

CASE 5652: CONTINENTAL OIL COMPANY
FOR DOWNHOLE COMMINGLING, RIO ARRIBA
COUNTY, NEW MEXICO

CASE NO.

5652

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,
ETC.

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. 5652
Order No. R-5205

APPLICATION OF CONTINENTAL OIL
COMPANY FOR DOWNHOLE COMMINGLING,
RIO ARriba COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 14, 1976, at Santa Fe, New Mexico, before Examiner, Daniel S. Nutter.

Now, on this 27th day of April, 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, Continental Oil Company, is the owner and operator of the following wells on its Northeast Haynes Lease in Township 24 North, Range 5 West, NMPM, Rio Arriba County, New Mexico:

No. 1 in Unit L of Section 9
No. 2 in Unit D of Section 16
No. 3 in Unit P of Section 16
No. 4 in Unit E of Section 21
No. 5 in Unit E of Section 22
No. 6 in Unit D of Section 15
No. 7 in Unit L of Section 10
No. 8 in Unit P of Section 15

(3) That the applicant seeks authority to commingle Basin-Dakota gas and Otero-Gallup oil production within the wellbore of the above-described wells.

(4) That from the Basin-Dakota zone, the subject wells are capable of low marginal production only.

(5) That from the Otero-Gallup zone, the subject wells are capable of low marginal production only.

(6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the wells are not shut-in for an extended period.

(8) That to afford the Commission the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Commission any time the subject wells are shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in each of the subject wells, 75 percent of the commingled oil production and 15 percent of the commingled gas production should be allocated to the Gallup zone, and 25 percent of the commingled oil production and 85 percent of the commingled gas production to the Dakota zone.

IT IS THEREFORE ORDERED:

(1) That the applicant, Continental Oil Company, is hereby authorized to commingle Basin-Dakota gas and Otero-Gallup oil production within the wellbore of the following wells on its Northeast Haynes Lease in Township 24 North, Range 5 West, NMPM, Rio Arriba County, New Mexico:

No. 1 in Unit L of Section 9
No. 2 in Unit D of Section 16
No. 3 in Unit P of Section 16
No. 4 in Unit E of Section 21
No. 5 in Unit E of Section 22
No. 6 in Unit D of Section 15
No. 7 in Unit L of Section 10
No. 8 in Unit P of Section 15

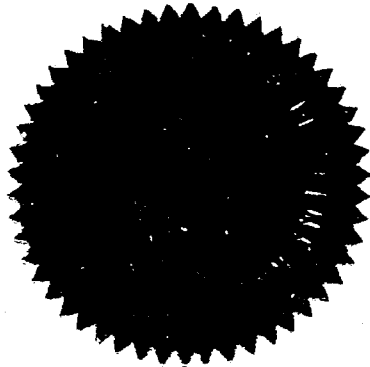
(2) That in each of the aforesaid wells, 75 percent of the commingled oil production and 15 percent of the commingled gas production shall be allocated to the Gallup zone and 25 percent of the commingled oil production and 85 percent of the commingled gas production shall be allocated to the Dakota zone.

(3) That the operator of the subject wells shall immediately notify the Commission's Aztec district office any time the wells have been shut-in for 7 consecutive days and shall concurrently present, to the Commission a plan for remedial action.

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

-3-
Case No. 5652
Order No. R-5205

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



S E A L

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Phil R. Lucero
PHIL R. LUCERO, Chairman

EMERY C. ARNOLD, Member

Joe D. Ramey
JOE D. RAMEY, Member & Secretary

Dr/

CASE 5652: (Continued & Readvertised)

Application of Continental Oil Company for downhole coringline, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Basin-Dakota gas and Otero-Gallup oil production in the wellbores of the following wells on its Northeast Haynes Lease in Township 24 North, Range 5 West, Rio Arriba County, New Mexico:

- No. 1 in Unit L of Section 9
- No. 2 in Unit D of Section 16
- No. 3 in Unit P of Section 16
- No. 4 in Unit E of Section 21
- No. 5 in Unit E of Section 22
- No. 6 in Unit D of Section 15
- No. 7 in Unit L of Section 10
- No. 8 in Unit P of Section 15

CASE 5668: Application of Anadarko Production Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced water into the Queen formation through the perforated interval from approximately 4553 to 4881 feet in its New Mexico "W" State Well No. 1, located in Unit O of Section 21, Township 18 South, Range 34 East, East E-K Queen Pool, Lea County, New Mexico.

CASE 5669: Southeastern New Mexico nomenclature case calling for an order for the creation and extension of certain pools in Chaves, Eddy, Lea, and Roosevelt Counties, New Mexico.

a) CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Queen production and designated as the Eidson-Queen Pool. The discovery well is the Hanson Oil Corporation Caldonia Well No. 1, located in Unit N of Section 11, Township 16 South, Range 34 East, NMPM. Said pool would comprise:

TOWNSHIP 16 SOUTH, RANGE 34 EAST, NMPM
Section 11: S/2
Section 12: SW/4

b) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Atoka production and designated as the McKittrick Hills-Atoka Gas Pool. The discovery well is the Southern Union Production Company Shelby Federal Well No. 1, located in Unit H of Section 13, Township 22 South, Range 24 East, NMPM. Said pool would comprise:

TOWNSHIP 22 SOUTH, RANGE 24 EAST, NMPM
Section 13: N/2

c) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Strawn production and designated as the McKittrick Hills-Strawn Gas Pool. The discovery well is the Southern Union Production Company Shelby Federal Well No. 1, located in Unit H of Section 13, Township 22 South, Range 24 East, NMPM. Said pool would comprise:

TOWNSHIP 22 SOUTH, RANGE 24 EAST, NMPM
Section 13: N/2

d) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Upper Pennsylvanian production and designated as the McKittrick Hills-Upper Pennsylvanian Gas Pool. The discovery well is the Southern Union Production Company Shelby Federal Well No. 2, located in Unit K of Section 12, Township 22 South, Range 24 East, NMPM. Said pool would comprise:

TOWNSHIP 22 SOUTH, RANGE 24 EAST, NMPM
Section 12: S/2

e) CREATE a new pool in Chaves County, New Mexico, classified as a gas pool for Strawn production and designated as the South Newmill-Strawn Gas Pool. The discovery well is the Marathon Oil Company State 27 Well No. 1, located in Unit M of Section 27, Township 4 South, Range 27 East, NMPM. Said pool would comprise:

TOWNSHIP 4 SOUTH, RANGE 27 EAST, NMPM
Section 27: W/2

f) CREATE a new pool in Roosevelt County, New Mexico, classified as an oil pool for Wolfcamp production and designated as the South Prairie-Wolfcamp Pool. The discovery well is the SNB Operating Company New Mexico Federal Well No. 1, located in Unit I of Section 20, Township 8 South, Range 36 East, NMPM. Said pool would comprise:

TOWNSHIP 8 SOUTH, RANGE 36 EAST, NMPM
Section 20: SE/4

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 17, 1976

EXAMINER HEARING

IN THE MATTER OF:

Application of Continental Oil Co. for) CASE
downhole commingling, Rio Arriba) 5652
County, New Mexico.)

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

For the Applicant: W. Thomas Kellahin, Esq.
KELLAHIN & FOX
Attorneys at Law
500 Don Gaspar
Santa Fe, New Mexico

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1 MR. NUTTER: We will call next Case 5652.

2 MR. CARR: Case 5652, application of Continental Oil
3 Company for downhole commingling, Rio Arriba County, New Mexico.

4 MR. KELLAHIN: Tom Kellahin, Kellahin and Fox,
5 Santa Fe, appearing on behalf of the applicant and I have
6 one witness to be sworn.

7 (THEREUPON, the witness was duly sworn.)

8
9 DAVID ERICKSON

10 called as a witness, having been first duly sworn, was
11 examined and testified as follows:

12
13 DIRECT EXAMINATION

14 BY MR. KELLAHIN:

15 Q Would you please state your name, by whom you are
16 employed and in what capacity?

17 A David Erickson from Hobbs, New Mexico. I'm employed
18 by Continental Oil Company as a Petroleum Engineer.

19 Q Mr. Erickson, have you ever testified before this
20 Commission?

21 A No.

22 Q When and where did you obtain your degree?

23 A I obtained my Bachelor of Science in Petroleum
24 Engineering from the Colorado School of Mines in December of
25 '73.

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1 Q And since obtaining your degree where have you been
2 employed and in what capacity?

3 A I have been employed by Continental Oil Company for
4 two years and as a petroleum engineer.

5 Q Have you made a study of and are you familiar with
6 the facts surrounding this particular application?

7 A Yes, I have.

8 MR. KELLAHIN: If the Examiner please, are the
9 witness's qualifications acceptable?

10 MR. NUTTER: Yes, they are.

11 Q (Mr. Kellahin continuing.) Mr. Erickson, would you
12 refer to Exhibit Number One, identify it and state what
13 Continental is seeking?

14 A Continental Oil Company is applying for authority
15 to downhole commingle production from the Basin-Dakota gas and
16 Otero-Gallup oil pool in the wellbores of eight wells on the
17 Northeast Haynes Lease located in Township 24 South, Range 5
18 West of Rio Arriba County, New Mexico.

19 MR. KELLAHIN: A note for the benefit of the Examiner
20 at this time that the advertisement will require re-publication.
21 There is an error appearing in the ad with regards to Well
22 No. 7 in Unit L of Section 19. That is an error, it should be
23 Section 10.

24 Q (Mr. Kellahin continuing.) Please refer to your
25 first exhibit here and locate for us the wells in which you

1 seek to commingle production?

2 A. Exhibit One is a location plat showing the whole
3 Northeast Haynes lease inside the diagonal line border
4 described as the south half of Sections 9 and 10, all of
5 Sections 15 and 16, the north half of Sections 21 and 22 in
6 Township 24 North, Range 5 West. The eight wells involved are
7 circled in red, each of which is dually completed in the
8 Basin-Dakota gas pool and the Otero-Gallup oil pool.

9 Q. Would you please refer to Exhibit Number Two now
10 and identify it?

11 A. Exhibit Number Two is a wellbore schematic diagram
12 of the Northeast Haynes Well No. 1, showing the size of the
13 setting depth and the amount of cement used in setting the
14 various casing strings and the size and depth of the tubing.

15 Q. Now, this northeast Haynes No. 1 Well, is that well
16 numbered as No. 1 on Exhibit Number One?

17 A. Yes.

18 Q. Let's continue then with your Exhibit Number Two.

19 A. Well No. 1 is a slim-hole type completion with two
20 strings of four-and-a-half inch casing set at sixty-nine,
21 twenty-seven and fifty-nine, thirty-four feet and one string
22 of two-and-seven-eighths inch casing set at fifty-eight, ninety
23 feet. The smaller string of casing has been plugged with
24 cement from forty-five, ninety-nine to thirty-one hundred
25 feet and two-and-three-eighths tubing is set at fifty-seven

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1 ninety feet in the Gallup casing and one point six inch tubing
2 is set in the Dakota string at sixty-seven, sixty-six feet.

3 Q Now, this is the present way in which this well is
4 completed?

5 A Yes, it is.

6 Q Please refer to Exhibit Number Three and identify it?

7 A Exhibit Number Three is a schematic diagram of
8 Northeast Haynes Well No. 1 after affecting the downhole
9 commingling proposed in this application. The tubing will be
10 pulled from the Gallup string and that string will be plugged
11 with a cast iron bridge plug. The Gallup will then be
12 perforated at fifty-six eighteen to fifty-eight, eighteen and
13 the tubing will be re-run and set below the Dakota perforations.

