

Case Number
4570

Application

Transcripts

Small Exhibits

E T C.

1 MR. NUTTER: We will take next case 4570.

2 MR. HATCH: Case 4570. Application of Shenandoah
3 Oil Corporation for salt water disposal, Chaves County,
4 New Mexico.

5 MR. JENNINGS: I am James T. Jennings of Jennings,
6 Cristy, and Copple, appearing on behalf of the applicant,
7 Shenandoah, and I will have two witnesses and if you
8 would stand and be sworn, Mr. Nabbefeld and Mr. LeMay.

9 (Witness sworn)

10 MR. JENNINGS: We will have four exhibits, and I have
11 marked them, and I will hand you all but the log, and I
12 will give you that.

13 (Whereupon, Applicant's Exhibits 1 through 4 were marked
14 for identification.)

15 BOB NABBEFELD

16 having been duly sworn testified as follows:

17 DIRECT EXAMINATION

18 BY MR. JENNINGS:

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

20 A Yes. My name is Bob Nabbefeld, spelled N-a-b-b-e-f-e-l-d.
21 I am manager of Primary Operations with Shenandoah Oil
22 Corporation.

23 Q How long have you been so employed, Mr. Nabbefeld?

24 A Just a little over two years.

25 Q Mr. Nabbefeld, would you briefly relate your educational
and professional training?

1 A Yes. I graduated from Wisconsin Institute of Technology
2 with a BS degree in Engineering in 1954.
3 I was with Stanoline in the Kansas, Oklahoma, Louisiana,
4 Arkansas area through '59. I was with Ambassador Oil --
5 Oh, I beg your pardon. I had various engineering positions
6 with Ambassador Oil in water flood and unitization and
7 Primary Operations from '59 through '65, and then with
8 Anadarko Production as District Superintendent in Oklahoma,
9 and in the last two years with Shenandoah.

10 Q In charge of all their --

11 A Primary Operations.

12 MR. JENNINGS: Are Mr. Nabbefeld's qualifications
13 acceptable?

14 MR. NUTTER: Yes, they are.

15 Q (Mr. Jennings continuing) Now, Mr. Nabbefeld, are you
16 familiar with the application which has been filed on
17 behalf of Shenandoah Oil Corporation in Case 4570.

18 A Yes, I am.

19 Q Would you relate the nature of that application?

20 A Shenandoah wishes to request permission to dispose of salt
21 water down the annulus of our Read and Stephens M,
22 Federal number one located in unit K, section twenty-eight,
23 six South, twenty-seven East, Chaves County. Is that enough?

24 Q Yes, sir. Mr. Nabbefeld, referring to what has been marked
25 as exhibit A, would you briefly tell what wells Shenandoah

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1 has in the area and what the nature of production is?

2 A Certainly. This is the Haystack-Cisco Gas Pool. We have

3 two wells currently producing in section twenty-one of

4 six South, twenty-seven East.

5 Our Federal "L" number one, and our Federal "I" number

6 one, they are currently producing approximately ten and

7 a half million each to Trans-Western, and they are --

8 you are not interested in liquids, I guess.

9 Q Are they producing any -- first two wells you enumerated,

10 are they in section twenty-one? Are they producing any

11 water?

12 A No water, just a trace of water at the current time.

13 Q What was the nature of the well in section twenty-eight

14 that --

15 A This well has on test. It is not on the line as yet, but

16 on test, on A. A. O. F.

17 It was 580,000 and produced in excess of 100 barrels of

18 water a day.

19 We feel this to be a remarginal operation at this point,

20 and that, of course, is the primary reason for this

21 application.

22 Q Mr. Nabbeheld, are you familiar with the terrain in the

23 area?

24 A Yes. Yes. If you want to call it an eyeball look, yes.

25 I will start from the top, starting in section sixteen,

1 in the Northeast of the Southwest quarter.

2 We are just off of the cap. In other words, let me start
3 out this way.

4 Apparantly, this whole thing, if you want to call it the
5 cap, everything to the East and the Federal "L", which
6 is in the Northwest of the Northeast of twenty-one is just
7 off of the cap.

8 The discovery well or the Federal "I", which is located
9 in the Northeast of the Southwest is on top of the cap
10 on a nose.

11 Now, Forrest has a well that they have just recently
12 completed in the Northeast of the Northwest of twenty-eight.
13 It is on a ridge.

14 Now, the well in question here, our Federal or our "M"
15 Federal number one, which is in the Northeast of the
16 Southwest of twenty-eight, it is down off of the cap and
17 in the bottom, so to speak.

18 Q Now, referring to what has been marked exhibit A, Mr.
19 Nabbefeld, would you tell us just what that is?

20 A That is a representation or cross section of the current
21 well bore condition.

22 We have thirteen and three-eighths inch casing set at
23 thirty feet, cemented to surface with three yards of ready
24 mix.

25 We have eight and five-eighths set at 1376 feet with 750

1 of cement circulated to the surface.

2 Then we had two and seven-eighths inch tubing as a
3 production casing, set at 6124 and cemented with 300
4 sacks.

5 Top of the cement, by temperature survey, was 5090 feet,
6 and the producing interval spread through perforations
7 from 5600 to 56 -- Excuse me. Correction. 5747.

8 And, of course, we drilled a seven and seven-eighths hole
9 for the long string and a twelve and a quarter for the
10 surface string.

11 Q How do you propose to dispose of the well under this?

12 A As shown here, we intend to, I would like to dispose of
13 this water down the annulus between the eight and five-
14 eighths and the two and seven-eighths inch production string
15 into the San Andres, primarily, which we think it will go.

16 Q Into the zone between 1376 --

17 A Yes.

18 Q -- and 5090 feet?

19 A Correct.

20 Q What type of water do you have in it?

21 A We have had this -- have to analyze and the latest analysis
22 we have agrees with the other one we had, and in brief,
23 the chloride content is between 89,690 thousand parts
24 per million.

25 ~~No indication of hydrogen sulphide, and we have discussed~~

1 this with the party analyzing the water samples, and
2 they have written us a letter which has not been received
3 as yet, by the way, but I do have a recommendation on the
4 treatment if you want to discuss it at this time.

5 Q Well, just how do you plan to treat the water?

6 A Well, for corrosion, the purpose is, one thing, at the
7 surface we plan to do one of two things, either a pressure
8 vessel with a gas blanket, or use a hydro-carbon blanket
9 to reduce oxygen intake into the water to be injected
10 into the annulus, and then in addition to this, from the
11 analysis, it indicates that we might have some corrosion,
12 naturally, both sulphate, and arobie, and to do this, we
13 are going to use the necessary bacteria sides and factants
14 to prevent this and scale formation to cut down on increased
15 injective pressures.

16 And we have a tentative treatment program right now, but
17 I would like to refine this a little bit from what we have,
18 so I would rather not -- but we do plan to treat the water
19 if we are allowed.

20 Q Mr. Nabbefeld, the water analysis made by the Western
21 Company --

22 A Yes, sir.

23 Q --Did you receive a copy of the report from the Western
24 Company?

25 A I did.

1 Q Is that what has been marked exhibit four?

2 A Yes.

3 Q Mr. Nabbefeld, have you looked into the possibility of
4 injecting this water into any other wells or dry holes
5 in the area.

6 A Yes, sir. We had had a dry hole in the Northwest of the
7 Southwest of twenty-two, namely, our Van Eaton line
8 digger number one, and there is a considerable distance,
9 and because of the terrain, and we are talking about cost,
10 which is in the neighborhood of \$20,000 to complete this
11 disposal system.

