

CASE 5681: A. H. RAINS FOR SALT
WATER DISPOSAL, EDDY COUNTY,
NEW MEXICO

CASE NO.

5681

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,
ETC.



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

October 30, 1984

TONY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Rains Production Co.
P. O. Box 2429
Carlsbad, New Mexico 88221

Re: SWD Injection Permit
Pure State No. 1
Unit J, Sec. 15,
T-21-S, R-27-E,
Eddy County, New Mex.

5681

Gentlemen:

In an effort to update our files regarding Salt Water Disposal Permits, we are requesting some information on the above-mentioned well. Our records show that your company was issued a SWD Injection Permit No. R-5217 by us on May 18, 1976. Our records also show that since that time, this well has not been used for salt water disposal. Since a great deal of time has passed since your injection permit was granted, we assume that it is no longer your intention to use this well for water disposal purposes.

We are requesting information on the present status of this well, and whether or not your company intends to utilize this well for water disposal purposes at this time or in the near future. We would appreciate a response to this letter within thirty days. If we have not had a written response within that period of time, the injection permit granted by us will be rescinded.

Thank you for your cooperation in this matter.

Sincerely,

David Catanach

DAVID CATANACH
Petroleum Engineer

DC/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. 5681
Order No. R-5217

APPLICATION OF A. H. RAINS FOR
SALT WATER DISPOSAL, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on May 12, 1976, at Santa Fe, New Mexico, before Examiner, Daniel S. Nutter.

NOW, on this 18th day of May, 1976, 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, A. H. Rains, is the operator of the Pure State Well No. 1, located in Unit J of Section 15, Township 21 South, Range 27 East, NMPM, Magruder-Yates Pool, Eddy County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Yates formation, with injection into the open-hole interval from approximately 540 feet to 551 feet.

(4) That the injection should be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 535 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(5) That the operator should notify the supervisor of the Artesia district office of the Commission of the date and time of the installation of disposal equipment so that the same may be inspected.

-2-

Case No. 5681

Order No. R-5217

(6) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(7) 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, A. H. Rains, is hereby authorized to utilize its Pure State Well No. 1, located in Unit J of Section 15, Township 21 South, Range 27 East, NMPM, Magruder-Yates Pool, Eddy County, New Mexico, to dispose of produced salt water into the Yates formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 535 feet, with injection into the open-hole interval from approximately 540 feet to 551 feet;

PROVIDED HOWEVER, 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 shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

(2) That the operator shall notify the supervisor of the Artesia district office of the Commission of the date and time of the installation of disposal equipment so that the same may be inspected.

(3) That the operator shall immediately notify the supervisor of the Commission's Artesia district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

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

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

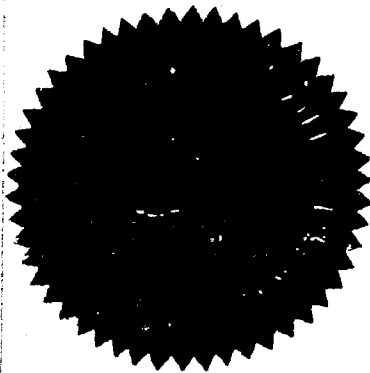
-3-

Case No. 5681

Order No. R-5217

DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



PHIL R. LUCERO, Chairman

Emery C. Arnold

EMERY C. ARNOLD, Member

Joe D. Ramey

JOE D. RAMEY, Member & Secretary

S E A L

dr/

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 12, 1976

EXAMINER HEARING

IN THE MATTER OF:

Application of A. H. Rains for salt
water disposal, Eddy County,
New Mexico.

CASE
5681

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil
Conservation Commission:

William F. Carr, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

sid morrish reporting service
General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

I N D E X

1		
2		<u>Page</u>
3	<u>A. H. RAINS</u>	
4	Direct Examination by Mr. Nutter	3

EXHIBIT INDEX

10		<u>Page</u>
11	Applicant's Exhibit No. One, Plat	10
12	Applicant's Exhibit No. Two, Driller's Log	10
13	Applicant's Exhibit No. Three, Water Analysis	10
14	Applicant's Exhibit No. Four, Water Well Report	10
15	Applicant's Exhibit No. Five, Form C-108	10

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1 MR. NUTTER: The hearing will come to order, please.
2 The next case will be Case Number 5681.

3 MR. CARR: Case 5681, application of A. H. Rains
4 for salt water disposal, Eddy County, New Mexico.

5 MR. RAINS: I would like approval to dispose of
6 water.

7 MR. NUTTER: Would you identify yourself, please,
8 sir?

9 MR. RAINS: Excuse me. I'm A. H. Rains, Carlsbad,
10 New Mexico.

11 MR. NUTTER: And you are going to be testifying on
12 your own behalf, is that it, Mr. Rains?

13 MR. RAINS: Yes, sir.

14 MR. NUTTER: All right, please.

15 (THEREUPON, the witness was duly sworn.)

16
17 A. H. RAINS
18 having been first duly sworn, testified as follows:

19
20 DIRECT EXAMINATION

21 BY MR. NUTTER:

22 Q All right, now, Mr. Rains, this is your application
23 for authority to dispose of salt water in the Yates formation
24 through the open-hole interval from approximately five hundred
25 and fifty feet to five hundred and sixty-five feet in your

1 Pure State Well No. 1 in Section 15 of 21 South, 27 East,
2 Magruder-Yates Pool, Eddy County, New Mexico.

3 Would you please in your own words just state
4 exactly what you are proposing to do and give us any exhibits
5 that you might have showing the location of the well and the
6 condition of the well and such as that?