14 Q All right, refer to Exhibit Number Four and identify
15 it?

16 A Exhibit Number Four is a wellbore schematic diagram
17 of Northeast Haynes Well No. 8 as it is presently equipped.

18 Q Now, Well No. 8 corresponds to which well on Exhibit
19 Number One?

20 A Well No. 8 is identified in the southeast quarter
21 of the Section.

22 Q And it is numbered as eight?

23 A Yes.

24 Q All right, sir, continue.

25 A This schematic shows the size and the setting depth

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1 and the amount of cement used in setting the casing string
2 and the five-and-one-half inch casing is set at sixty-nine
3 hundred feet and the multi-packer is set at sixty-six, seventy
4 feet, isolating the southern Gallup zone. The Gallup string
5 is one point six six inch OD and it is set at sixty-six
6 seventy feet. The two-and-three-eighths inch Gallup tubing
7 is set at fifty-six, sixty-one feet.

8 Q Please refer to Exhibit Number Five?

9 A Exhibit Number Five is the schematic diagram of
10 Northeast Haynes Well No. 8 after commingling is affected.
11 Both tubing strings will be pulled and then a one point six
12 six inch tubing will be re-run and and set at sixty-eight
13 fifty feet. The packer will either be removed or the seals
14 will not be re-run so that there is no effective seal around
15 the packer, and then the commingled stream of Gallup and
16 Dakota will be produced through the tubing.

17 Q Now, except for this Northeast Haynes No. 1 Well,
18 the Exhibit Number Five of the Northeast Haynes No. 8, is a
19 typical example of the other seven wells in the lease?

20 A Yes, it is.

21 Q And this is the way you propose to recomplete all
22 of the other wells, except for No. 1?

23 A Yes.

24 MR. NUTTER: No. 1 is the only slim-hole type of
25 completion then?

1 A. Yes.

2 Q. (Mr. Kellahin continuing.) Please refer to Exhibit
3 Number Six and identify it?

4 A. Exhibit Number Six is a tabulation of the completion
5 data on the eight wells in the Northeast Haynes lease and the
6 Well No. 1 is the special case, being a slim-hole completion
7 and this tabulation here shows the well number, its ground
8 level elevation, total depth, plug-back depth, casing size
9 and the perforations and the tubing size used for the production
10 of both the Gallup and the Dakota.

11 Q. Please refer to Exhibit Number Seven and identify
12 it?

13 A. Exhibit Number Seven is the Northeast Haynes lease
14 tabulation of completion and production history. It shows
15 the well number, completion date, initial potential and the
16 latest test of oil, water and gas per day and cumulative
17 production through January 1976. The upper part shows the
18 production from the Gallup zone and the lower part shows
19 production from the Dakota zone.

20 Q. Okay, Exhibit Number Eight?

21 A. Exhibit Number Eight is a curve showing the projected
22 production from the Gallup formation in the Northeast Haynes
23 lease to an estimated economic limit of six barrels of oil
24 per day and two hundred MCF per day from the ten Gallup
25 completions on the Northeast Haynes lease. The projected

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1 reserves are listed as fifty-nine thousand, six hundred
2 barrels of oil and one point two six billion cubic feet of
3 gas.

4 Q All right, sir, Exhibit Number Nine?

5 A Exhibit Number Nine is a decline curve showing the
6 projected producing rates for the Basin-Dakota formation
7 produced on a segregated basis through the eight wells to an
8 economic limit of two thirds barrels of oil per day and
9 three hundred and twenty MCF of gas per day. The projected
10 reserves here are sixteen thousand, eight hundred and seventy
11 barrels of oil and four point seven three billion cubic feet
12 of gas.

13 Q Exhibit Number Ten?

14 A Exhibit Ten is a decline curve showing the projected
15 commingled production from the wellbores from the Gallup and
16 Dakota zones with commingling. The projected segregated
17 reserves are a summation of the curves shown in Exhibits Eight
18 and Nine, a total seventy-six thousand, four hundred and
19 seventy barrels of oil and five point nine nine billion cubic
20 feet of gas. With commingling we project a recovery of
21 ninety-six thousand, seven hundred and twenty-five barrels
22 of oil and six point five seven billion cubic feet of gas.
23 This will be an increase of twenty thousand, two hundred and
24 fifty-five barrels of oil and five hundred and eighty million
25 cubic feet of gas. This is made possible by the greater

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1 producing efficiencies and the lower economic limit for the
2 combined streams than for the segregated streams.

3 Q Are you aware of any other similar downhole
4 commingling orders of the Commission with regards to the
5 Gallup and Dakota production?

6 A Yes, I am, there is one operator directly offsetting
7 us, which is Dewey Petroleum Company and by Order No. 5002
8 of April 1975, it authorized downhole commingling of production
9 from the Gallup and Dakota zones.

10 Q All right, do you have a proposal to the Commission
11 with regards to the allocation of production between the two
12 zones?

13 A Yes, we do. A comparison of the producing rates
14 from Gallup versus Dakota wells shows that with two exceptions
15 the Gallup is producing approximately seventy-five percent
16 of the oil and fifteen percent of the gas. These exceptions
17 are Well Numbers 3 and 5. In No. 3 the latest test does not
18 appear to be representative of this well's performance and
19 its decline curve indicates that it should be producing
20 approximately one barrel of oil per day which would bring it
21 to a fifty percent of the total liquid hydrocarbon production
22 from that well. Also its gas production decline rates indicate
23 a normal gas production from the well of about twenty-five MCF
24 per day and in Well No. 5 the Dakota side has been shut in
25 since 1970 when it produced an average of thirty-seven MCF per

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1 day and extrapolation of its decline rate to 1975 would
2 indicate that it should presently be producing eighteen MCF
3 per day. The average for the eight wells shows the Gallup
4 zone producing seventy-four percent of the oil and fourteen
5 percent of the gas, but within reason, all of the wells are
6 all producing fairly close to this percentage. For simplicity
7 it is recommended that this allocation be used for all of the
8 wells.

9 Q All right, then with regards to the Dakota production,
10 what percentage would you allocate to the gas production from
11 the Dakota?

12 A For gas production we propose the allocation of
13 eighty-five percent of the total production from the wellbore.

14 Q And with regards to Dakota oil production?

15 A For oil we propose twenty-five percent of the
16 production.

17 Q And with regards to the Gallup gas, what percentage?

18 A We propose fifteen percent of the gas to be
19 allocated to the Gallup.

20 Q And the Gallup oil?

21 A That would be seventy-five percent of the production.

22 Q Is there any significant water produced in any of
23 these wells?

24 A No, there is not.

25 Q Does the production of all of these wells fall within

1 the minimum set forth in Commission Rule 303 with regard to
2 marginal well status?

3 A. Yes, everyone of these completions is a marginal
4 completion and it does not appear there will be any danger
5 that the combined hydrocarbon production will exceed twenty
6 percent of the oil allowable and no well is projected to exceed
7 the Dakota gas allowable.

8 Q. In your opinion will the fluids from each of the
9 zones be compatible with the fluids from the other so that
10 there will be no reservoir damage?

11 A. Yes, that's true.

12 Q. Is the ownership of all of these zones common with
13 regards to working interest, royalty and overriding royalty?

14 A. Yes, it is.

15 Q. In your opinion will the commingled production be
16 in the best interest of conservation and the prevention of
17 waste and the protection of correlative rights?

18 A. Yes.

19 Q. In your opinion will approval of the application
20 result in the recovery of hydrocarbons that would not other-
21 wise be recovered?

22 A. Yes.

23 Q. Were Exhibits One through Ten either prepared by
24 you directly or compiled under your direction and supervision?

25 A. Yes.

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1 MR. KELLAHIN: We move the introduction of Exhibits
2 One through Ten.

3 MR. NUTTER: Applicant's Exhibits One through Ten
4 will be admitted into evidence.

5 (THEREUPON, Applicant's Exhibits One
6 through Ten were admitted into evidence.)

7 MR. KELLAHIN: That concludes our direct examination.

8
9 CROSS EXAMINATION

10 BY MR. NUTTER:

11 Q Mr. Erickson, you propose an allocation of seventy-five
12 percent oil to the Gallup and twenty-five percent oil to the
13 Dakota and fifteen percent of the gas to the Gallup and eighty-
14 five percent of the gas to the Dakota. Now, I notice here
15 on your Exhibit Number Ten that your projected reserves have
16 increased under commingling from seventy-six thousand up to
17 ninety-six thousand for oil, now, where is that increase
18 coming from, is that increase coming in the same proportion
19 that this seventy-five, twenty-five allocation would come or
20 is the bulk of the increase maybe even more than seventy-five
21 percent coming from the Gallup?

22 A I can't answer that. The way the increase of
23 reserves was figured was on the basis of the economic limit.

24 Q And acutally this seventy-five, twenty-five and
25 fifteen, eighty-five is figured on the basis of current

1 production?

2 A. Yes, it is.

3 Q. So, if we had a variation then in the increase of
4 reserves of either of the two zones the seventy-five, twenty-
5 five and the fifteen, eighty-five wouldn't apply, would it?

6 A. No, but it appears that these being all marginal
7 completions that it would not vary that much.

8 Q. Or that the variation might not be of any significance,
9 is that what you mean?

10 A. Yes.

11 Q. Okay, now, I understand how you are completing
12 these wells but I notice that in both cases the slim-hole
13 completion and the conventional type of completion, that you
14 are using one point six six inch ID tubing, is that ID?

15 A. It will be OD.

16 Q. So you are using, it will be one point three something
17 then?

18 A. The normal size is an inch and a quarter.

19 Q. Okay, what is the idea there, that you expect that
20 this Dakota gas well is going to be able to permit you to
21 flow Gallup production and you won't pump it, or what?

22 A. Yes, essentially.

23 Q. And you expect that the wells will flow when you
24 commingle them?

25 A. Not for very long. We do expect to install plunger

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1 lifts on all of these wells.

2 Q Then you can do that in this one point six six inch
3 tubing?

4 A Yes.

5 MR. NUTTER: Are there any further questions of the
6 witness? He may be excused.

7 (THEREUPON, the witness was excused.)

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

10 MR. KELLAHIN: No, sir.

11 MR. NUTTER: Does anyone have anything they wish to
12 offer in Case 5652?

13 MR. SCHMIDT: Yes, sir, I'm Ed Schmidt with the
14 USGS out of Durango and I was concerned with this Well No. 5.
15 It is my understanding that you intended to plug the Dakota
16 back and recomplete that as a Pictured Cliffs gas well. Has
17 this proposal been abandoned?

18 THE WITNESS: For the present time, yes, if we do
19 get approval to commingle we will go ahead and attempt to
20 produce the Dakota zone but if that is unsuccessful we do
21 plan to recomplete the well.

22 MR. SCHMIDT: I see. That's the only question that
23 I have.

24 MR. NUTTER: Is there anything further in Case
25 5662? If not, we will continue the case to the hearing

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1 scheduled to be held at this same place at nine o'clock A.M.,
2 March 31st, 1976.