12 Q How does that compare with the cost of your proposed
13 disposal of water?

14 A Well, this annular disposal system, we are estimating
15 right now in the neighborhood of \$4200 to complete it.

16 Q Do you know of the existence of any pressure water in the
17 area, Mr. Nabbefeld?

18 A No. We have discussed this with a number of ranchers in
19 the area, and the only well that we can find is in the
20 -- now, this is an approximate location, the Southwest
21 Southwest of section eleven, which is approximately three
22 and a half miles Northeast of this location.

23 And they do have a windmill there, and the water is coming
24 from approximately three hundred feet.

25 And there may be -- not shown on this map, but a rancher

1 down here near the river, and I think that is about --
2 I am going to say about seven miles is a windmill, and
3 again, his depth is in the neighborhood of two to two
4 fifty, I understand.

5 Q The river is seven miles to the West?

6 A I am approximating that. I don't know. Yes.

7 Q Do you have anything further that you wish to offer to
8 the Commission at this time?

9 A I don't believe so. I would say that in the very brief
10 application that we made that the primary purpose of this,
11 of course, is to attempt to produce this well for at least
12 a period of time.

13 We realize that we have a marginal operation here right
14 now, and naturally, one thing we are hoping for is that
15 maybe that water will dry up, but we aren't going to
16 bank on that.

17 The other thing I would like to add is should we commence
18 producing any water from our other two wells that we have
19 right now, we would also like to be allowed to put that
20 water into this well.

21 As a matter of interest for any additional activity in the
22 area, we are in the process of side tracking collapsed
23 casing on the well in section sixteen and also commencing
24 operation on a well in twenty, section twenty.

25 MR. JENNINGS: I believe that's all we have from this

1 witness.

2 CROSS EXAMINATION

3 BY MR. NUTTER:

4 Q Mr. Nabbeheld, you mentioned that you are working on that
5 well in sixteen. Would that be one that is shown as
6 a dry hole here?

7 A Yes, sir. It should have been shown as T8.

8 Q And then the location in the Southwest of the Northeast
9 in section twenty is the one you are working on also, you
10 are presently drilling?

11 A Right. We are setting conductors today on it.

12 Q And where is that McClelland well that is being drilled?

13 A That well is located in the Southwest of the Northwest of
14 fifteen.

15 Q Shown on a location?

16 A Yes, sir.

17 Q So that is all the activity that is going on in this area
18 at the present time?

19 A Right now, yes.

20 Q Okay. Now, if we get back to this proposed disposal well,
21 Mr. Nabbeheld, you said that you also, in the event --
22 or other two wells, or this well would start making water,
23 you would like to utilize this well for disposal.

24 To prevent possible breakthrough of water, or in the event
25 of a leak or something, and the possible drowning out of

1 this well, would you agree to a proposal on a restriction
2 in the order that no injection would be made into this
3 well number one --

4 A Yes.

5 Q --unless the well is on production so that if you should
6 have a breakthrough of water, you would be able to determine
7 that the water would be produced, I presume, or else it
8 would hole the well up, and you would know that the well
9 was holed up?

10 A Right. Right. No, I can see no -- I can see of no objection
11 to it.

12 Q Right now, you wouldn't have any water unless you are
13 producing a well; is that right?

14 A That's right, right, because up here right now we don't have
15 --we haven't had anything but a trace, not even a show
16 on the pit, to speak of, so I would see no objection to
17 that, no.

18 Q And you say that the water will continuously be blanketed
19 from oxygen by one or two -- or another of two different
20 ways and that it will be treated to prevent corrosion and
21 scale formation?

22 A Right.

23 Q How about that Forrest Well, did it make water? Do you
24 know?

25 A Yes. Oh, no. They have not as far as I know made any

1 water on that well.

2 Q Is this a dry hole over here in the Southwest Southwest

3 of twenty?

4 A That was a --

5 Q Is that a Forrest Well?

6 A Yes. That was a well that made gas, and on tests, and

7 they perforated, and they got water and could not shut it

8 off, and plugged the well, so they may have had that same

9 situation that we have here in the well in question.

10 Q Okay.

11 MR. NUTTER: Are there any further questions of

12 Mr. Nabbefeld? He may be excused

13 (Witness excused)

14 MR. JENNINGS: Mr. LeMay.

15 WILLIAM J. LEMAY

16 having been first duly sworn testified as follows:

17 DIRECT EXAMINATION

18 BY MR. JENNINGS:

19 Q Would you state your name and occupation?

20 William J. LeMay, a Consulting Geologist in Santa Fe,

21 New Mexico.

22 Q Mr. LeMay, had you had occasion to testify before the

23 Commission and before the Examiner of the Commission on

24 many times in the past?

25 A Yes.

MR. JENNINGS: Are Mr. LeMay's qualifications as a

1 geologist acceptable?

2 MR. NUTTER: Yes, they are.

3 Q (Mr. Jennings continuing) Mr. LeMay, referring to what
4 has been marked exhibit A, would you tell just briefly
5 what that is?

6 A Exhibit one is a -- one, excuse me, exhibit one is a land
7 map of the general area showing the proposed injection
8 well, also, the currently completed wells in the Cisco
9 Gas Pay which is the only current pay in the area.
10 McClelland's well is an exception, because it is a recent
11 well which hasn't been completed, as yet, officially.
12 It shows the acreage leases namely that owned or controlled
13 to farm out and operating agreement by Shenandoah and
14 Read and Stephens et al who are partners in the joint
15 venture here.

16 As I mentioned briefly, the blue indicates production
17 from the Cisco carbonate pay in the Haystack Field.

18 Q Mr. LeMay, are you generally familiar with the geology
19 in the area of the Haystack Field and the area shown by
20 exhibit number one?

21 A Yes, I am.

22 Q Are you familiar with the zones between the depths of
23 1376 feet and 5090 feet in this well in question and
24 located in section twenty-eight?

25 A Yes, I am. I may refer to exhibit three, which is only

1 one copy, in that regard, which is a log of the proposed
2 disposal well, showing the disposal zone with the tops
3 of various formations indicated, and where, I believe,
4 the water will go, which is in the San Andres formation.
5 The San Andres formation was tested by the discovery well
6 the Federal "I", in the South half of section twenty-one.
7 This is the zone of the top up here, what we call the
8 P zones.

9 It recovered only drilling mud, the mud was put in, and
10 the pressure stabilized at about 650 pounds.

11 The initial and final bottom-hole pressure, by log
12 calculations, indicate that zone to be water wet.

13 To the South, two wells were drilled in the vicinity of
14 sections five and six, Township seven South, range
15 twenty-seven East.

16 These wells did test the San Andres, and the San Andres
17 was water bearing in those wells.

18 The San Andres has not produced in the general area, and
19 this would be the zone that I would anticipate all of the
20 water going in, the San Andres being in this area, a
21 highly porous and permiable dolomite, going below the
22 San Andres in the proposed disposal zone, you would have
23 tight silt stone in the Glorietta, and rather dirty
24 carbonates below the Glorietta sandstone to the top of
25 the tube, which is another porous siltstone marker in the

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1 area tube is siltstone, and dirty carbonates, very little
2 porosity, if any, the Abo formation below that is nothing
3 but red beds.

4 Therefore, in considering what zone will take the water,
5 we are quite sure it will be the San Andres.

6 Q Is there any possibility that the disposal of the water
7 into this zone will effect any other operators in this
8 area?

9 A No. There are no other producing pays in this interval.
10 Not only in this area I show on the map, but within the
11 radius of twenty miles, so there are no correlative rights
12 that would be violated.