7 A. Well, the location of the well is Section 15, 21
8 South, 27 East, sixteen fifty from the south, sixteen fifty
9 from the east, elevation thirty-two, sixty-six and what I would
10 like to do, I would like to set five-and-a-half inch casing
11 in this well if I can get it in the hole, if I can't, I will
12 have to go down to four-and-a-half and I want to cement it
13 at about, I guess, about five forty feet and I would like to
14 circulate it over the top.

15 Q. In other words, you would circulate it the entire
16 length of the pipe?

17 A. Yes, sir.

18 Q. And you would set your five or four-and-a-half inch
19 pipe at about five hundred and forty feet?

20 A. At about five forty.

21 Q. Okay, now, your proposal is to inject into the Yates
22 formation. Where is the Yates formation in this area?

23 A. Well, they've got sand and lime both there, which
24 all we've got to go by is just what they have turned in but
25 it could be that I would have to drill a little deeper to get

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1 the water in. I'm hoping that it will take it at this zone.
2 Not knowing too much about this I may have to go in there and
3 drill in and see just what I have got.

4 Q What is the producing formation in the area?

5 A It starts in at five forty-three to five fifty-one.

6 Q And that is the Yates formation?

7 A Well, I wouldn't call it the Yates formation because
8 you don't get water and heavy oil in only anything but lime
9 but according to these samples the information here, there are
10 some sand zones in there.

11 Q That would be sand stringers within this lime
12 section?

13 A Yes.

14 Q Now, how many producing wells are in this Magruder-
15 Yates Pool?

16 A There are four wells there.

17 Q Do you own all of those wells?

18 A No, sir, not yet, not until I can get permission
19 to dispose of some water.

20 Q And then you would acquire some producing wells?

21 A Yes, sir.

22 Q And you would be the only producer in the pool then?

23 A Yes, sir.

24 Q And do you have any estimate as to how much water
25 these wells will make?

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1 A. No, sir, I sure don't. It could be that I will only
2 produce one of these wells from what information I have on
3 them is that I think one well produces most of the oil, so I
4 intend to produce all three wells, the other three wells,
5 providing it will pay to produce them.

6 Q. This water that you would be putting in this Pure
7 State No. 1 is water that would be produced from this same
8 formation?

9 A. Yes, sir.

10 Q. It wouldn't be water from any other source?

11 A. No, sir.

12 Q. So you would be putting back less than you took
13 out of the reservoir altogether?

14 A. Yes.

15 Q. Because you would be taking oil and water out and
16 putting the water back?

17 A. Yes, sir.

18 Q. Do you expect to have to have any pressure on the
19 well in order to put this water back?

20 A. No, sir, I'm figuring on it ~~drafting~~ *gravitying* in.

21 Q. I see.

22 A. I'm going to have approximately thirty-five feet
23 elevation to go in this well from where the tank battery is
24 going to be.

25 Q. I see, and you figure that will be enough head to

1 get it into the well?

2 A. Yes.

3 Q Do you have a plat, Mr. Rains, that shows the
4 location of these wells?

5 A. Yes, sir, you didn't get one of those?

6 Q No, sir, I sure don't have one.

7 A. I'm sorry, I thought you did have them.

8 Q Now, I have this plat, Mr. Rains, that shows the
9 location of the well and there is one well with a triangle on
10 it, is that the disposal well?

11 A. Yes, sir, Well No. 1.

12 Q Okay, we are going to identify that one as Exhibit
13 No. One, Mr. Rains.

14 A. Yes, sir.

15 Q And I believe this exhibit also shows the depth of
16 the other wells in the area and the casing and some of these
17 wells have been plugged, it shows the plugs, where they are
18 set and so forth?

19 A. Yes, sir.

20 Q Now, we've got another item here, Mr. Rains, that
21 appears to be a driller's log showing the formations. This is
22 the Pure State No. 1 so this would be where you are getting
23 the sand in this lime and this porous zone down here in this
24 five hundred and forty to five hundred and fifty foot interval
25 is that correct?

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1 A. Yes, sir.

2 Q. We'll identify that as Exhibit Number Two, then.

3 Now, this exhibit, Mr. Rains, or this document,
4 appears to be a water analysis. What water was this that you
5 had analyzed?

6 A. Well, this is what I would call a surface water or
7 windmill water, it's over in Section 9.

8 Q. In Section 9?

9 A. And it would be somewhere within a mile or further
10 from this location.

11 Q. And this is windmill water?

12 A. Yes, sir. I think if you will look on the back of
13 your deal you will find another deal on where they drilled
14 a well where they didn't hit any surface water. It is on the
15 back part of that drilled by Albert over at Hobbs.

16 Q. Okay, I think you are probably referring to this
17 State Engineer Office well record, is that correct?

18 A. Yes, sir.

19 Q. And this is a well that was drilled by Abbott brothers
20 for Humble Oil and Refining Company. Apparently the well was
21 drilled to a depth of five hundred and ninety-five feet
22 looking for water and it was drilled in Section 15 of 21, 27,
23 which is this same section where your well is located, is that
24 correct?

25 A. Yes, that's right.

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1 Q And this was a water well but was reported as a
2 dry hole?

3 A Yeah, I think they wanted drilling water when they
4 drilled that deep well and they didn't get it.

5 Q They didn't get any water? The water analysis is
6 Exhibit Number Three and the water well report will be
7 Exhibit Number Four.