3 Correction on that. We will continue this case to
4 the Examiner Hearing scheduled to be held at this same place at
5 nine o'clock A.M., April the 14th, 1976.

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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
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. 5252 heard by me on 3/17, 1976.
[Signature], Examiner
New Mexico Oil Conservation Commission

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 14, 1976

EXAMINER HEARING

IN THE MATTER OF:

Application of Continental Oil Company
for downhole commingling, Rio Arriba
County, New Mexico.

CASE
5652
(Cont'd.)

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

For the Applicant:

W. Thomas Kellahin, Esq.
KELLAHIN & FOX
Attorneys at Law
500 Don Gaspar
Santa Fe, New Mexico

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Phone (505) 982-9212

1 MR. NUTTER: We will call Case Number 5652.

2 MR. CARR: Case 5652, application of Continental
3 Oil Company for downhole commingling, Rio Arriba County,
4 New Mexico.

5 MR. NUTTER: Are there any appearances in Case
6 Number 5652?

7 MR. KELLAHIN: Tom Kellahin of Kellahin and Fox
8 appearing on behalf of the applicant. As the Examiner knows,
9 this is a rehearing of the case heard in March to correct
10 a misadvertisment.

11 We don't propose to offer any further testimony.


12 MR. NUTTER: Does anyone else have anything to offer
13 in this case? We will take the case under advisement.
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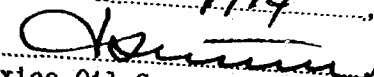
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REPORTER'S CERTIFICATE

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. 5652,
heard by me on 4/14, 1976.
 Examiner
New Mexico Oil Conservation Commission

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6 Number 5652?

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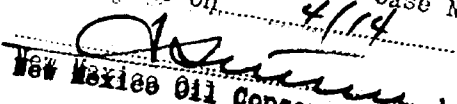
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I do hereby certify that the foregoing is
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the Examiner hearing of Case No. 952
heard by me on 4/14, 1976.

Examiner
New Mexico Oil Conservation Commission

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 17, 1976

EXAMINER HEARING

IN THE MATTER OF:

Application of Continental Oil Co. for) CASE
downhole commingling, Rio Arriba) 5652
County, New Mexico.)

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

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

For the Applicant: W. Thomas Kellahin, Esq.
KELLAHIN & FOX
Attorneys at Law
500 Don Gaspar
Santa Fe, New Mexico

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1 MR. NUTTER: We will call next Case 5652.

2 MR. CARR: Case 5652, application of Continental Oil
3 Company for downhole commingling, Rio Arriba County, New Mexico.

4 MR. KELLAHIN: Tom Kellahin, Kellahin and Fox,
5 Santa Fe, appearing on behalf of the applicant and I have
6 one witness to be sworn.

7 (THEREUPON, the witness was duly sworn.)

8
9 DAVID ERICKSON

10 called as a witness, having been first duly sworn, was
11 examined and testified as follows:

12
13 DIRECT EXAMINATION

14 BY MR. KELLAHIN:

15 Q Would you please state your name, by whom you are
16 employed and in what capacity?

17 A David Erickson from Hobbs, New Mexico. I'm employed
18 by Continental Oil Company as a Petroleum Engineer.

19 Q Mr. Erickson, have you ever testified before this
20 Commission?

21 A No.

22 Q When and where did you obtain your degree?

23 A I obtained my Bachelor of Science in Petroleum
24 Engineering from the Colorado School of Mines in December of
25 '73.

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1 Q And since obtaining your degree where have you been
 2 employed and in what capacity?

3 A I have been employed by Continental Oil Company for
 4 two years and as a petroleum engineer.

5 Q Have you made a study of and are you familiar with
 6 the facts surrounding this particular application?

7 A Yes, I have.

8 MR. KELLAHIN: If the Examiner please, are the
 9 witness's qualifications acceptable?

10 MR. NUTTER: Yes, they are.

11 Q (Mr. Kellahin continuing.) Mr. Erickson, would you
 12 refer to Exhibit Number One, identify it and state what
 13 Continental is seeking?

14 A Continental Oil Company is applying for authority
 15 to downhole commingle production from the Basin-Dakota gas and
 16 Otero-Gallup oil pool in the wellbores of eight wells on the
 17 Northeast Haynes Lease located in Township 24 South, Range 5
 18 West of Rio Arriba County, New Mexico.

19 MR. KELLAHIN: A note for the benefit of the Examiner
 20 at this time that the advertisement will require re-publication.
 21 There is an error appearing in the ad with regards to Well
 22 No. 7 in Unit L of Section 19. That is an error, it should be
 23 Section 10.

24 Q (Mr. Kellahin continuing.) Please refer to your
 25 first exhibit here and locate for us the wells in which you

1 seek to commingle production?

2 A. Exhibit One is a location plat showing the whole
3 Northeast Haynes lease inside the diagonal line border
4 described as the south half of Sections 9 and 10, all of
5 Sections 15 and 16, the north half of Sections 21 and 22 in
6 Township 24 North, Range 5 West. The eight wells involved are
7 circled in red, each of which is dually completed in the
8 Basin-Dakota gas pool and the Otero-Gallup oil pool.

9 Q. Would you please refer to Exhibit Number Two now
10 and identify it?

11 A. Exhibit Number Two is a wellbore schematic diagram
12 of the Northeast Haynes Well No. 1, showing the size of the
13 setting depth and the amount of cement used in setting the
14 various casing strings and the size and depth of the tubing.

15 Q. Now, this northeast Haynes No. 1 Well, is that well
16 numbered as No. 1 on Exhibit Number One?

17 A. Yes.

18 Q. Let's continue then with your Exhibit Number Two.

19 A. Well No. 1 is a slim-hole type completion with two
20 strings of four-and-a-half inch casing set at sixty-nine,
21 twenty-seven and fifty-nine, thirty-four feet and one string
22 of two-and-seven-eighths inch casing set at fifty-eight, ninety
23 feet. The smaller string of casing has been plugged with
24 cement from forty-five, ninety-nine to thirty-one hundred
25 feet and two-and-three-eighths tubing is set at fifty-seven

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1 ninety feet in the Gallup casing and one point six inch tubing
2 is set in the Dakota string at sixty-seven, sixty-six feet.

3 Q Now, this is the present way in which this well is
4 completed?

5 A Yes, it is.

6 Q Please refer to Exhibit Number Three and identify it?

7 A Exhibit Number Three is a schematic diagram of
8 Northeast Haynes Well No. 1 after affecting the downhole
9 commingling proposed in this application. The tubing will be
10 pulled from the Gallup string and that string will be plugged
11 with a cast iron bridge plug. The Gallup will then be
12 perforated at fifty-six eighteen to fifty-eight, eighteen and
13 the tubing will be re-run and set below the Dakota perforations.

14 Q All right, refer to Exhibit Number Four and identify
15 it?

16 A Exhibit Number Four is a wellbore schematic diagram
17 of Northeast Haynes Well No. 8 as it is presently equipped.

18 Q Now, Well No. 8 corresponds to which well on Exhibit
19 Number One?

20 A Well No. 8 is identified in the southeast quarter
21 of the Section.

22 Q And it is numbered as eight?

23 A Yes.

24 Q All right, sir, continue.

25 A This schematic shows the size and the setting depth

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1 and the amount of cement used in setting the casing string
2 and the five-and-one-half inch casing is set at sixty-nine
3 hundred feet and the multi-packer is set at sixty-six, seventy
4 feet, isolating the southern Gallup zone. The Gallup string
5 is one point six six inch OD and it is set at sixty-six
6 seventy feet. The two-and-three-eighths inch Gallup tubing
7 is set at fifty-six, sixty-one feet.

8 Q Please refer to Exhibit Number Five?

9 A Exhibit Number Five is the schematic diagram of
10 Northeast Haynes Well No. 8 after commingling is affected.
11 Both tubing strings will be pulled and then a one point six
12 six inch tubing will be re-run and and set at sixty-eight
13 fifty feet. The packer will either be removed or the seals
14 will not be re-run so that there is no effective seal around
15 the packer, and then the commingled stream of Gallup and
16 Dakota will be produced through the tubing.

17 Q Now, except for this Northeast Haynes No. 1 Well,
18 the Exhibit Number Five of the Northeast Haynes No. 8, is a
19 typical example of the other seven wells in the lease?

20 A Yes, it is.

21 Q And this is the way you propose to recomplete all
22 of the other wells, except for No. 1?

23 A Yes.

24 MR. NUTTER: No. 1 is the only slim-hole type of
25 completion then?

1 A Yes.

2 Q (Mr. Kellahin continuing.) Please refer to Exhibit
3 Number Six and identify it?

4 A Exhibit Number Six is a tabulation of the completion
5 data on the eight wells in the Northeast Haynes lease and the
6 Well No. 1 is the special case, being a slim-hole completion
7 and this tabulation here shows the well number, its ground
8 level elevation, total depth, plug-back depth, casing size
9 and the perforations and the tubing size used for the production
10 of both the Gallup and the Dakota.

11 Q Please refer to Exhibit Number Seven and identify
12 it?

13 A Exhibit Number Seven is the Northeast Haynes lease
14 tabulation of completion and production history. It shows
15 the well number, completion date, initial potential and the
16 latest test of oil, water and gas per day and cumulative
17 production through January 1976. The upper part shows the
18 production from the Gallup zone and the lower part shows
19 production from the Dakota zone.

20 Q Okay, Exhibit Number Eight?

21 A Exhibit Number Eight is a curve showing the projected
22 production from the Gallup formation in the Northeast Haynes
23 lease to an estimated economic limit of six barrels of oil
24 per day and two hundred MCF per day from the ten Gallup
25 completions on the Northeast Haynes lease. The projected

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1 reserves are listed as fifty-nine thousand, six hundred
2 barrels of oil and one point two six billion cubic feet of
3 gas.

4 Q All right, sir, Exhibit Number Nine?

5 A Exhibit Number Nine is a decline curve showing the
6 projected producing rates for the Basin-Dakota formation
7 produced on a segregated basis through the eight wells to an
8 economic limit of two thirds barrels of oil per day and
9 three hundred and twenty MCF of gas per day. The projected
10 reserves here are sixteen thousand, eight hundred and seventy
11 barrels of oil and four point seven three billion cubic feet
12 of gas.

13 Q Exhibit Number Ten?

14 A Exhibit Ten is a decline curve showing the projected
15 commingled production from the wellbores from the Gallup and
16 Dakota zones with commingling. The projected segregated
17 reserves are a summation of the curves shown in Exhibits Eight
18 and Nine, a total seventy-six thousand, four hundred and
19 seventy barrels of oil and five point nine nine billion cubic
20 feet of gas. With commingling we project a recovery of
21 ninety-six thousand, seven hundred and twenty-five barrels
22 of oil and six point five seven billion cubic feet of gas.
23 This will be an increase of twenty thousand, two hundred and
24 fifty-five barrels of oil and five hundred and eighty million
25 cubic feet of gas. This is made possible by the greater

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1 producing efficiencies and the lower economic limit for the
2 combined streams than for the segregated streams.

3 Q Are you aware of any other similar downhole
4 commingling orders of the Commission with regards to the
5 Gallup and Dakota production?

6 A Yes, I am, there is one operator directly offsetting
7 us, which is Dewey Petroleum Company and by Order No. 5002
8 of April 1975, it authorized downhole commingling of production
9 from the Gallup and Dakota zones.