13 Q In your opinion, will this zone adequately handle the
14 water which they propose in there?

15 A Yes. It is highly porous and permeable, and should handle
16 the water easily.

17 Q Mr. LeMay, were exhibits number one and two prepared by
18 you or under your supervision?

19 A Yes, they were.

20 Q And exhibit number three is a well log prepared by Dresser
21 Atlas?

22 A It was run by Dresser Atlas, and with my data marks on it
23 correct.

24 MR. JENNINGS: We have nothing further of this
25 witness, but we would offer one, two, three and four.

1 MR. NUTTER: Applicant's Exhibits 1 through 4 will
2 be admitted in evidence.

3 CROSS EXAMINATION

4 BY MR. NUTTER:

5 Q Mr. LeMay, in your opinion, is there any vertical
6 communication, then, between the San Andres formation
7 or -- I had better restrict it to a little lower down,
8 between the top of the formations and the top of the
9 cement at 5090, which will be the bottom of the zone
10 supposed to water --

11 A Correct.

12 Q --Would there be vertical communication between that
13 interval and the pay zone which is encountered at 5600
14 feet in this well?

15 A No. The Wolf-camp and the Cisco, it is very hard to pick
16 a Pennsylvanian top in there, but the sequence is one of
17 very dense carbonate, which are very good caprocks and
18 impermeable, and not porous at all, with occasional shell
19 breaks, so it is about as good a seal with exceptance of
20 maybe a high grade, as you can find.

21 Q All right. And then the North setting well in the North
22 is completed to what, Mr. LeMay?

23 A It is in the main Cisco Pay, which correlatively speaking
24 would be at about 5700 on that log you have.

25 Q I see. So it would be correlative to the perforations in

1 this well, then?

2 A Yes, yes. They opened up a little bit more in this well,
3 some smaller zones just above the main pay, but the main
4 pay supplies most of the gas.

5 Q But you think rather than the water going into this, it
6 would be standing down here in the bottom of the hole,
7 but you think most of it would be going into the San Andres
8 far above?

9 A Yes. I think that San Andres would pretty well open it up
10 on a sponge with 600 pounds bottom-hole pressure, and all
11 that permeability, it wouldn't take. You would have
12 a little standing water at the bottom, but it wouldn't
13 exert any pressure on the cement or the case.

14 Q Soak it up to the bottom of the hole?

15 A It probably would.

16 Q Okay.

17 MR. NUTTER: Any further question of Mr. LeMay?
18 He may be excused.

19 (Witness excused)

20 MR. NUTTER: Do you have anything further, Mr.
21 Jennings:

22 MR. JENNINGS: We have nothing further.

23 MR. NUTTER: Does anyone have anything they wish
24 to offer in case 4570? We will take the case under
25 advisement.

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10	<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
11	Applicant's 1		
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STATE OF NEW MEXICO)
COUNTY OF BERNALILLO)

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

Linda Malone
Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the hearing of Case No. 4570 heard by me on 8/11, 19 71.
[Signature], Presiding
New Mexico Oil Conservation Commission

dearnley-meier reporting service, inc.

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

205 SIMMS BLDG. • P.O. BOX 1072 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 28, 1971

Examiner Hearing

IN THE MATTER OF:

Application of Shenandoah Oil Corp-)
oration for salt water disposal,)
Chaves County, New Mexico. Appli-)
cant, in the above-styled cause,)
seeks authority to dispose of pro-)
duced salt water into the San)
Andres formation in the interval)
from 1760 feet to 1840 feet by in-)
jection down the annulus of its)
Read & Stevens "M" Federal Well No.)
1 located in Unit K of Section 28,)
Township 6 South, Range 27 East,)
Haystack-Cisco Gas Pool, Chaves)
County, New Mexico.)

Case No. 4570

BEFORE: ELVIS A. UTZ, EXAMINER

TRANSCRIPT OF HEARING

dearley-meier reporting service

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MR. UTZ: Case 4570.

MR. HATCH: Case 4570. Application of Shenandoah Oil Corporation for salt water disposal, Chaves County, New Mexico.

Do you want to call for appearances?

MR. UTZ: Are there appearances in Case 4570?

MR. HATCH: We don't have any. If the Examiner please, this case, Shenandoah originally asked this to be granted administratively, and it was not eligible, and it was set for a hearing.

I have an idea that there was some misunderstanding by Shenandoah, not realizing they had to be here.

I suggest that this case be continued to August 11, and I will notify Shenandoah of our actions.

MR. UTZ: Well, case 4570 will be continued to the August 11th hearing since the applicant in this case might not have had proper notice to appear.

The hearing is adjourned.

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

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

9 *Linda Malone*
10 Court Reporter

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22 I do hereby certify that the foregoing is
23 a complete record of the proceedings in
24 the final hearing of Case No. 570
25 hereby reported on July 25, 1970
New Mexico Oil Conservation Commission



OIL CONSERVATION COMMISSION

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

August 17, 1971

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

Re: Case No. 4570

Order No. R-4179

Applicant:

Shenandoah Oil Corp.

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

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 x
Aztec OCC

Other Mr. Harold Berends, Bureau of Land Management
and State Engineer Office - Santa Fe

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. 4570
Order No. R-4179

APPLICATION OF SHENANDOAH OIL
CORPORATION FOR SALT WATER
DISPOSAL, CHAVES COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 11, 1971, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 17th day of August, 1971, 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 Shenandoah Oil Corporation, is the owner and operator of the Read & Stevens "M" Federal Well No. 1, located in Unit K of Section 28, Township 6 South, Range 27 East, NMPM, Haystack-Cisco Gas Pool, Chaves County, New Mexico.

(3) That the applicant, Shenandoah Oil Corporation, seeks authority to complete said Read & Stevens "M" Federal Well No. 1, as a dual completion to produce gas from the Haystack-Cisco Gas Pool through 2 7/8-inch casing and to dispose of produced salt water down the annulus between the 2 7/8-inch production casing string and the 8 5/8-inch intermediate casing string into the San Andres and other formations in the open-hole interval from approximately 1376 feet to 5090 feet.

-2-

CASE NO. 4570

Order No. R-4179

(4) That the produced salt water should be continuously treated prior to injection to prevent casing corrosion and coupon corrosion tests should be conducted continuously on said well and the results thereof filed quarterly with the Commission until further notice from the Secretary-Director of the Commission.

(5) That approval of the dual completion and salt water disposal as set out above will prevent the drilling of unnecessary wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Shenandoah Oil Corporation, is hereby authorized to complete its Read & Stevens "M" Federal Well No. 1, located in Unit K of Section 28, Township 6 South, Range 27 East, NMPM, Haystack-Cisco Gas Pool, Chaves County, New Mexico, as a dual completion to produce gas from the Haystack-Cisco Gas Pool through 2 7/8-inch casing and to dispose of produced salt water down the annulus between the 2 7/8-inch production casing string and the 8 5/8-inch intermediate casing string into the San Andres and other formations in the open-hole interval from approximately 1376 feet to 5090 feet;

PROVIDED HOWEVER, that the produced salt water shall be continuously treated prior to injection to prevent casing corrosion; that coupon corrosion tests shall be conducted continuously on said well and the results thereof filed quarterly with the Commission until further notice from the Secretary-Director of the Commission;

PROVIDED FURTHER, that the disposal of produced salt water through the above-described well shall cease at such time as the well is not produced.