8 Now, we have here a Form C-108 which is an applica-
9 tion to dispose of salt water and I notice that it is a little
10 bit different from the original application that was filed,
11 Mr. Rains. We advertised the case on the basis of the
12 original application which was to dispose from five fifty to
13 five sixty-one, however, now it appears that you may have
14 changed that just a little bit and it would be from five
15 forty-three to five-fifty.

16 A Five forty.

17 Q Okay, it says casing set at five forty and then
18 down here it says --

19 A Yes, sir, that was before I got this log on where
20 the sand in the stuff was.

21 Q I see, so your actual disposal zone will be from
22 five forty then to --

23 A Five fifty-one.

24 Q Five fifty-one, okay. And we will mark that then,
25 that C-108 as Exhibit Number Five.

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1 Okay, now, without objections, Mr. Rains, Exhibits
2 One through Five will be admitted into evidence in this record.

3 (THEREUPON, Applicant's Exhibits One through
4 Five were admitted into evidence.)

5 MR. NUTTER: Do you have anything further you wish
6 to add to your testimony?

7 MR. RAINS: No, sir, I don't believe I do.

8 MR. NUTTER: Does anyone have any questions of
9 Mr. Rains? He may be excused.

10 (THEREUPON, the witness was excused.)


11 MR. NUTTER: Does anyone have anything they wish
12 to offer in Case Number 5681? We will take the case under
13 advisement.

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REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter,
do hereby certify that the foregoing and attached Transcript
of Hearing before the New Mexico Oil Conservation Commission
was reported by me, and the same is a true and correct record
of the said proceedings to the best of my knowledge, skill and
ability.


Sidney F. Morrish, C.S.R.

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 5681
heard by me on 5/12, 19 76.

 Examiner
New Mexico Oil Conservation Commission

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 12, 1976

EXAMINER HEARING

IN THE MATTER OF:

Application of A. H. Rains for salt
water disposal, Eddy County,
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Page

A. H. RAINS

Direct Examination by Mr. Nutter

3

EXHIBIT INDEX

Page

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10

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Applicant's Exhibit No. Four, Water Well Report

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Applicant's Exhibit No. Five, Form C-108

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10 New Mexico.

11 MR. NUTTER: And you are going to be testifying on
12 your own behalf, is that it, Mr. Rains?

13 MR. RAINS: Yes, sir.

14 MR. NUTTER: All right, please.

15 (THEREUPON, the witness was duly sworn.)
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12 have to go down to four-and-a-half and I want to cement it
13 at about, I guess, about five forty feet and I would like to
14 circulate it over the top.

15 Q In other words, you would circulate it the entire
16 length of the pipe?

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19 to dispose of some water.

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21 A Yes, sir.

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1 A No, sir, I sure don't. It could be that I will only
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11 A No, sir.

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19 well in order to put this water back?

20 A No, sir, I'm figuring on it drafting in.

21 Q I see.

22 A I'm going to have approximately thirty-five feet
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24 going to be.

25 Q I see, and you figure that will be enough head to

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2 A. Yes.

3 Q. Do you have a plat, Mr. Rains, that shows the
4 location of these wells?

5 A. Yes, sir, you didn't get one of those?

6 Q. No, sir, I sure don't have one.

7 A. I'm sorry, I thought you did have them.

8 Q. Now, I have this plat, Mr. Rains, that shows the
9 location of the well and there is one well with a triangle on
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12 Q. Okay, we are going to identify that one as Exhibit
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21 appears to be a driller's log showing the formations. This is
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23 the sand in this lime and this porous zone down here in this
24 five hundred and forty to five hundred and fifty foot interval
25 is that correct?

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1 A Yes, sir.

2 Q We'll identify that as Exhibit Number Two, then.

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4 appears to be a water analysis. What water was this that you
5 had analyzed?

6 A Well, this is what I would call a surface water or
7 windmill water, it's over in Section 9.

8 Q In Section 9?

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20 for Humble Oil and Refining Company. Apparently the well was
21 drilled to a depth of five hundred and ninety-five feet
22 looking for water and it was drilled in Section 15 of 21, 27,
23 which is this same section where your well is located, is that
24 correct?

25 A Yes, that's right.

1 Q And this was a water well but was reported as a
2 dry hole?

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4 drilled that deep well and they didn't get it.

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10 bit different from the original application that was filed,
11 Mr. Rains. We advertised the case on the basis of the
12 original application which was to dispose from five fifty to
13 five sixty-one, however, now it appears that you may have
14 changed that just a little bit and it would be from five
15 forty-three to five-fifty.

16 A Five forty.

17 Q Okay, it says casing set at five forty and then
18 down here it says --

19 A Yes, sir, that was before I got this log on where
20 the sand in the stuff was.

21 Q I see, so your actual disposal zone will be from
22 five forty then to --

23 A Five fifty-one.

24 Q Five fifty-one, okay. And we will mark that then,
25 that C-108 as Exhibit Number Five.

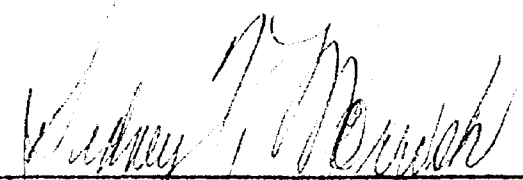
sid morrish reporting service
General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

sid morrish reporting service
General Court Reporting Service
 825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
 Phone (505) 982-9212