10 Q All right, do you have a proposal to the Commission
11 with regards to the allocation of production between the two
12 zones?

13 A Yes, we do. A comparison of the producing rates
14 from Gallup versus Dakota wells shows that with two exceptions
15 the Gallup is producing approximately seventy-five percent
16 of the oil and fifteen percent of the gas. These exceptions
17 are Well Numbers 3 and 5. In No. 3 the latest test does not
18 appear to be representative of this well's performance and
19 its decline curve indicates that it should be producing
20 approximately one barrel of oil per day which would bring it
21 to a fifty percent of the total liquid hydrocarbon production
22 from that well. Also its gas production decline rates indicate
23 a normal gas production from the well of about twenty-five MCF
24 per day and in Well No. 5 the Dakota side has been shut in
25 since 1970 when it produced an average of thirty-seven MCF per

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1 day and extrapolation of its decline rate to 1975 would
2 indicate that it should presently be producing eighteen MCF
3 per day. The average for the eight wells shows the Gallup
4 zone producing seventy-four percent of the oil and fourteen
5 percent of the gas, but within reason, all of the wells are
6 all producing fairly close to this percentage. For simplicity
7 it is recommended that this allocation be used for all of the
8 wells.

9 Q All right, then with regards to the Dakota production,
10 what percentage would you allocate to the gas production from
11 the Dakota?

12 A For gas production we propose the allocation of
13 eighty-five percent of the total production from the wellbore.

14 Q And with regards to Dakota oil production?

15 A For oil we propose twenty-five percent of the
16 production.

17 Q And with regards to the Gallup gas, what percentage?

18 A We propose fifteen percent of the gas to be
19 allocated to the Gallup.

20 Q And the Gallup oil?

21 A That would be seventy-five percent of the production.

22 Q Is there any significant water produced in any of
23 these wells?

24 A No, there is not.

25 Q Does the production of all of these wells fall within

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1 the minimum set forth in Commission Rule 303 with regard to
2 marginal well status?

3 A Yes, everyone of these completions is a marginal
4 completion and it does not appear there will be any danger
5 that the combined hydrocarbon production will exceed twenty
6 percent of the oil allowable and no well is projected to exceed
7 the Dakota gas allowable.

8 Q In your opinion will the fluids from each of the
9 zones be compatible with the fluids from the other so that
10 there will be no reservoir damage?

11 A Yes, that's true.

12 Q Is the ownership of all of these zones common with
13 regards to working interest, royalty and overriding royalty?

14 A Yes, it is.

15 Q In your opinion will the commingled production be
16 in the best interest of conservation and the prevention of
17 waste and the protection of correlative rights?

18 A Yes.

19 Q In your opinion will approval of the application
20 result in the recovery of hydrocarbons that would not other-
21 wise be recovered?

22 A Yes.

23 Q Were Exhibits One through Ten either prepared by
24 you directly or compiled under your direction and supervision?

25 A Yes.

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1 MR. KELLAHIN: We move the introduction of Exhibits
2 One through Ten.

3 MR. NUTTER: Applicant's Exhibits One through Ten
4 will be admitted into evidence.

5 (THEREUPON, Applicant's Exhibits One
6 through Ten were admitted into evidence.)

7 MR. KELLAHIN: That concludes our direct examination.
8

9 CROSS EXAMINATION

10 BY MR. NUTTER:

11 Q Mr. Erickson, you propose an allocation of seventy-five
12 percent oil to the Gallup and twenty-five percent oil to the
13 Dakota and fifteen percent of the gas to the Gallup and eighty-
14 five percent of the gas to the Dakota. Now, I notice here
15 on your Exhibit Number Ten that your projected reserves have
16 increased under commingling from seventy-six thousand up to
17 ninety-six thousand for oil, now, where is that increase
18 coming from, is that increase coming in the same proportion
19 that this seventy-five, twenty-five allocation would come or
20 is the bulk of the increase maybe even more than seventy-five
21 percent coming from the Gallup?

22 A I can't answer that. The way the increase of
23 reserves was figured was on the basis of the economic limit.

24 Q And acutally this seventy-five, twenty-five and
25 fifteen, eighty-five is figured on the basis of current

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1 production?

2 A Yes, it is.

3 Q So, if we had a variation then in the increase of
4 reserves of either of the two zones the seventy-five, twenty-
5 five and the fifteen, eighty-five wouldn't apply, would it?

6 A No, but it appears that these being all marginal
7 completions that it would not vary that much.

8 Q Or that the variation might not be of any significance,
9 is that what you mean?

10 A Yes.

11 Q Okay, now, I understand how you are completing
12 these wells but I notice that in both cases the slim-hole
13 completion and the conventional type of completion, that you
14 are using one point six six inch ID tubing, is that ID?

15 A It will be OD.

16 Q So you are using, it will be one point three something
17 then?

18 A The normal size is an inch and a quarter.

19 Q Okay, what is the idea there, that you expect that
20 this Dakota gas well is going to be able to permit you to
21 flow Gallup production and you won't pump it, or what?

22 A Yes, essentially.

23 Q And you expect that the wells will flow when you
24 commingle them?

25 A Not for very long. We do expect to install plunger

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1 lifts on all of these wells.

2 Q Then you can do that in this one point six six inch
3 tubing?

4 A Yes.

5 MR. NUTTER: Are there any further questions of the
6 witness? He may be excused.

7 (THEREUPON, the witness was excused.)

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

10 MR. KELLAHIN: No, sir.

11 MR. NUTTER: Does anyone have anything they wish to
12 offer in Case 5652?

13 MR. SCHMIDT: Yes, sir, I'm Ed Schmidt with the
14 USGS out of Durango and I was concerned with this Well No. 5.
15 It is my understanding that you intended to plug the Dakota
16 back and recomplete that as a Pictured Cliffs gas well. Has
17 this proposal been abandoned?

18 THE WITNESS: For the present time, yes, if we do
19 get approval to commingle we will go ahead and attempt to
20 produce the Dakota zone but if that is unsuccessful we do
21 plan to recomplete the well.

22 MR. SCHMIDT: I see. That's the only question that
23 I have.

24 MR. NUTTER: Is there anything further in Case
25 5662? If not, we will continue the case to the hearing

1 scheduled to be held at this same place at nine o'clock A.M.,
2 March 31st, 1976.

3 Correction on that. We will continue this case to
4 the Examiner Hearing scheduled to be held at this same place at
5 nine o'clock A.M., April the 14th, 1976.

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Asst. Examiner
New Mexico Oil Conservation Commission

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OIL CONSERVATION COMMISSION

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



DIRECTOR
JOE D. RAMEY

LAND COMMISSIONER
PHIL R. LUCERO
April 28, 1976

STATE GEOLOGIST
EMERY C. ARNOLD

Mr. Tom Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico 87501

Re: CASE NO. 5652
ORDER NO. R-5205

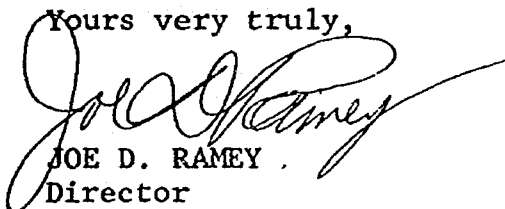
Applicant:

Continental Oil Company

Dear Sir:

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

Yours very truly,


JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC x
Artesia OCC _____
Aztec OCC x

Other _____

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Case
5652

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Continental
52094 HSP 2300 ac.

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N.E. Haynes



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Jicarilla

BEFORE EXAMINED MUTTER

OIL CONSERVATION

Conoco EXHIBIT NO. 1

CASE NO. 5652

CONTINENTAL OIL COMPANY
PRODUCTION DEPARTMENT

DRAWN

CHECKED

APPROVED

SCALE

1" = 2000'

DATE

SHEET

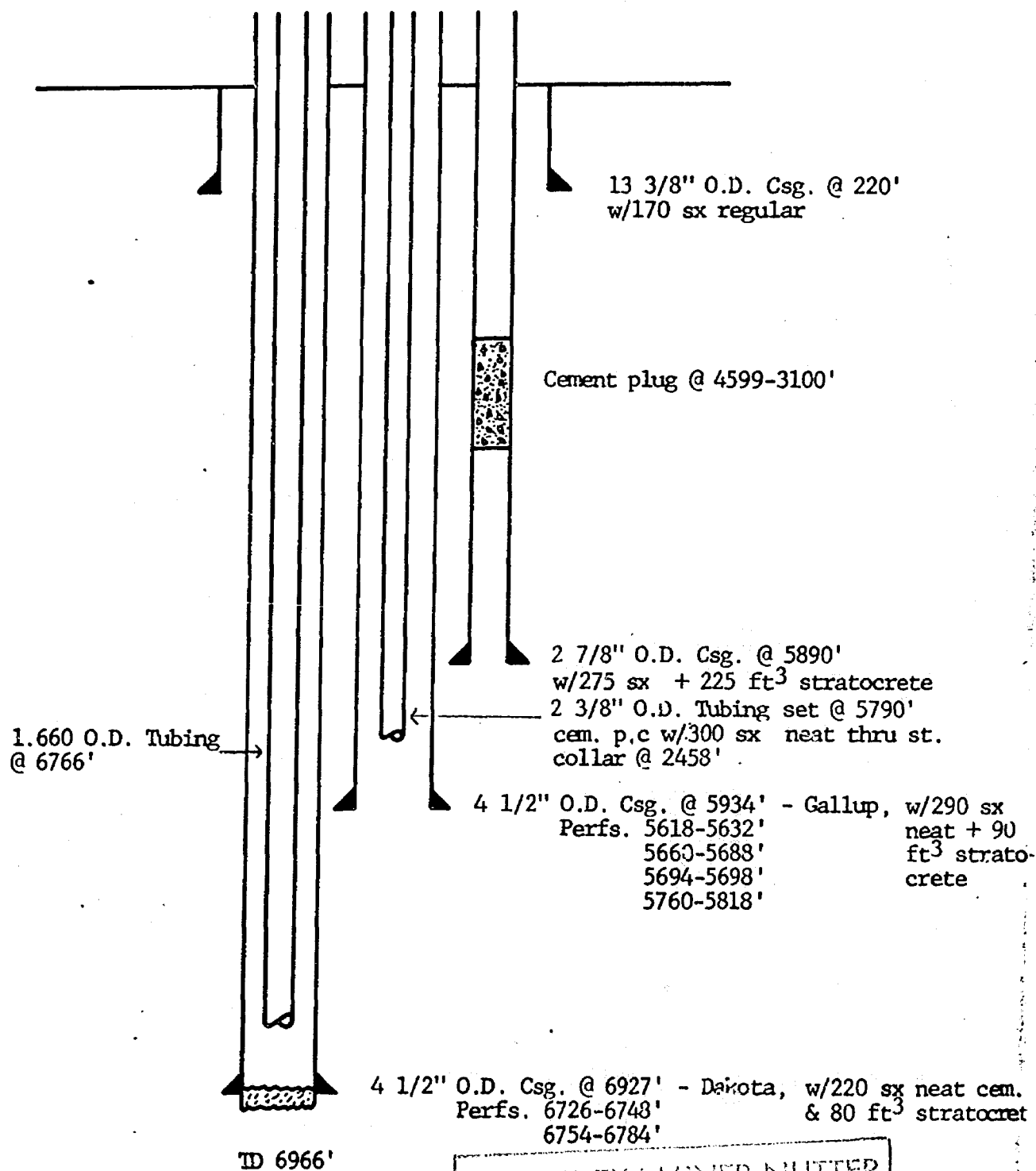
FILE NO.