PROVIDED FURTHER, that the applicant shall submit monthly reports of his disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

-3-

CASE NO. 4570

Order No. R-4179

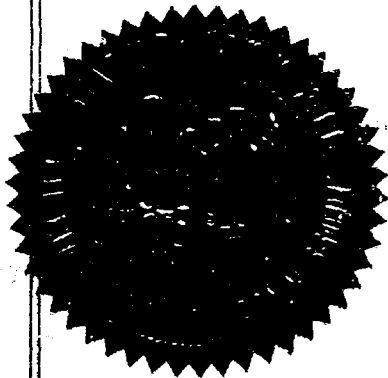
DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

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 No. 17-71

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 11, 1971

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 4563: (Continued from the July 28, 1971, Examiner Hearing)

Application of Corinne Grace for special gas-oil ratio limitation and pressure maintenance project, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to produce her State Well No. 1 located in Unit A of Section 1, Township 15 South, Range 29 East, Double L-Queen Pool, Chaves County, New Mexico, with no gas-oil ratio limitation, strip the liquids, and institute a pressure maintenance project by the injection of all said gas back into the producing formation through her State Well No. 2 located in Unit B of said Section 1. Applicant further seeks to transfer an oil allowable from said Well No. 2 to said Well No. 1.

CASE 4575: Application of Anadarko Production Company for the creation of a new gas pool, or, in the alternative, the amendment of the special pool rules for an existing pool and pool commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new San Andres gas pool for its Lou Wortham Well No. 6 located in Unit E of Section 11, Township 22 South, Range 37 East, or, in the alternative, the amendment of the special rules and regulations governing the South Eunice-San Andres Pool to provide for the classification of oil and gas wells, spacing and well location requirements, and an allocation formula for withdrawals by oil and gas wells. In the event the Commission creates the above-requested gas pool, applicant further seeks authority to commingle on the surface the liquid hydrocarbons from the above-described Well No. 6 and its Wortham Well No. 5, a South Eunice-San Andres Pool well, located in Unit C of said Section 11.

CASE 4576: Application of Continental Oil Company for unorthodox oil well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill two oil wells as infill wells in its Eumont Hardy Unit Area, Eumont Pool, Lea County, New Mexico, at unorthodox locations as follows:

Examiner Hearing - Wednesday
August 11, 1971

Docket No. 17-71

-2-

(Case 4576 continued)

TOWNSHIP 21 SOUTH, RANGE 37 EAST

Eumont Hardy Unit Well No. 48 to be located 1492 feet from the North line and 560 feet from the East line of Section 6;

Eumont Hardy Unit Well No. 49 to be located 3660 feet from the South line and 1980 feet from the West line of Section 6.

- CASE 4577: Application of Petroleum Corporation for the creation of a new pool, special rules therefor, and discovery allowable, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Wolf-camp oil pool for its Petco State Well No. 2 located in Unit N of Section 26, Township 19 South, Range 29 East, Eddy County, New Mexico, and the promulgation of special rules therefor, including a provision for 160-acre spacing and proration units. Applicant further seeks the assignment of an oil discovery allowable in the amount of approximately 48,110 barrels to said well.
- CASE 4578: Application of Harvey E. Yates Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Empire South Deep Unit Area comprising 4968 acres, more or less, of Federal, State and Fee lands in Townships 17 and 18 South, Ranges 28 and 29 East, Eddy County, New Mexico.
- CASE 4579: Application of Stephen C. Helbing for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Juniper Canyon Unit Area comprising 6,880 acres, more or less, of Federal, State and Fee lands in Township 24 South, Range 25 East, Eddy County, New Mexico.
- CASE 4580: Application of Gulf Oil Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Harry Leonard (NCT-C) Well No. 12 located in Unit A of Section 36, Township 21 South, Range 36 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Arrowhead-Grayburg and Blinebry Pools through parallel strings of tubing.

Examiner Hearing - Wednesday
August 11, 1971

-3-

Docket No. 17-71

CASE 4570:

(Continued from the July 28, 1971, Examiner Hearing)
Application of Shenandoah Oil Corporation for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the interval from 1760 feet to 1840 feet by injection down the annulus of its Read & Stevens "M" Federal Well No. 1 located in Unit K of Section 28, Township 6 South, Range 27 East, Haystack-Cisco Gas Pool, Chaves County, New Mexico.

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

July 30, 1971

C
O
P
Y

Shenandoah Oil Corporation
703 V-J Tower Building
Midland, Texas 79701

Attention: Mr. Billy Gover

Re: Read & Stevens "M" Federal
No. 1, 1980 feet from the
South line and 1980 feet
from the West line of
Section 28, Township 6
South, Range 27 East,
Chaves County, N.M.

Gentlemen:

Please note that your case is coming up for
hearing on August 11, 1971, per the enclosed
docket.

Yours very truly,

GEORGE M. HATCH
Attorney

GME/dr
enclosure

7-28-71

Notified by telephone Billy
Gower that Case 4578 had been
continued to Aug. 11, 1971, as
no rep. of Shenandoah was
present to put on case. I also
told him a ~~new~~ docket of the
new setting would be sent to
him.

George

Docket No. 17-71

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 11, 1971

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 4563: (Continued from the July 28, 1971, Examiner Hearing)

Application of Corinne Grace for special gas-oil ratio limitation and pressure maintenance project, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to produce her State Well No. 1 located in Unit A of Section 1, Township 15 South, Range 29 East, Double L-Queen Pool, Chaves County, New Mexico, with no gas-oil ratio limitation, strip the liquids, and institute a pressure maintenance project by the injection of all said gas back into the producing formation through her State Well No. 2 located in Unit B of said Section 1. Applicant further seeks to transfer an oil allowable from said Well No. 2 to said Well No. 1.

CASE 4575: Application of Anadarko Production Company for the creation of a new gas pool, or, in the alternative, the amendment of the special pool rules for an existing pool and pool commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new San Andres gas pool for its Lou Wortham Well No. 6 located in Unit E of Section 11, Township 22 South, Range 37 East, or, in the alternative, the amendment of the special rules and regulations governing the South Eunice-San Andres Pool to provide for the classification of oil and gas wells, spacing and well location requirements, and an allocation formula for withdrawals by oil and gas wells. In the event the Commission creates the above-requested gas pool, applicant further seeks authority to commingle on the surface the liquid hydrocarbons from the above-described Well No. 6 and its Wortham Well No. 5, a South Eunice-San Andres Pool well, located in Unit C of said Section 11.

CASE 4576: Application of Continental Oil Company for unorthodox oil well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill two oil wells as infill wells in its Eumont Hardy Unit Area, Eumont Pool, Lea County, New Mexico, at unorthodox locations as follows:

Examiner Hearing - Wednesday
August 11, 1971

Docket No. 17-71

-2-

(Case 4576 continued)

TOWNSHIP 21 SOUTH, RANGE 37 EAST

Eumont Hardy Unit Well No. 48 to
be located 1492 feet from the
North line and 560 feet from the
East line of Section 6;

Eumont Hardy Unit Well No. 49 to
be located 3660 feet from the South
line and 1980 feet from the West
line of Section 6.

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- CASE 4579: Application of Stephen C. Helbing for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Juniper Canyon Unit Area comprising 6,880 acres, more or less, of Federal, State and Fee lands in Township 24 South, Range 25 East, Eddy County, New Mexico.
- CASE 4580: Application of Gulf Oil Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Harry Leonard (NCT-C) Well No. 12 located in Unit A of Section 36, Township 21 South, Range 36 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Arrowhead-Grayburg and Blinebry Pools through parallel strings of tubing.

Examiner Hearing - Wednesday
August 11, 1971

-3-

Docket No. 17-71

CASE 4570:

(Continued from the July 28, 1971, Examiner Hearing)
Application of Shenandoah Oil Corporation for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the interval from 1760 feet to 1840 feet by injection down the annulus of its Read & Stevens "M" Federal Well No. 1 located in Unit K of Section 28, Township 6 South, Range 27 East, Haystack-Cisco Gas Pool, Chaves County, New Mexico.