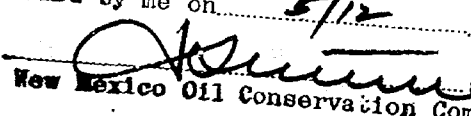
1 Okay, now, without objections, Mr. Rains, Exhibits
 2 One through Five will be admitted into evidence in this record.
 3 (THEREUPON, Applicant's Exhibits One through
 4 Five were admitted into evidence.)
 5 MR. NUTTER: Do you have anything further you wish
 6 to add to your testimony?
 7 MR. RAINS: No, sir, I don't believe I do.
 8 MR. NUTTER: Does anyone have any questions of
 9 Mr. Rains? He may be excused.
 10 (THEREUPON, the witness was excused.)
 11 MR. NUTTER: Does anyone have anything they wish
 12 to offer in Case Number 5681? We will take the case under
 13 advisement.
 14
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 24
 25

REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter,
do hereby certify that the foregoing and attached Transcript
of Hearing before the New Mexico Oil Conservation Commission
was reported by me, and the same is a true and correct record
of the said proceedings to the best of my knowledge, skill and
ability.


Sidney F. Morrish, C.S.R.

sid morrish reporting service
General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 5681
heard by me on 5/12, 1974

New Mexico Oil Conservation Commission Examiner

Other _____

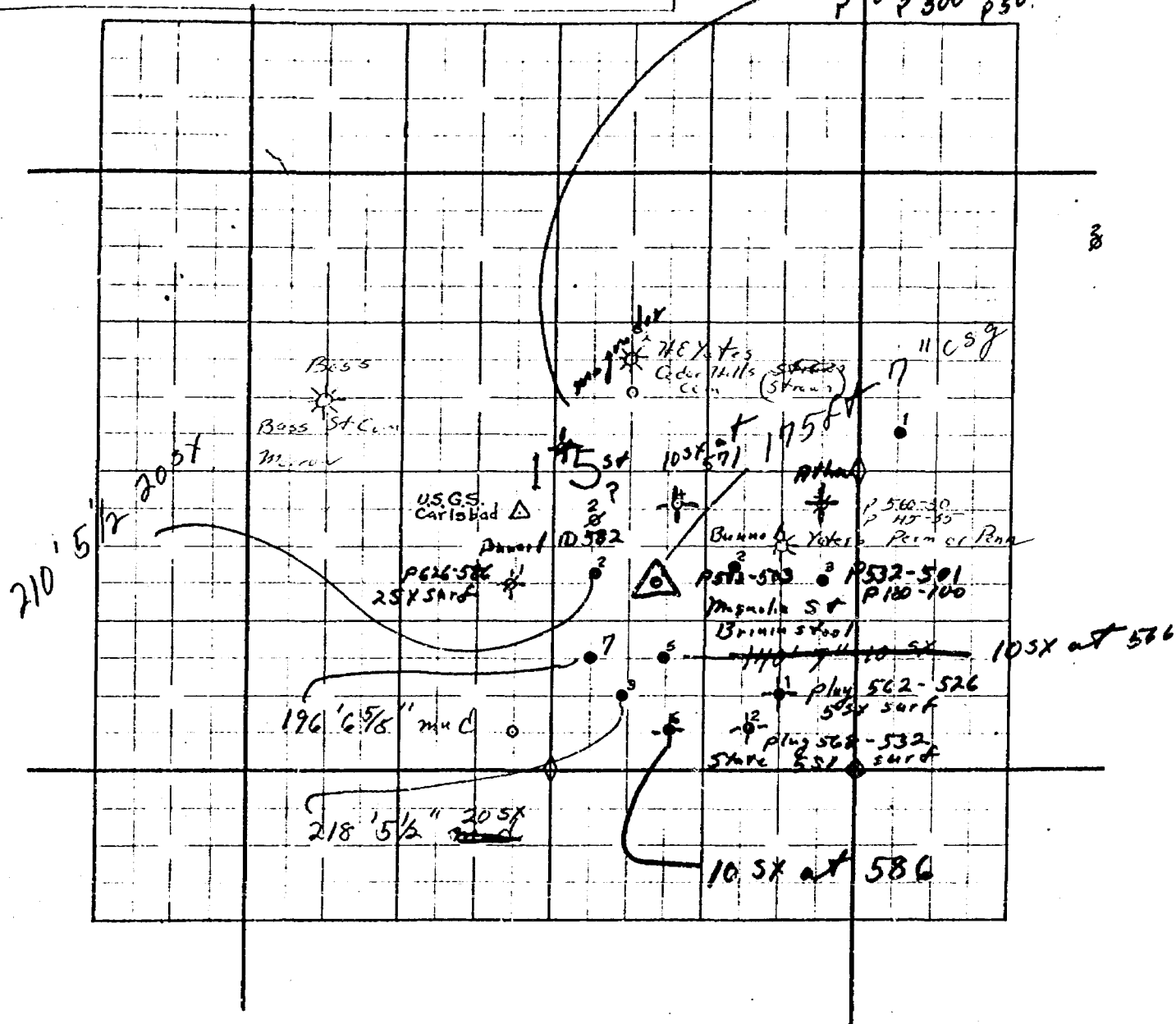
MARKS:

Sec 15, 21 S-27 E

COMPANY

COMPANY

ID 2100
 P 160-1560
 P 800-760
 P 300-770
 P 50-30



BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

Archival EXHIBIT NO. 1

CASE NO. 5681

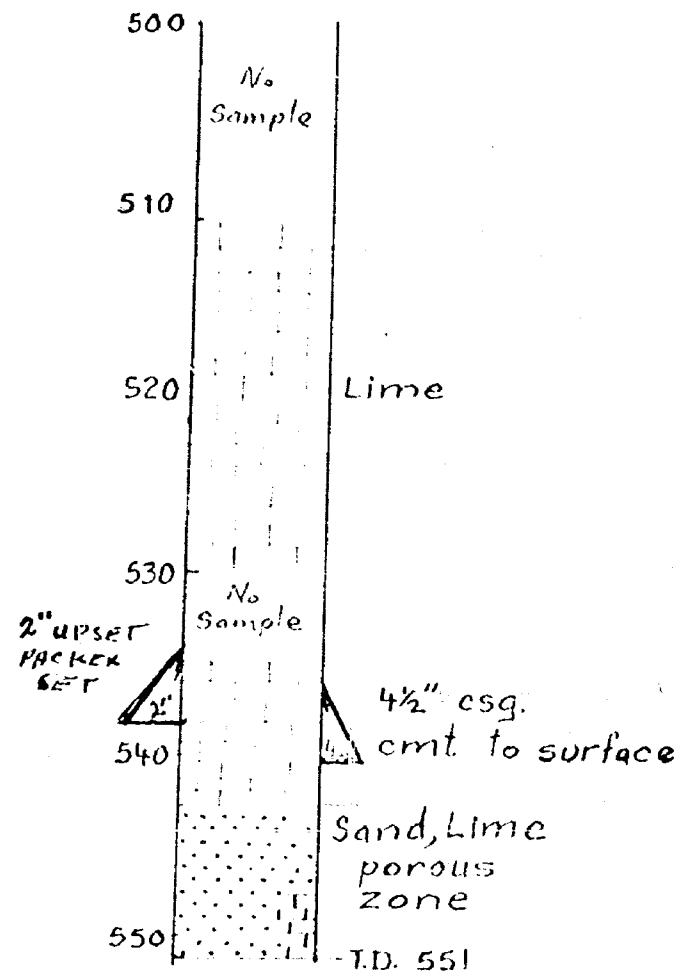
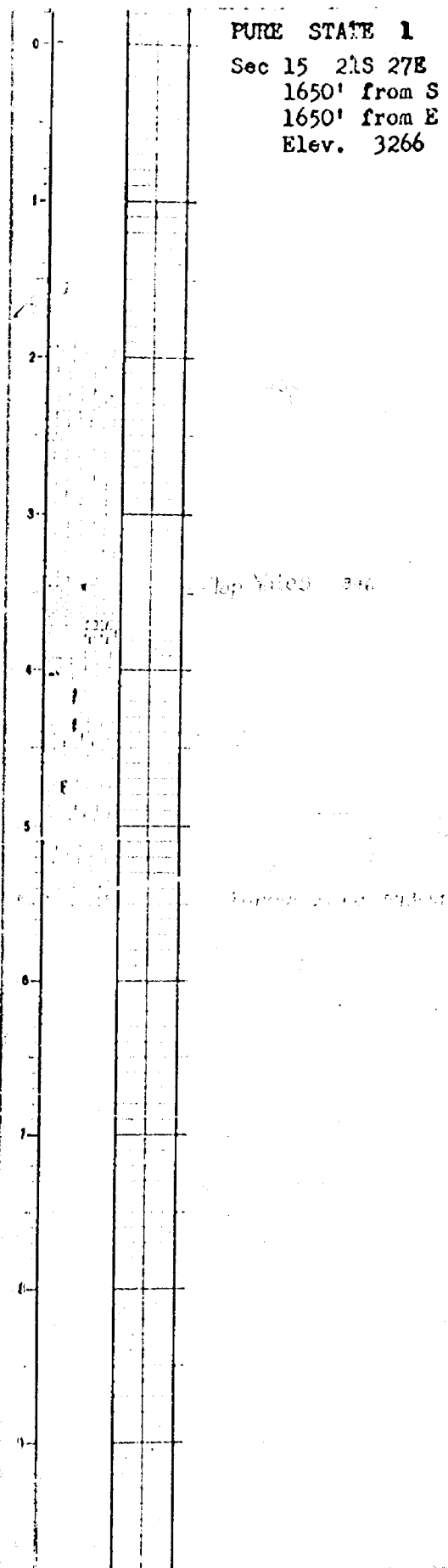
MAGRUDER FIELD

PURE STATE 1
Sec 15 21S 27E
1650' from S
1650' from E
Elev. 3266

Sec 15 21S 27E
Eddy County NM

Diagram of:
casing, tubing &
porous zone

Pure State No 1 Unit J
1650 feet from south line
1650 feet from east line



BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION
EXHIBIT NO. 2
CASE NO. 57681