OF

N.E. HAYNES

RO ARriba CO., NEW MEXICO

N.E. Haynes #1
1850 FSL; 790 FWL 9-24N-5W
Elev. 6535 RB

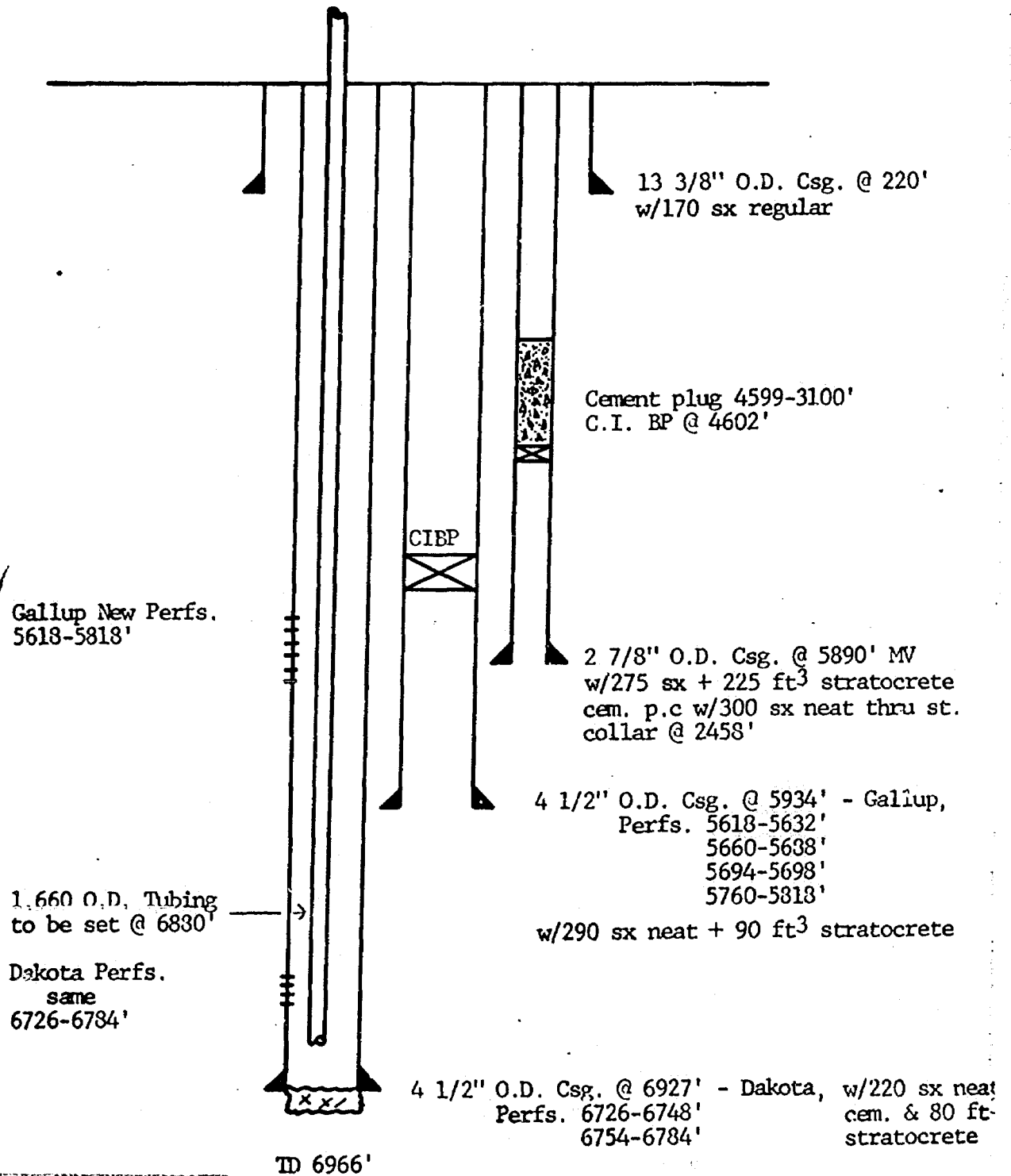


BEFORE EXAMINER NUTTER	
OIL COMMISSION COMMISSION	
Conoco	EXHIBIT NO. 2
CASE NO. 5652	

Present

Exhibit No. 2

N.E. Haynes #1
1850 FSL; 790 FWL
9-24N-5W
Elev. 6535 RB

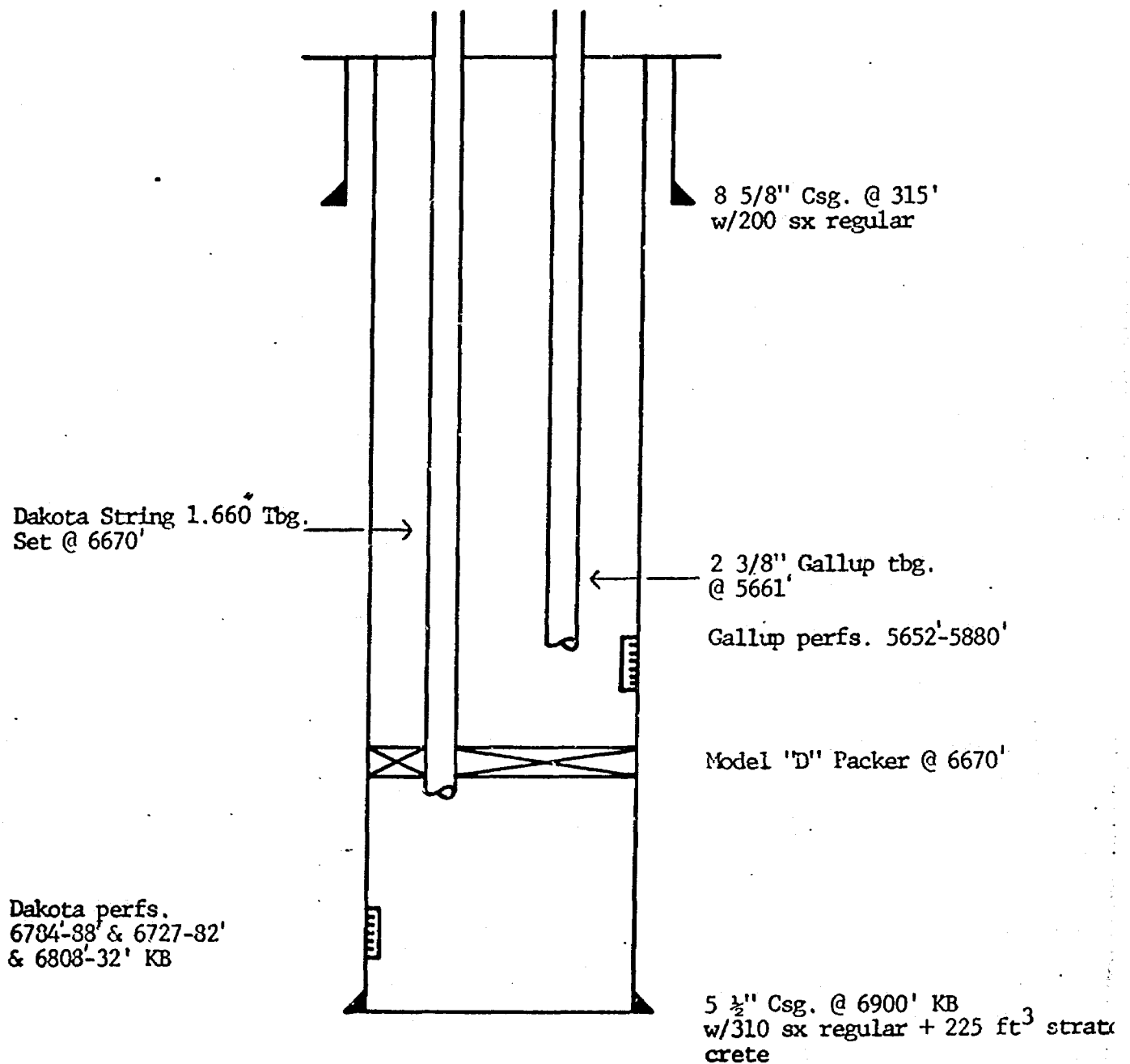


BEFORE EXAMINER NUTTER
OIL CONSERVATION DISTRICT
Conec EXHIBIT NO. 3
CASE NO. 5652

Proposed

Exhibit No. 3

N.E. Haynes #8
911 FSL; 1033 FEL
15-24N-5W
Elev. 6670' + 11' KB

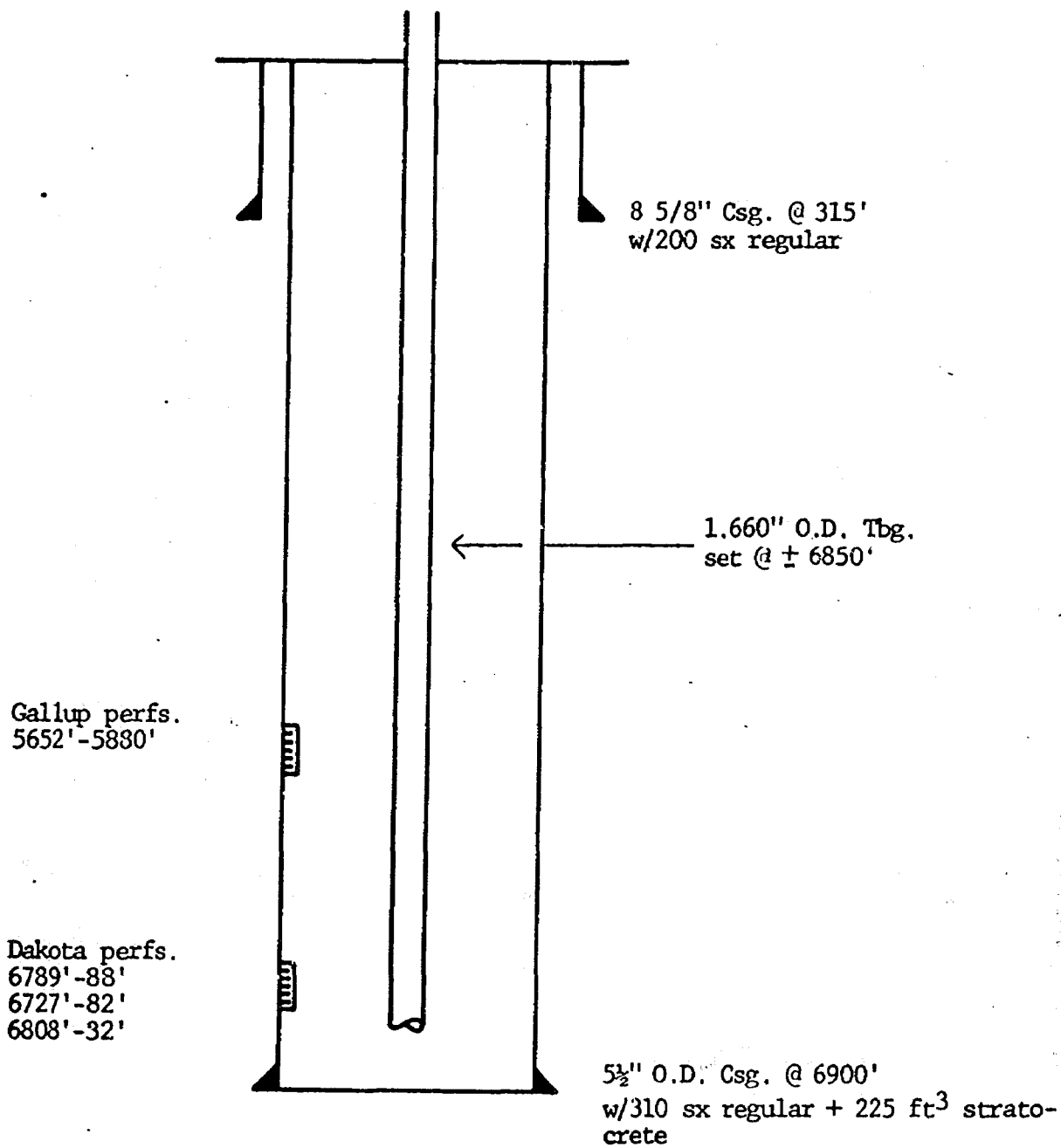


BEFORE EXAMINER JUTTER
OIL CONSERVATION COMMISSION
Conoco EXHIBIT NO. 4
CASE NO. 5652

Present

Exhibit No. 4

N.E. Haynes #3
911 FSL; 1033 FEL
15-24N-5W
Elev. 6670' + 11' KB



BEFORE EXAMINER INITIALS
OIL CONSERVATION COMMISSION
Conoco EXHIBIT NO. 5
CASE NO. 5653

Proposed

Exhibit No. 5

NORTHEAST HAYNES LEASE

Tabulation of Equipment in Wells

Well No.	Elev. G. L.	Total Depth	P. B. T. D.	Casing		Gallup		Dakota		Packer Set at
				Size	Set at	Perfs	Prod. thru O.D.	Perfs	Prod. thru O.D.	
1	6535	6966	6927	13-3/8	220	5618-5632	2-3/8"	6726-6748	1.66"	None Separate 4-1/2" Strings
				4-1/2	5934	5660-5688	at	6754-6784	at	
				4-1/2	6927	5694-5698	5790'		6766'	
				2-7/8	5890X	5760-5818				
2	6517	6865		8-5/8	213	5558-5752	1.660"	6676-6718	1.660"	6490' Model "D"
				5-1/2	6865		at 5431		at 5542 in 2-3/8" at 6766	
3	6673	6905	6877	8-5/8	310	5658-5881	2.375"	6838-6848	1.660"	6690' Model "D"
				5-1/2	6905		at 5771		at 6690	
4	6612	6887	6835	8-5/8	328	5536-5757	2.375"	6698-6705	1.660"	6540' Model "D"
				5-1/2	6887		at 5728		at 6540	
5	6692	6855	6855	8-5/8	305	5643-5860	2.375"	6800'	S.I. W/Tbg Plug	6655' Model "D"