Docket No. 16-71

DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 28, 1971

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

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

CASE 4539: (Continued from the June 30, 1971, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Doanbuy Lease & Company, Inc., and all other interested persons to appear and show cause why its following described wells in Section 27, Township 14 South, Range 33 East, Saunders Pool, Lea County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

Atlantic State AC-1	Well No. 1	Unit N
Atlantic State AC-2	Well No. 2	Unit M
Atlantic State AC-2	Well No. 3	Unit O
Atlantic State AC-3	Well No. 4	Unit L
Atlantic State AC-3	Well No. 5	Unit J
Atlantic State AC-4	Well No. 6	Unit P
Atlantic State AC-4	Well No. 7	Unit I

CASE 4558: (Continued from the June 30, 1971, Examiner Hearing)

Application of Midwest Oil Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Little Inbe (Bough "C") Unit Area comprising 2,240 acres, more or less, of state lands in Sections 10, 11, 14 and 15 of Township 10 South, Range 33 East, Inbe Permo-Pennsylvanian Pool, Lea County, New Mexico.

CASE 4559: (Continued from the June 30, 1971, Examiner Hearing)

Application of Midwest Oil Corporation for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Little Inbe (Bough "C") Unit Area, Inbe Permo-Pennsylvanian Pool, Lea County, New Mexico, by the injection of water through three wells located in Sections 11 and 14 of Township 10 South, Range 33 East, Lea County, New Mexico.

CASE 4563: (Continued from the June 30, 1971, Examiner Hearing)

Application of Corinne Grace for special gas-oil ratio limitation and pressure maintenance project, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to produce her State Well No. 1 located in Unit A of Section 1, Township 15 South, Range 29 East, Double L-Queen Pool, Chaves County, New Mexico, with no gas-oil ratio limitation, strip the liquids, and institute a pressure maintenance project by the injection of all said gas back into the producing formation through her State Well No. 2 located in Unit B of said Section 1. Applicant further seeks to transfer an oil allowable from said Well No. 2 to said Well No. 1.

CASE 4561: (Continued and readvertised from the June 30, 1971, Examiner Hearing)

Application of Great Plains Land Company for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, to dispose of water produced by its well located in the NW/4 NW/4 of Section 31, Township 18 South, Range 31 East, Shugart Field, Eddy County, New Mexico.

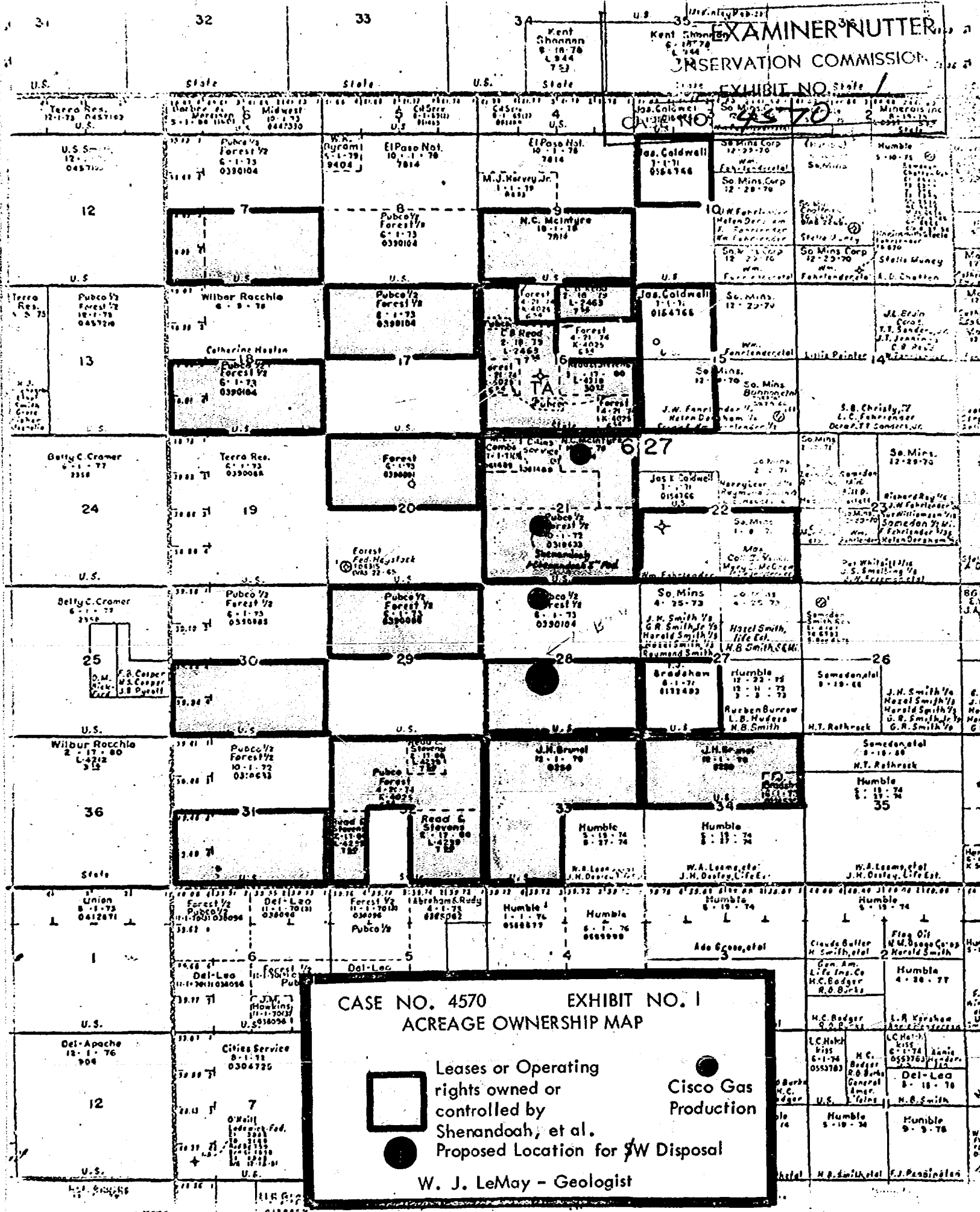
CASE 4570: Application of Shenandoah Oil Corporation for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the interval from 1760 feet to 1840 feet by injection down the annulus of its Read & Stevens "M" Federal Well No. 1 located in Unit K of Section 28, Township 6 South, Range 27 East, Haystack-Cisco Gas Pool, Chaves County, New Mexico.

CASE 4571: Application of Read & Stevens for an unorthodox gas well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the special rules and regulations governing the Buffalo Valley-Pennsylvanian Gas Pool to permit the drilling of a well at an unorthodox gas well location 990 feet from the South and West lines of Section 5, Township 15 South, Range 28 East, Chaves County, New Mexico, the S/2 of said Section 5 to be dedicated to the well.

- CASE 4572: Application of Franklin, Aston & Fair, Inc., for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the "B" zone of the Slaughter section of the San Andres formation in its Cook State Well No. 1 located in Unit L of Section 32, Township 7 South, Range 36 East, Todd-San Andres Field, Roosevelt County, New Mexico.
- CASE 4573: Application of Tenneco Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Sand Springs South Unit Area comprising 2536 acres, more or less, of state lands in Township 11 South, Ranges 34 and 35 East, Lea County, New Mexico.
- CASE 4574: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Tenneco Oil Company to appear and show cause why it should not take immediate action to repair the production casing in its Bolack "B" Well No. 5 located in Unit J of Section 31, Township 27 North, Range 8 West, Basin-Dakota Pool, San Juan County, New Mexico.
- CASE 4569: (Continued from the July 14, 1971, Examiner Hearing)
Application of Barber Oil, Inc., for an unorthodox oil well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a producing oil well at an unorthodox location 1326 feet from the South line and 5 feet from the West line of Section 13, Township 20 South, Range 28 East, as an infill well in its waterflood project in the Russell (Yates) Pool, Eddy County, New Mexico.

