforated interval
from approximately 4,263 feet to 4,416 feet.

(4) That the injection should be accomplished through
2 3/8 -inch ^{CONCRETE} ~~plastic~~-lined tubing installed in a packer set at

approximately 4225 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, Sun Oil Company,
is hereby authorized to utilize its New Mexico ~~A-3~~ Well No. 5,
located in Unit D of Section 33, Township 7 South, Range
33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt
County, New Mexico, to dispose of produced salt water into the
San Andres formation, injection to be accomplished through
2 3/8-inch tubing installed in a packer set at approximately
4225 feet, with injection into the perforated interval
from approximately 4,263 feet to 4,416 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.

John K.

San Diego Co.

San water district

N. M. A-3 Sta. West No 5

D-33-75-33 E Roseville

Chovero San Andreas

Diagrams San Andreas
perf 4263-4416