				5-1/2	6855		at 6655 with sliding sleeve			
6	6545	6832	6809	8-5/8	310	5597-5812	2.375"	6756-6764	1.660"	6544' Model "D"
				5-1/2	6832		at 5749		at 6544	
7	6564	6956		8-5/8	308	5746-5764	2.375"	6790-6794	1.660"	6769' Model "D"
				5-1/2	6956		at 5806	6802-6806 6812-6842	at 6769	
8	6670	6900		8-5/8	315	5652-5880	2.375"	6784-6788	1.660"	6670' Model "D"
				5-1/2	6900		at 5661	6727-6782 6808-6832	at 6670	

RECEIVED
 CONSCO
 5652
 6

Exhibit No. 6

NORTHEAST HAYNES LEASE

Tabulation of Completion and Production History

GALLUP ZONE

Well No.	Date Completed	Initial Prod.			Cumulative Prod.			Last Test			Date Last Test
		B/D	MCF/D		thru January, 1976						
		Oil	Water	Gas	Oil	Water	Gas	Oil	Water	Gas	
1	10-13-60	10	-	25	17485	40	244104	1	0	26	Jan. 76
2	3-26-67	40	16	160	18981	501	88394	3	0	23	Jan. 76
3	12-31-63	53	-	58	31974	41	187838	0	0	15	Jan. 76
4	6-21-63	46	-	43	46610	80	184653	5	0	38	Jan. 76
5	8-21-63	110	0	220	35963	83	206493	3	0	30	Jan. 76
6	10-16-63	15	0	33	18265	-	95924	2	0	26	Jan. 76
7	3-28-71	10	0	52	5885	447	57436	2	0	29	Jan. 76
8	4-12-64	94	0	188	13627	967	132521	4	0	36	Jan. 76

DAKOTA ZONE

BAROKA ZONE

Well No.	Date Completed	Initial Prod.			Cumulative Prod.			Last Test			Date Last Test
		B/D	MCF/D		thru January, 1976						
		Oil	Water	Gas	Oil	Water	Gas	Oil	Water	Gas	
1	10-13-60	-	-	883	14717	6000	1178164	1	2	170	Jan. 76
2	10-23-61	72	-	1990	15507	3318	1335494	1	2	195	Jan. 76
3	10-8-62	57	-	3701	13939	3550	1858449	1	2	325	Jan. 76
4	6-4-62	34	-	1980	17942	2470	1837711	1	1	250	Jan. 76
5	10-8-62	16	-	404	5087	-	82378	-	S. I.	-	Jan. 76
6	7-20-62	28	-	1632	9939	5410	1244156	1	2	175	Jan. 76
7	9-10-63	18	-	1400	10118	2704	1295007	1	1	172	Jan. 76
8	9-7-63	90	-	3771	5393	4636	448948	1	2	40	Jan. 76