EXHIBIT NO. State

11-1-68
Jas. G. Colwell
CASE NO. 4570



CASE NO. 4570

EXHIBIT NO. 2

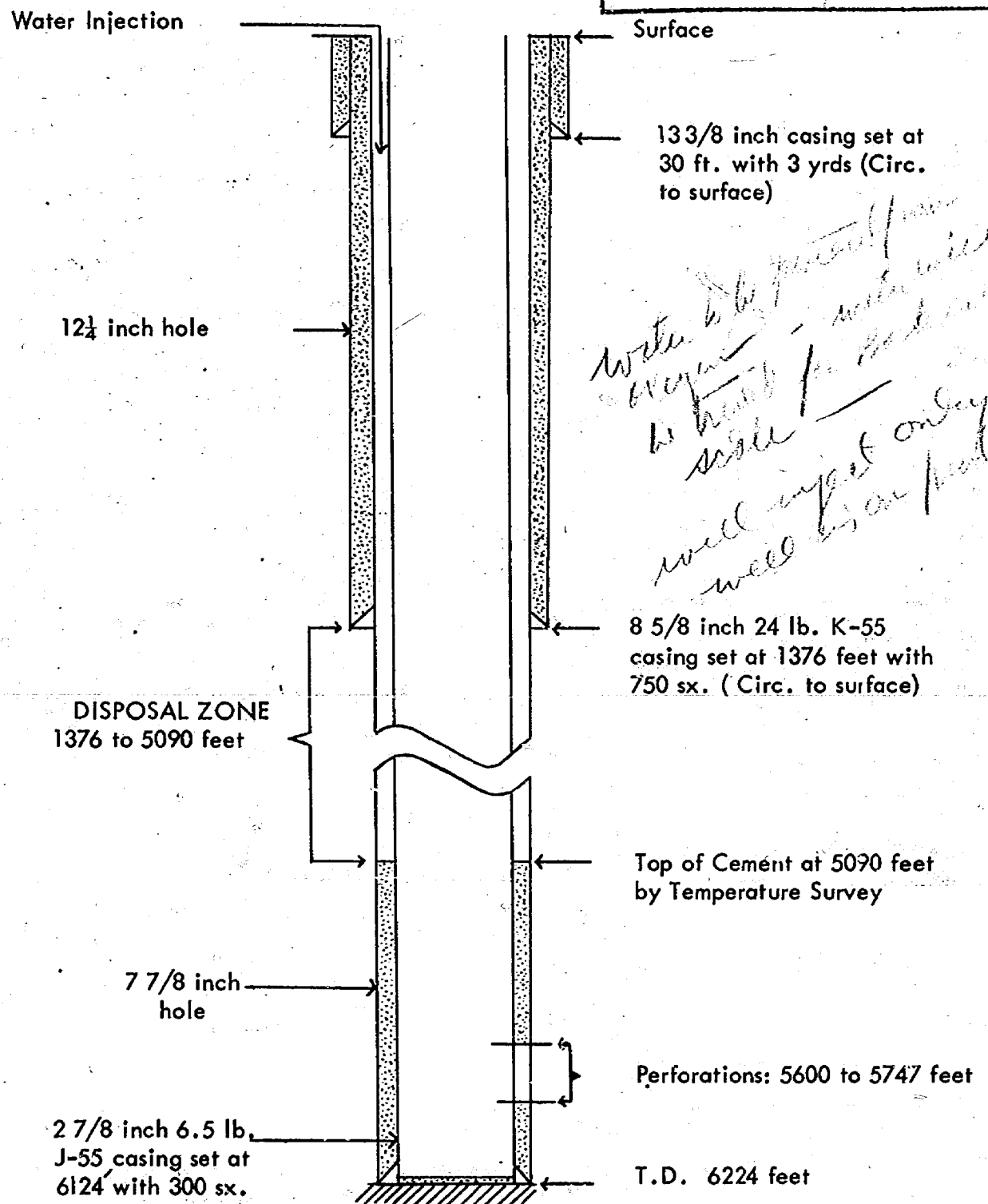
DIAGRAMATIC SKETCH of Proposed Installation of Water Injection Equipment for the
Read & Stevens and Shenandoah Oil Corporation No. 1-M Federal in Section 28,
T-6-S, R-22-E, Chaves County, New Mexico.

FORE EXAMINER

CONSERVATION COM.

EXHIBIT NO. 2

CASE NO. 4570



SAMPLE NO. _____

THE WESTERN COMPANY
Service Laboratory

Case No. 4570

Exhibit 4

BEFORE EXAMINATION
OIL CONSERVATION
EXHIBIT NO. 4
CASE NO. 4570

WATER ANALYSIS

Operator	Shenandoah Oil Company	Date Sampled	5-71
Well	Read & Stevens Fed #1	Date Received	5-3-71
Field	Haystack	Submitted by	Hobbs District
Formation	Cisco	Worked by	Roy Shrode
Depth	5600-5747'	Other Description	
County	Chaves Co., New Mexico		

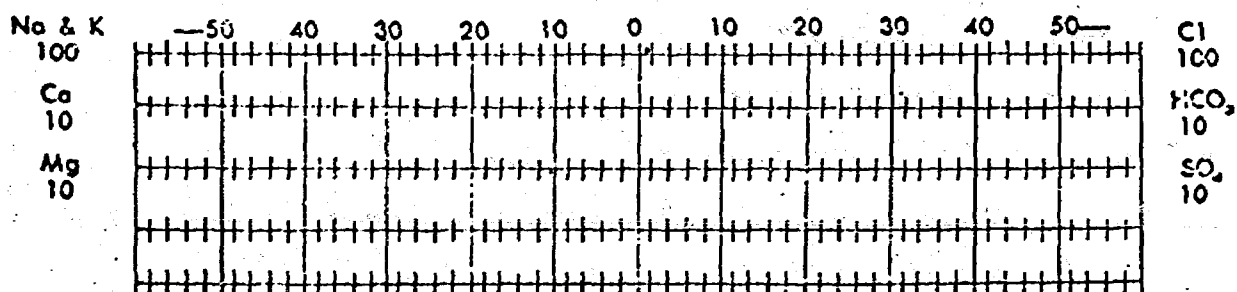
CHEMICAL DETERMINATIONS

Density	1.125 @ 74° F.	pH	6.0
Iron	None	Hydrogen Sulfide	None
Sodium and Potassium	31.096 ppm	Bicarbonate	122 ppm
Calcium	9,600 ppm	Sulfate	950 ppm
Magnesium	2,650 ppm	Phosphate	ppm
Chloride	89,600 ppm	as Sodium Chloride	ppm

Resistivity - .76 ohm-meters @ 76° F.

Remarks:

for Stiff type plot (in meq./l.)