DEARBORN
CHEMICAL
DIVISION

CHEMED CORPORATION

60 GENESEE STREET • LAKE ZURICH, ILLINOIS 60047
AREA CODE 312 PHONE 527-5700

Fig. No. 1
laboratory no. 260 date collected 2/16/73
source Cooling tower makeup

received from Southern Union
Carlsbad, New Mexico

rec'd. in laboratory 2/20/73

REPORT OF WATER ANALYSIS

PARTS per million EQUIVALENTS per million

date March 2, 1973

ref. init. WA/sj

salesman Strong

residue by
evaporation ppm

total dissolved
mineral solids 4963 ppm

ignition loss ppm

suspended solids <10 ppm

chloroform
extractable (oil, etc.) ppm

pH 7.3

phenolphthalein
alkalinity as CaCO_3 None ppm

methyl orange
alkalinity as CaCO_3 100 ppm

hydroxide
alkalinity as CaCO_3 ppm

hardness as CaCO_3 2330 ppm

specific
conductance micromhos

turbidity units

R

SILICA as SiO_2

26

IRON as Fe

CALCIUM as Ca

690

34.50

MAGNESIUM as Mg

148

12.10

SODIUM and POTASSIUM as Na

693

30.14

BICARBONATE as HCO_3

122

2.00

CARBONATE as CO_3

None

HYDROXIDE as OH

CHLORIDE as Cl

868

24.49

SULPHATE as SO_4

2400

50.00

NITRATE as NO_3

16

0.25

PHOSPHATE, ORTHO as PO_4

PHOSPHATE, POLY as PO_4

SULPHITE as SO_3

BEFORE EXAMINER NUTTER
OIL CONSERVE
EXHIBIT NO. 3
CASE NO. 5081

conversion factors

Parts per million $\times .0583$ = gr./U.S. Gal.
Grains per U.S. Gallon $\times 17.12$ = ppm
Equivalents per million \times Equivalent weight = ppm

equivalent weights

sodium chloride (NaCl) = 58.5
sodium sulfate (Na_2SO_4) = 71.0
sodium nitrate (NaNO_3) = 85.0
sodium sulfite (Na_2SO_3) = 63.0
sodium chromate (Na_2CrO_4) = 61.0
calcium carbonate (CaCO_3) = 50.0
Form 549RB-1

physical characteristics of sample

Quart, Plastic, Colorless, Clear

Windmill wte.
Sec 9 about 1 mi from
location.

DEARBORN LABORATORIES

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR A. H. Reins		ADDRESS Box 927, Carlsbad, NM 88220			
LEASE NAME Pure State	WELL NO. 1	FIELD Magruder - Yates	COUNTY Eddy		
LOCATION UNIT LETTER J WELL IS LOCATED 1650 FEET FROM THE south LINE AND 1650 FEET FROM THE east LINE, SECTION 15 TOWNSHIP 21S RANGE 27E NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	7"	175	15	unknown	
INTERMEDIATE					
LONG STRING	to be set	4 1/2"	540	to circulate	surface
TUBING	2 7/8"	540	NAME, MODEL AND DEPTH OF TUBING PACKER Guiberson Hookwell @ 540		
NAME OF PROPOSED INJECTION FORMATION Yates		TOP OF FORMATION 543 sand		BOTTOM OF FORMATION 551 line	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? tubing		PERFORATIONS OR OPEN HOLE? open hole		PROPOSED INTERVAL(S) OF INJECTION 543 - 551 540-551	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? no		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? oil producer		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 no fresh water in the area					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA none		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA none		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 11,000 gas	
ANTICIPATED DAILY INJECTION VOLUME (BBL/D.)	MINIMUM	MAXIMUM	OPEN OR CLOSED TYPE SYSTEM closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? gravity	APPROX. PRESSURE (PSI) 125
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNSUIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE yes			WATER TO BE DISPOSED OF same		
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) J.D. Spears Box 1017 Carlsbad, N.M.			LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Yates Petroleum Corp. Artesia, NM 88210 Perry Bass Midland, Texas		
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?			EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL		
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)?			ELECTRICAL LOG		
			DIAGRAMMATIC SKETCH OF WELL		
BEFORE EXAMINER NUTTER OIL CONSERVATION COMMISSION APPROVED NO. 5 CASE NO. 5681					

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

(Signature)

(Title)

(Date)

NOTE: Should waivers from the State Engineer, 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.

Set for hearing
for May 12

Oil Conservation Commission - Santa Fe, New Mexico

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

OPERATOR A.H. RAINS		ADDRESS BOX 927 CARLSBAD, N.M. 88220	
LEASE NAME PURE STATE	WELL NO. 1	FIELD MAGRUDER-YATES	COUNTY EDDY
LOCATION UNIT LETTER J ; WELL IS LOCATED 1650 FEET FROM THE EAST LINE AND 1650 FEET FROM THE SOUTH LINE, SECTION 15 TOWNSHIP 21 RANGE 27 NMPM.			

CASING AND TUBING DATA

NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	7	175	15	2111 known	
INTERMEDIATE					
LONG STRING	4 1/2	550	To circulate	surface	
TUBING	2 3/8	550	NAME, MODEL AND DEPTH OF TUBING PACKER Guiberson 700 ft wall @ 550		
NAME OF PROPOSED INJECTION FORMATION Yates			TOP OF FORMATION <input checked="" type="checkbox"/>		BOTTOM OF FORMATION <input checked="" type="checkbox"/>
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES OH	PROPOSED INTERVAL(S) OF INJECTION 550 - 561		
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? old producer		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					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA <input checked="" type="checkbox"/>		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 11,000 Gas	
ANTICIPATED DAILY INJECTION VOLUME (BCLS.)	MINIMUM <input checked="" type="checkbox"/>	MAXIMUM <input checked="" type="checkbox"/>	OPEN OR CLOSED TYPE SYSTEM closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Gravity	APPROX. PRESSURE (PSI) 125
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 - <input checked="" type="checkbox"/>			WATER TO BE DISPOSED OF <input checked="" type="checkbox"/>	NATURAL WATER IN DISPOSAL ZONE same	ARE WATER ANALYSES ATTACHED? <input checked="" type="checkbox"/>
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <input checked="" type="checkbox"/>					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL None					
PERMISSION TO SET 4 1/2" CASING AT 500' FOR WATER INJECTION					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?					
SURFACE OWNER		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL		THE NEW MEXICO STATE ENGINEER	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		ELECTRICAL LOG		DIAGRAMMATIC SKETCH OF WELL	

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

A.H. Rains
(Signature)

(Title)

(Date)

NOTE: Should waivers from the State Engineer, 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.