Conoco

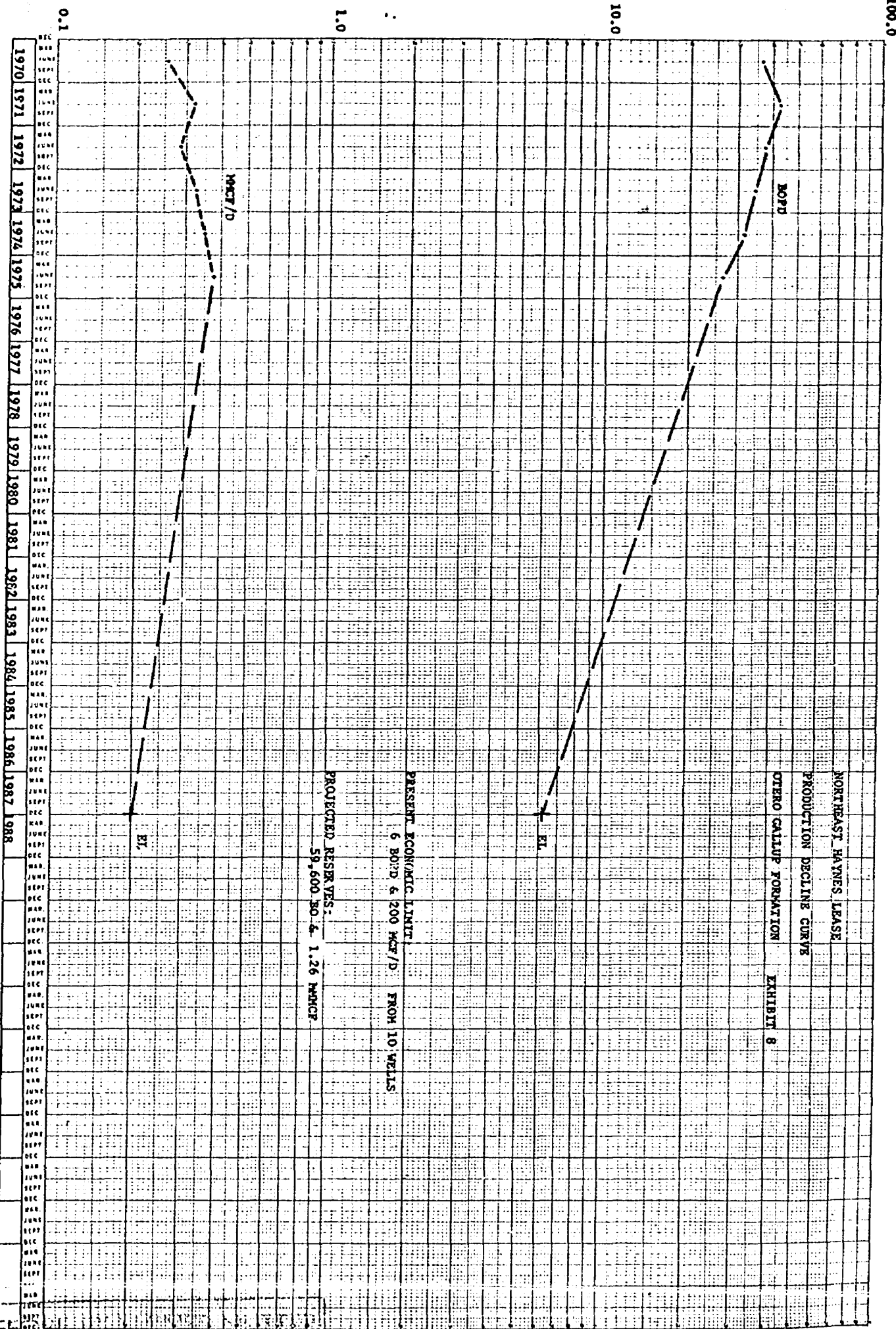
5652

7

Exhibit No. 7



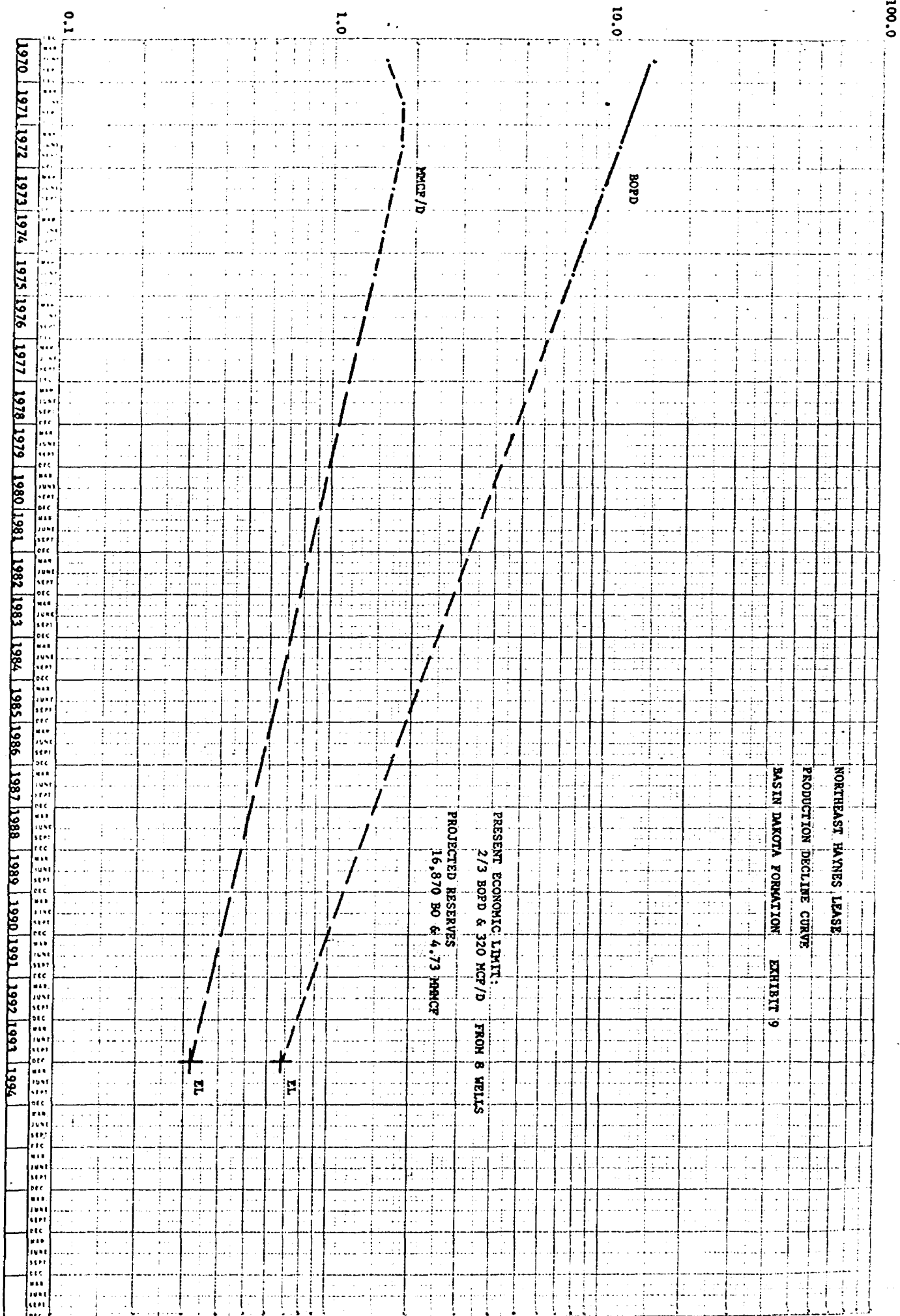
GAS PRODUCTION - MMCF/D
OIL PRODUCTION - BOPD



BEFORE
OIL CONDENSED
LORACO
CASE NO. 5662

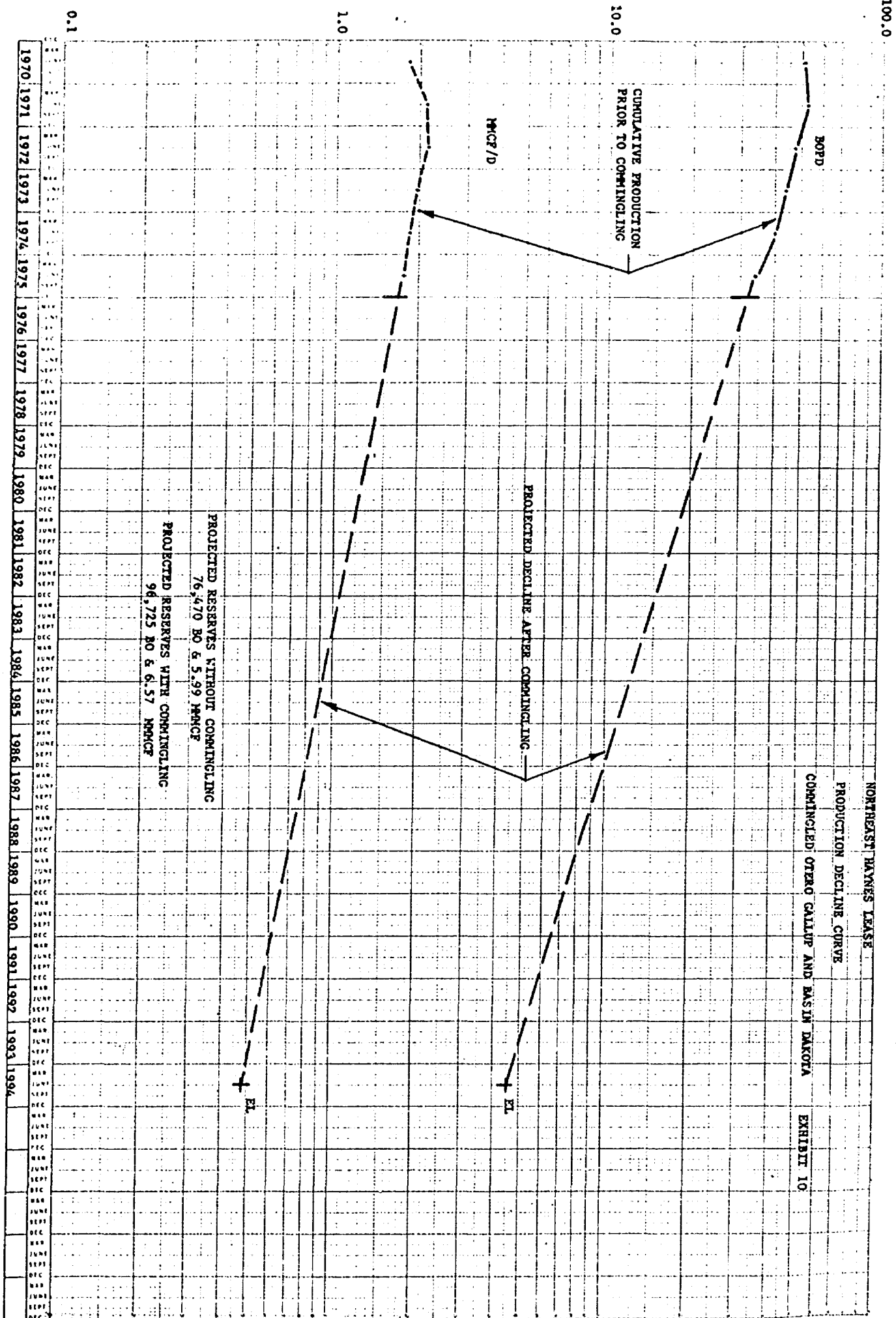
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GAS PRODUCTION - MMCF/D
OIL PRODUCTION - BOPD