Por _____

FORM O-11 (REV. 4-57)

SAMPLE NO. 4

District: Stobbs

THE WESTERN COMPANY

"Engineered Well Services"

GEOLOGICAL AND CHEMICAL LABORATORIES

WATER ANALYSIS

County Chaves
Field W/C
Operator Sherrard
Well Fed W #1
Depth 5606-5747
Formation Cleco

Date Sampled 4/29/71
Date Received 4/29/71
Submitted By Bower
Worked By Candlish
Other Description

Properties of Sample

Density 1.005 @ 76° Chloride 90000 PPM
pH 5.5 Hydrogen Sulfide None
Total Solids (Estimated) 145,520 PPM Iron Fair Trace

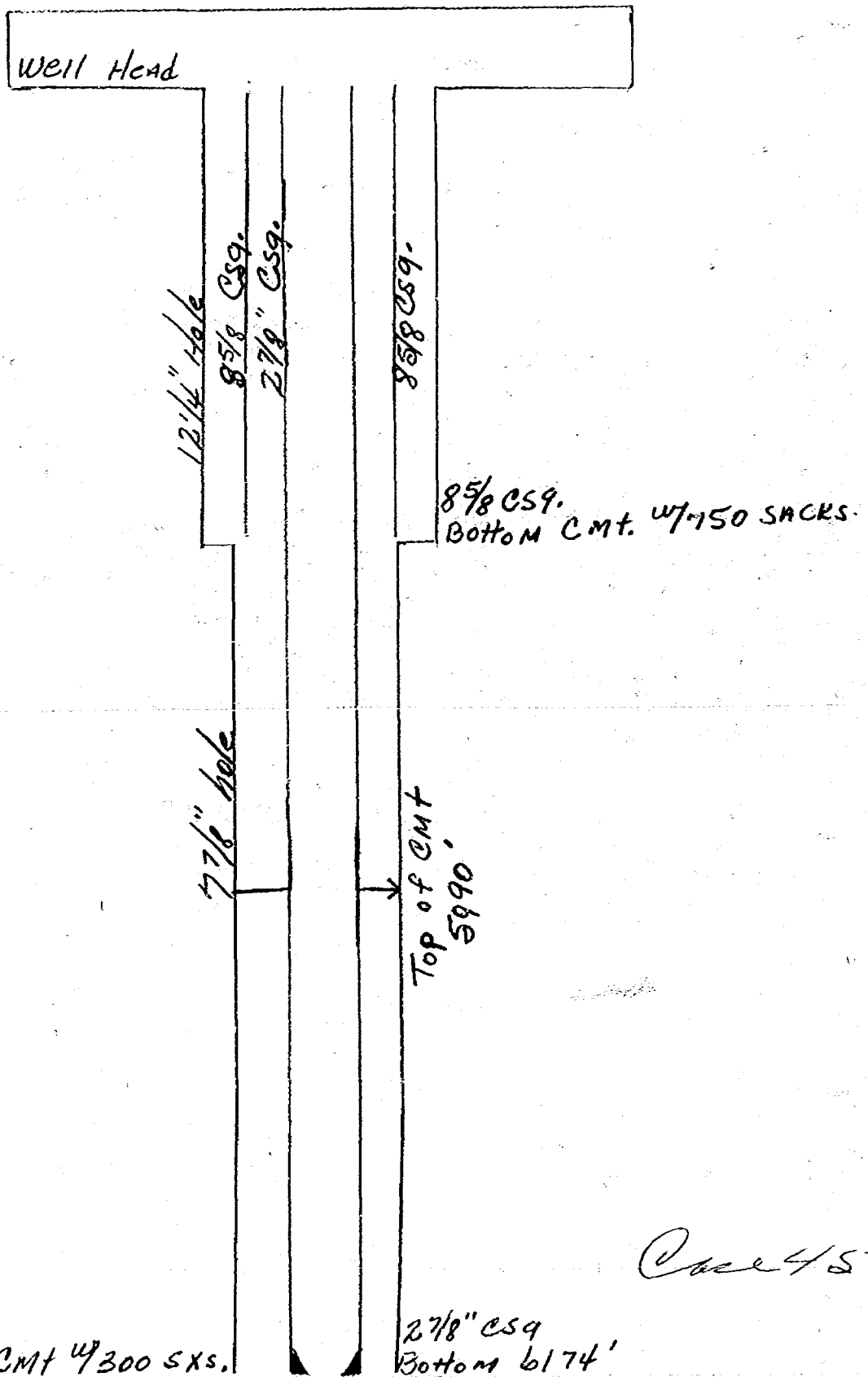
Remarks:

Case 4570

Read & Stevens Federal M #1

MAIN OFFICE

71 JUN 29 AM 8 14



Case 45-70

Case 4570
Form C-108
Revised 1-1-65

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

OPERATOR SHENANDOAH OIL CORPORATION		ADDRESS 702 V-J Tower Bldg., Midland, Tex. 79701	
LEASE NAME Read & Stevens "M" Fed.	WELL NO. 1	FIELD Haystack	COUNTY Chaves
LOCATION UNIT LETTER K ; WELL IS LOCATED 1980' FEET FROM THE South LINE AND 1980' FEET FROM THE West LINE, SECTION 28 TOWNSHIP 6-S RANGE 27-E NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	13 3/8	30'	3 yards
INTERMEDIATE	8 5/8	1376'	750 sacks
LONG STRING	2 7/8	6124'	300 sacks
TUBING	NAME, MODEL AND DEPTH OF TUBING PACKER 5090		
NAME OF PROPOSED INJECTION FORMATION San Andres		TOP OF FORMATION 1153	BOTTOM OF FORMATION 2320'
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Annulus		PERFORATIONS OR OPEN HOLE? PROPOSED INTERVAL(S) OF INJECTION Open 1760' to 1840'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Gas		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH 5600, 5622, 5624, 5662, 5664, 5684, 5703, 5705, 5716, 5727, 5732, 5741, 5743, 5745 and 5747			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 300'	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 None
ANTICIPATED DAILY INJECTION VOLUME (BBL'S.) 50	MINIMUM 30	MAXIMUM 50	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 Yes		IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 300#
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Mark Cooper, Roswell, New Mexico		ARE WATER ANALYSES ATTACHED? Yes	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL FOREST OIL CORPORATION, Box 4486, Midland, Texas 79701			
RECEIVED JUN 28 1971 O. C. C. ARTESIA, OFFICE			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?	SURFACE OWNER Yes	EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	THE NEW MEXICO STATE ENGINEER Yes
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)?	PLAT OF AREA 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.

Billy Bour
(Signature)

Dist. Supt.

(Title)

June 25, 1971

(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.

Case 4570

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

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

Operator SHENANDOAH OIL CORPORATION			Lease FEDERAL M		Well No. 1
Unit Letter K	Section 28	Township 6 SOUTH	Range 27 EAST	County CHAVES	
Actual Footage Location of Well: SOUTH					
1980 feet from the		line and	1980 feet from the		WEST line
Ground Level Elev. 3927.8	Producing Formation	Pool		Dedicated Acreage: Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. 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 _____