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

			X

(Plat of 640 acres)

(A) Owner of well Humble Oil & Refining CompanyStreet and Number P.O. Box 2347City Hobbs, State New MexicoWell was drilled under Permit No. --- and is located in theNE 1/4 NE 1/4 SE 1/4 of Section 15 Twp. 21-S Rge. 27-E(B) Drilling Contractor Abbott Brothers License No. ND-46Street and Number Box 637City Hobbs State New MexicoDrilling was commenced 9-1-62 19 62Drilling was completed 9-12 19 62Elevation at top of casing in feet above sea level --- Total depth of well 595State whether well is shallow or artesian --- Depth to water upon completion Dry Hole

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1				<u>Dry Hole</u>
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia. in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
				<u>None</u>				

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5

PLUGGING RECORD

Name of Plugging Contractor Abbott BrothersLicense No. ---Street and Number Box 637City HobbsState New MexicoTons of Clay used --- Tons of Roughage used --- Type of roughage ---Plugging method used --- Date Plugged 9-12 19 62

Plugging approved by:

Cement Plugs were placed as follows:

FOR USE OF STATE ENGINEER ONLY

Date Received ---File No. ---Use ---Location No. 21, 27, 15, 9, 2, 23

No.	Depth of Plug		No. of Sacks Used
	From	To	
1			<u>30 sacks in bottom</u>
2	<u>0</u>	<u>25</u>	<u>20 sacks in Top</u>
	<u>Rubble filled between plugs</u>		

LOG OF WELL.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

ARVIN D. EADY

Agent

Humble Oil & Refining Company

OIL CONSERVATION CERTIFICATION

Am. No. 4

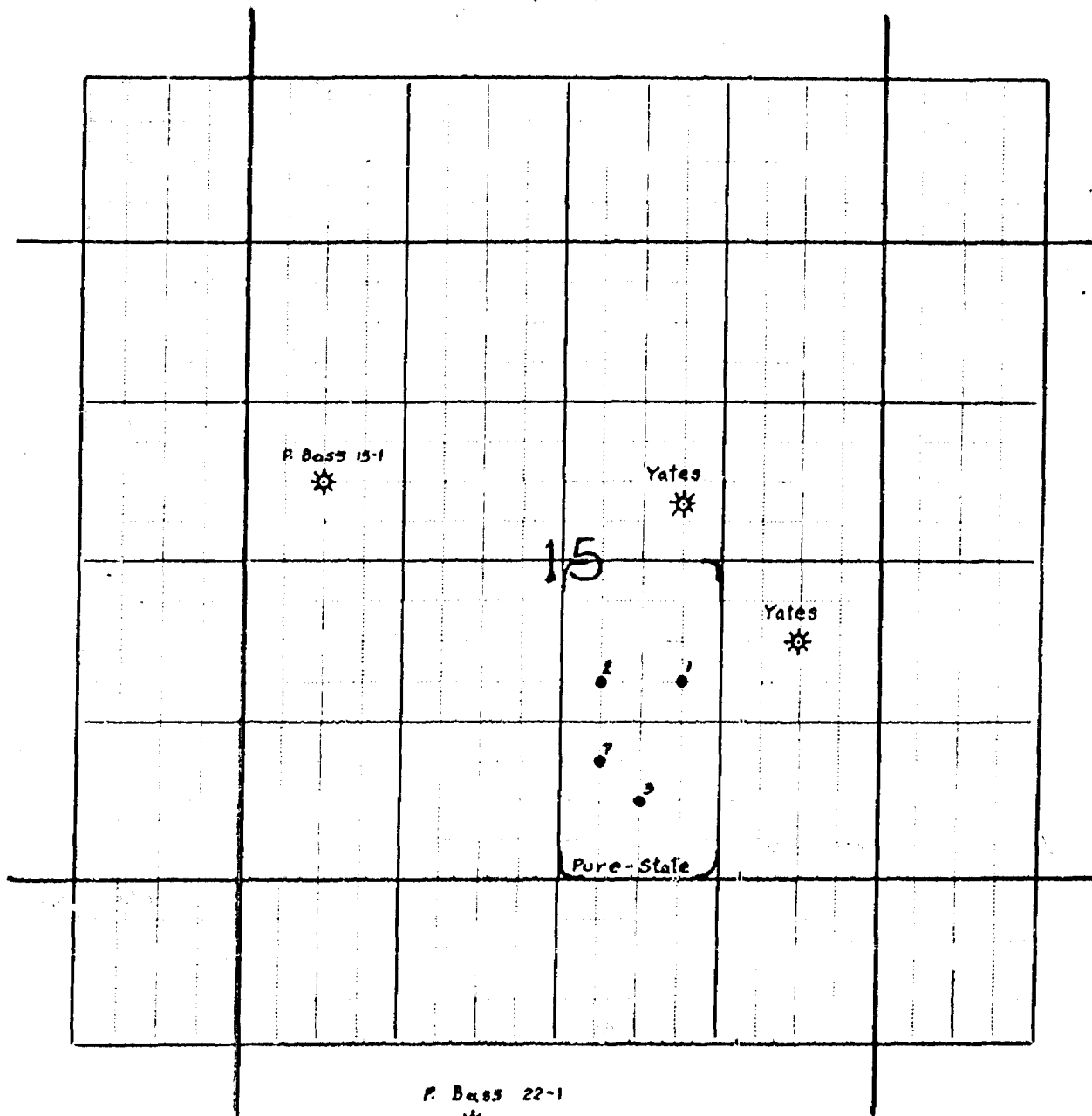
4251

MAGRUDER FIELD

Section 15 Township 21 S Range 27 E N.M.P.M. County Eddy NM

Township No. 51 No. Figure 513 - Scale 1 inch 1 Mile - In Stock and For Sale by THE OILS PRESS, Tulsa, Oklahoma