Position _____

Company _____

Date _____

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

2-19-1971

Registered Professional Engineer and/or Land Surveyor

John W. West
Certificate No. **676**

0 320 640 960 1280 1600 1920 2240 2560 2880 3200 3520 3840 4160 4480 4800 5120 5440 5760 6080 6400 6720 7040 7360 7680 8000 8320 8640 8960 9280 9600 9920 10240 10560 10880 11200 11520 11840 12160 12480 12800 13120 13440 13760 14080 14400 14720 15040 15360 15680 16000 16320 16640 16960 17280 17600 17920 18240 18560 18880 19200 19520 19840 20160 20480 20800 21120 21440 21760 22080 22400 22720 23040 23360 23680 24000 24320 24640 24960 25280 25600 25920 26240 26560 26880 27200 27520 27840 28160 28480 28800 29120 29440 29760 30080 30400 30720 31040 31360 31680 32000 32320 32640 32960 33280 33600 33920 34240 34560 34880 35200 35520 35840 36160 36480 36800 37120 37440 37760 38080 38400 38720 39040 39360 39680 40000 40320 40640 40960 41280 41600 41920 42240 42560 42880 43200 43520 43840 44160 44480 44800 45120 45440 45760 46080 46400 46720 47040 47360 47680 48000 48320 48640 48960 49280 49600 49920 50240 50560 50880 51200 51520 51840 52160 52480 52800 53120 53440 53760 54080 54400 54720 55040 55360 55680 56000 56320 56640 56960 57280 57600 57920 58240 58560 58880 59200 59520 59840 60160 60480 60800 61120 61440 61760 62080 62400 62720 63040 63360 63680 64000 64320 64640 64960 65280 65600 65920 66240 66560 66880 67200 67520 67840 68160 68480 68800 69120 69440 69760 70080 70400 70720 71040 71360 71680 72000 72320 72640 72960 73280 73600 73920 74240 74560 74880 75200 75520 75840 76160 76480 76800 77120 77440 77760 78080 78400 78720 79040 79360 79680 80000 80320 80640 80960 81280 81600 81920 82240 82560 82880 83200 83520 83840 84160 84480 84800 85120 85440 85760 86080 86400 86720 87040 87360 87680 88000 88320 88640 88960 89280 89600 89920 90240 90560 90880 91200 91520 91840 92160 92480 92800 93120 93440 93760 94080 94400 94720 95040 95360 95680 96000 96320 96640 96960 97280 97600 97920 98240 98560 98880 99200 99520 99840 100160 100480 100800 101120 101440 101760 102080 102400 102720 103040 103360 103680 104000 104320 104640 104960 105280 105600 105920 106240 106560 106880 107200 107520 107840 108160 108480 108800 109120 109440 109760 110080 110400 110720 111040 111360 111680 112000 112320 112640 112960 113280 113600 113920 114240 114560 114880 115200 115520 115840 116160 116480 116800 117120 117440 117760 118080 118400 118720 119040 119360 119680 120000 120320 120640 120960 121280 121600 121920 122240 122560 122880 123200 123520 123840 124160 124480 124800 125120 125440 125760 126080 126400 126720 127040 127360 127680 128000 128320 128640 128960 129280 129600 129920 130240 130560 130880 131200 131520 131840 132160 132480 132800 133120 133440 133760 134080 134400 134720 135040 135360 135680 136000 136320 136640 136960 137280 137600 137920 138240 138560 138880 139200 139520 139840 140160 140480 140800 141120 141440 141760 142080 142400 142720 143040 143360 143680 144000 144320 144640 144960 145280 145600 145920 146240 146560 146880 147200 147520 147840 148160 148480 148800 149120 149440 149760 150080 150400 150720 151040 151360 151680 152000 152320 152640 152960 153280 153600 153920 154240 154560 154880 155200 155520 155840 156160 156480 156800 157120 157440 157760 158080 158400 158720 159040 159360 159680 160000 160320 160640 160960 161280 161600 161920 162240 162560 162880 163200 163520 163840 164160 164480 164800 165120 165440 165760 166080 166400 166720 167040 167360 167680 168000 168320 168640 168960 169280 169600 169920 170240 170560 170880 171200 171520 171840 172160 172480 172800 173120 173440 173760 174080 174400 174720 175040 175360 175680 176000 176320 176640 176960 177280 177600 177920 178240 178560 178880 179200 179520 179840 180160 180480 180800 181120 181440 181760 182080 182400 182720 183040 183360 183680 184000 184320 184640 184960 185280 185600 185920 186240 186560 186880 187200 187520 187840 188160 188480 188800 189120 189440 189760 190080 190400 190720 191040 191360 191680 192000 192320 192640 192960 193280 193600 193920 194240 194560 194880 195200 195520 195840 196160 196480 196800 197120 197440 197760 198080 198400 198720 199040 199360 199680 200000

SHENANDOAH OIL CORPORATION

703 V-J Tower Building

MIDLAND, TEXAS 79701

B. J. KELLENBERGER
PRESIDENT

HOME OFFICE
1500 COMMERCE BLDG.
FORT WORTH, TEXAS 76102
(817) 332-7381

June 25, 1971

Set for hearing

J. M. HORTON
MANAGER
(915) 682-5781

RECEIVED

JUN 28 1971

New Mexico Oil Conservation Commission
Drawer DD
Artesia, New Mexico 88210

D. C. C.
ARTESIA, OFFICE

Re: Read & Stevens "M" Federal #1
1980' FSL & 1980' FWL
Section 28, T-6-S, R-27-E
Chaves County, New Mexico

Dear Sir:

In the near future Shenandoah Oil Corporation will have our Read & Stevens "M" Federal #1, a completed gas well, producing at the maximum rate of 500,000 MCFPD in the Cisco zone. This well makes approximately 50 barrels of salt water per day. Since the location of the well is in an isolated area, trucking the water to another area for disposal would be rather expensive. The Cisco pay in this area has just been discovered and could be depleted of gas in this well in a very short time especially since it ran low structurally to our discovery well, the Federal "I" #1.

In order to make this well more economical to operate Shenandoah Oil Corporation would like permission from the Commission to dispose of the produced water down the annulus into the San Andres Formation.

Your kind consideration would be most appreciative. Attached is Form C-108. If more information is needed, please advise.

Sincerely,

Billy Gover

Billy Gover
Dist. Supt.

BG:bj
Attachment

DOCKET MAILED

Date

7-30-71

DOCKET MAILED

Date

7-16-71

DRAFT

GMH/dr

(JW)

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

GMH
IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

new
CASE No. ~~4561~~ 4570

Order No. R-4179

APPLICATION OF SHENANDOAH OIL
CORPORATION FOR SALT WATER
DISPOSAL, CHAVES COUNTY, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 11, 1971,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz DSA.

NOW, on this August day of July, 1971, 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 Shenandoah Oil Corporation, is the owner and
operator of the Read & Stevens "M" Federal Well No. 1, located
in Unit K of Section 28, Township 6 South, Range 27 East, NMPM,
Haystack-Cisco Gas Pool, Chaves County, New Mexico.

-2-

CASE NO. 4570
Order No. R-

(3) That the applicant, Shenandoah Oil Corporation, seeks authority to complete said Read & Stevens "M" Federal Well No. 1, as a dual completion to produce ^{gas} ~~oil~~ from the Haystack-Cisco Gas Pool through 2 7/8-inch ^{Casing} ~~tubing~~ and to dispose of produced salt water down the annulus between the 2 7/8-inch production casing string and the ^{8 5/8} ~~2 7/8~~-inch intermediate casing string into the San Andres and other formations in the open-hole interval from approximately 1376 feet to 5090 feet.

(4) That the produced salt water should be continuously treated prior to injection to prevent casing corrosion and coupon corrosion tests should be conducted continuously on said well and the results thereof filed quarterly with the Commission until further notice from the Secretary-Director of the Commission.

(5) That approval of the dual completion and salt water disposal as set out above will prevent the drilling of unnecessary wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Shenandoah Oil Corporation, is hereby authorized to complete its Read & Stevens "M" Federal Well No. 1, located in Unit K of Section 28, Township 6 South, Range 27 East, NMPM, Haystack-Cisco Gas Pool, Chaves County, New Mexico, as a dual completion to produce ^{gas} ~~oil~~ from the Haystack-Cisco Gas Pool through 2 7/8-inch ^{Casing} ~~tubing~~ and to dispose of produced salt water

-3-

CASE NO. 4570

Order No. R-

down the annulus between the ^{8 5/8}2 7/8-inch production casing string and the 2 7/8-inch intermediate casing string into the San Andres and other formations in the open-hole interval from approximately 1376 feet to 5090 feet;

PROVIDED HOWEVER, that the produced salt water shall be continuously treated prior to injection to prevent casing corrosion; that coupon corrosion tests shall be conducted continuously on said well and the results thereof filed quarterly with the Commission until further notice from the Secretary-Director of the Commission;

→ PROVIDED FURTHER, that the applicant shall submit monthly reports of his disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(2) 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.

Provided Further, that the disposal of produced salt water through the above-described well shall be permitted cease at such time as the well is not produced.

CASE 4571: Application of READ &
STEVENS FOR AN UNORTHODOX GAS WELL
LOCATION, CHAVES COUNTY, N. MEX.