Scale 4" = 1 mile



Dockets Nos. 15-76 and 16-76 are tentatively set for hearing on May 26 and June 9, 1976. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - MAY 12, 1976

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

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

ALLOWABLE: (1) Consideration of the allowable production of gas for June, 1976, from seventeen prorated pools in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico.

(2) Consideration of the allowable production of gas for June, 1976, from five prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

CASE 5676: Application of Yates Petroleum Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Federal CC Com Well to be drilled 660 feet from the South and East lines of Section 32, Township 17 South, Range 25 East, Eddy County, New Mexico, to test the Morrow formation, the E/2 of said Section 32 to be dedicated to the well.

CASE 5677: Application of Yates Petroleum Corporation for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Dunken Nose Unit Area comprising 6393 acres, more or less, of State and Fee lands in Township 17 South, Ranges 18 and 19 East, Chaves County, New Mexico.

CASE 5678: Application of Amoco Production Company for directional drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to deviate its State "E" Tract 18 Well No. 15, the surface location of which is 330 feet from the North line and 2310 feet from the West line of Section 1, Township 17 South, Range 36 East, Lovington-Abo Pool, Lea County, New Mexico, by directionally drilling said well and bottoming it in the Abo formation within 100 feet of a point 600 feet from the North line and 2310 feet from the West line of said Section 1.

CASE 5679: Application of Amoco Production Company for approval of an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Empire South Deep Unit Well No. 9 to be drilled 660 feet from the North line and 990 feet from the West line of Section 5, Township 18 South, Range 29 East, South Empire-Morrow Gas Pool, Eddy County, New Mexico, the W/2 of said Section 5 to be dedicated to the well.

CASE 5680: Application of Amoco Production Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the W/2 of Section 21, Township 20 South, Range 25 East, Cemetery-Morrow Gas Pool, Eddy County, New Mexico, to be dedicated to David Fasken's Cemetery Federal Com Well No. 1 located in Unit L of said Section 21. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of David Fasken as operator of the well and a charge for the risk involved in drilling said well.

CASE 5681: Application of A. H. Rains for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates formation through the open-hole interval from approximately 550 feet to 561 feet in his Pure State Well No. 1, located in Unit J of Section 15, Township 21 South, Range 27 East, Magruder-Yates Pool, Eddy County, New Mexico.

CASE 5098: (Reopened)

In the matter of Case 5098 being reopened pursuant to the provisions of Order No. R-4682, which order established special rules for the Red Tank-Morrow Gas Pool, Lea County, New Mexico, including a provision for 640-acre spacing. All interested parties may appear and show cause why said pool should not be developed on 320-acre spacing.

CASE 5473: (Reopened)

In the matter of Case 5473 being reopened pursuant to the provisions of Order No. R-5029, which order established special rules and regulations for the West Knowles-Drinkard Pool, Lea County, New Mexico, including a provision for 80-acre spacing and proration units. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units.

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. 5681

Order No. R- 5217

APPLICATION OF A. H. RAINS FOR SALT
WATER DISPOSAL, EDDY COUNTY, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on May 12, 1976
at Santa Fe, New Mexico, before Examiner, Daniel S. Nutter.

NOW, on this day of May, 1976, 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, A. H. Rains,
is the ~~owner and~~ operator of the Pure State Well No. 1,
located in Unit J of Section 15, Township 21 South,
Range 27 East, NMPM, Magruder-Yates Pool,
Eddy County, New Mexico.

(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the Yates
formation, with injection into the open-hole interval
from approximately 590 feet to 551 feet.

(4) That the injection should be accomplished through 2 3/8-inch ~~plastic lined~~ tubing installed in a packer
set at approximately 535 feet; that the casing-tubing annulus
should be filled with an inert fluid; and that a pressure gauge
or approved leak detection device should be attached to the

CASE NO. _____

annulus in order to determine leakage in the casing, tubing, or packer.

~~(4) That the injection well or system should be equipped with a pop off valve or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 700 psi.~~

⁵
(4) That the operator should notify the supervisor of the Artesia district office of the Commission of the date and time of the installation of disposal equipment so that the same may be inspected.

⁶
(4) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

¹
(4) 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, A. H. Rains, is hereby authorized to utilize its Pure State Well No. 1, located in Unit J of Section 15, Township 21 South, Range 27 East, NMPM, Magruder-Yates Pool, Eddy County, New Mexico, to dispose of produced salt water into the Yates formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 535 feet, with injection into the open-hole interval from approximately 540 feet to 551 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 shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

CASE NO. _____

(2) That the injection well or system shall be equipped with a pop-off valve or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 700 psi.

(2) That the operator shall notify the supervisor of the Artesia district office of the Commission of the date and time of the installation of disposal equipment so that the same may be inspected.

(3) That the operator shall immediately notify the supervisor of the Commission's Artesia district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

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

(5) 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.