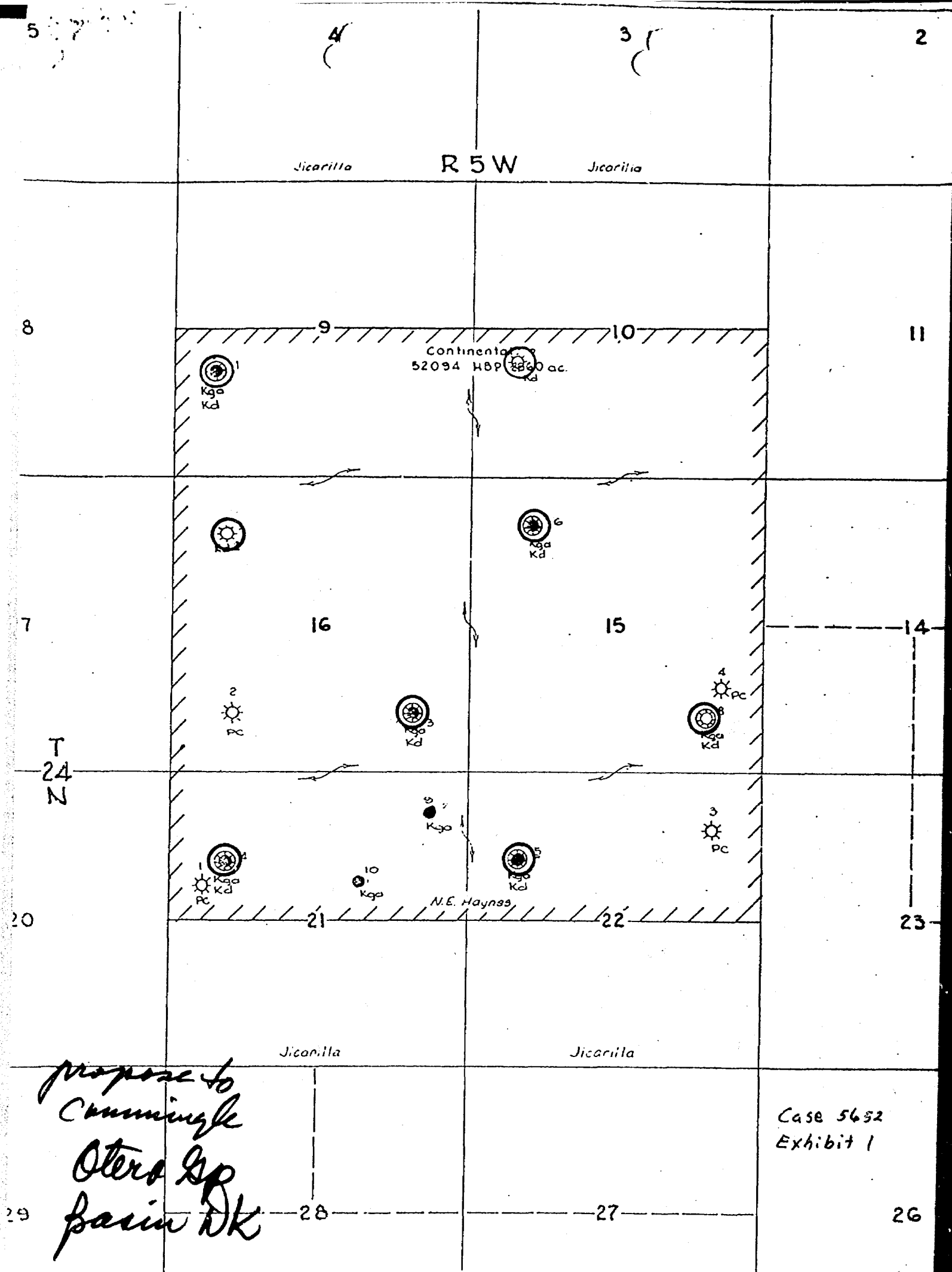




BEFORE EXAMINATION
OF A COPY OF THE RECORD
Conoco
CASE NO. 5652
9

GAS PRODUCTION - MMCF/D
OIL PRODUCTION - BOPD

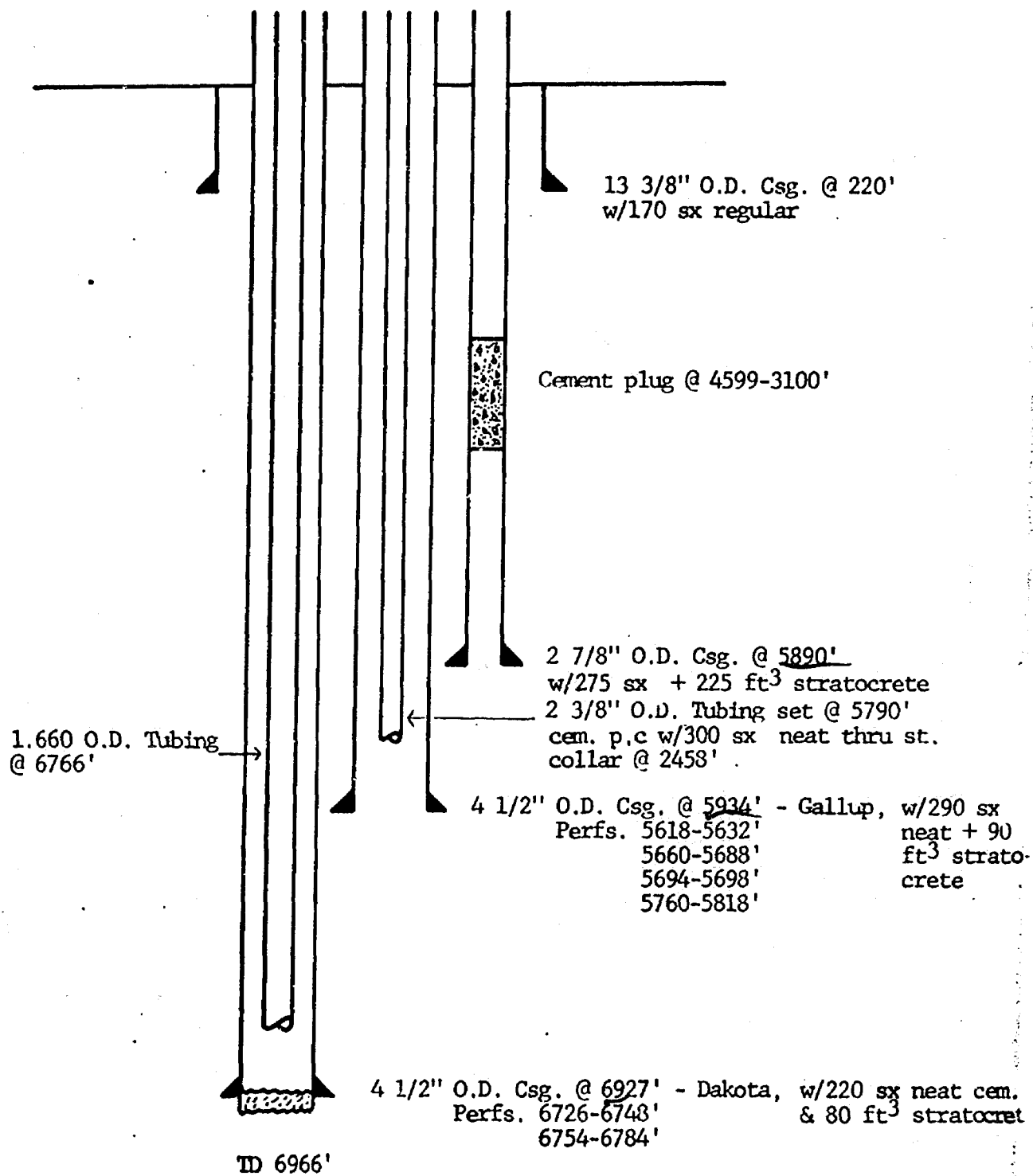


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		CONTINENTAL OIL COMPANY PRODUCTION DEPARTMENT 	
DRAWN _____	SCALE 1" = 2000'	FILE NO. _____	
CHECKED _____	DATE _____		
APPROVED _____	SHEET _____ OF _____		
NE. HAYNES RIO ARriba CO., NEW MEXICO			

N.E. Haynes #1
1850 FSL; 790 FWL 9-24N-5W
Elev. 6535 RB



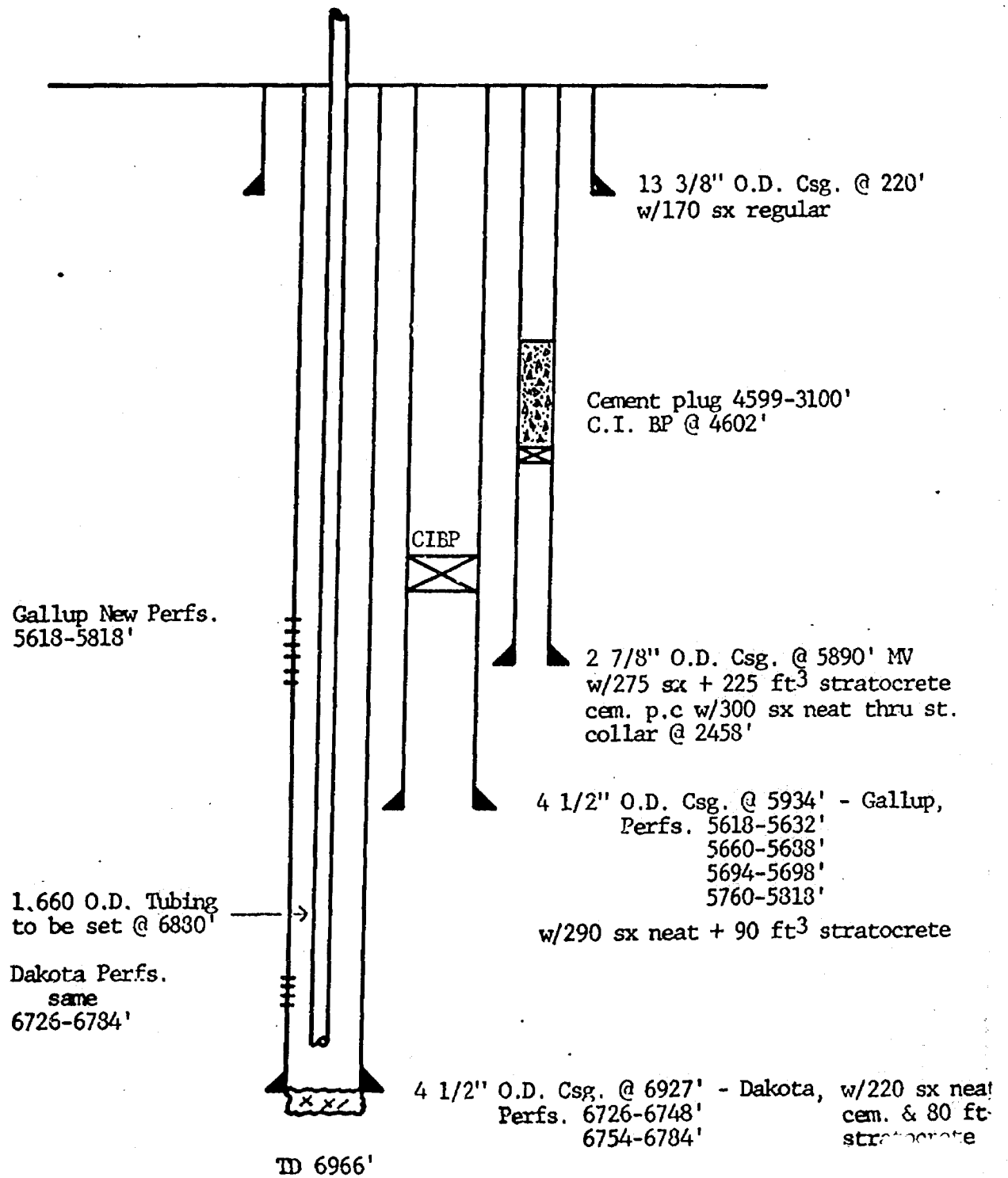
Case 5652

Exhibit 2

Present

Exhibit No. 2

N.E. Haynes #1
1850 FSL; 790 FWL
9-2411-5W
Elev. 6535 RB

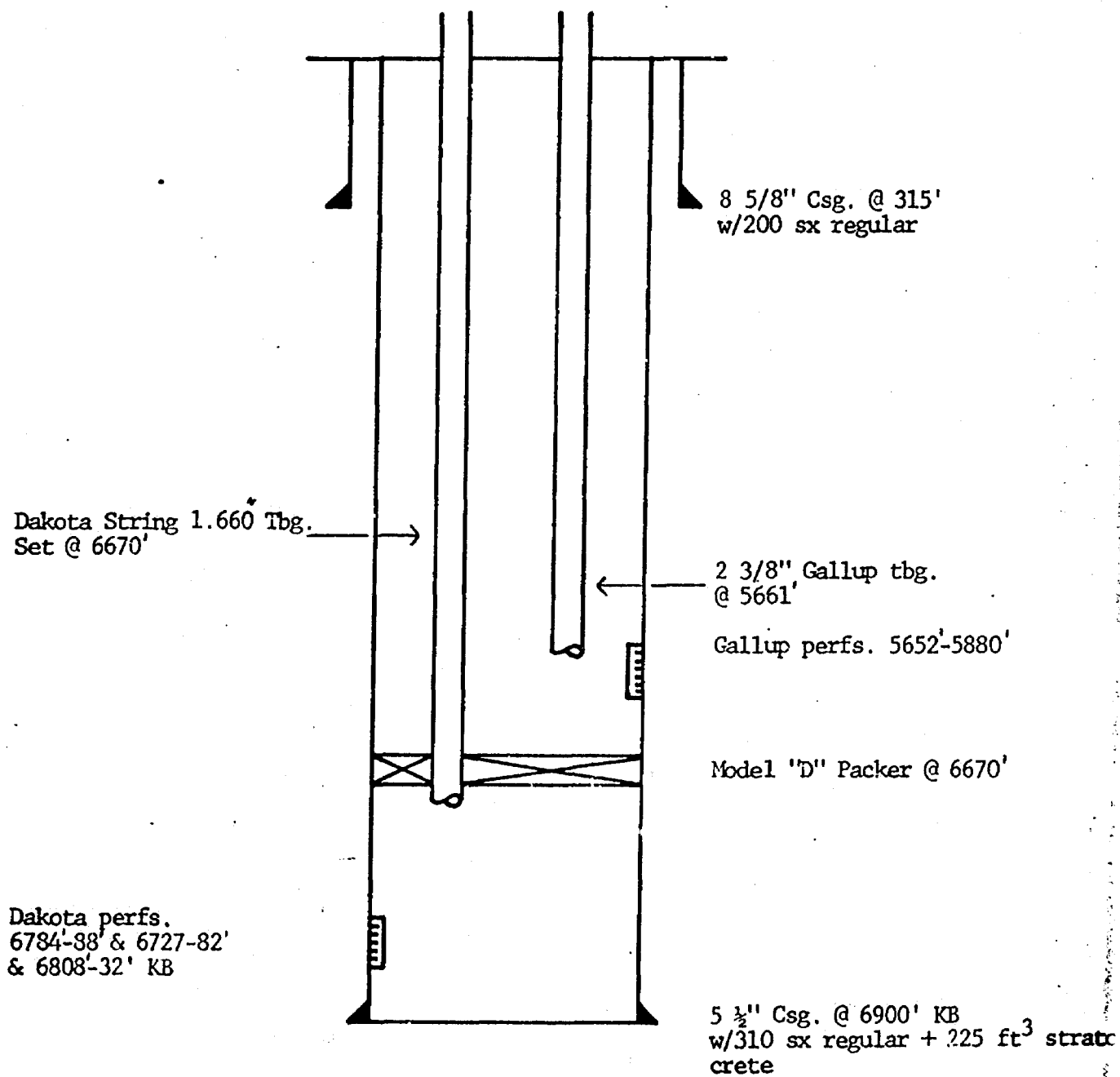


Case 5652
Exhibit 3

Proposed

Exhibit No. 3

N.E. Haynes #8
911 FSL; 1033 FEL
15-24N-5W
Elev. 6670' + 11' KB

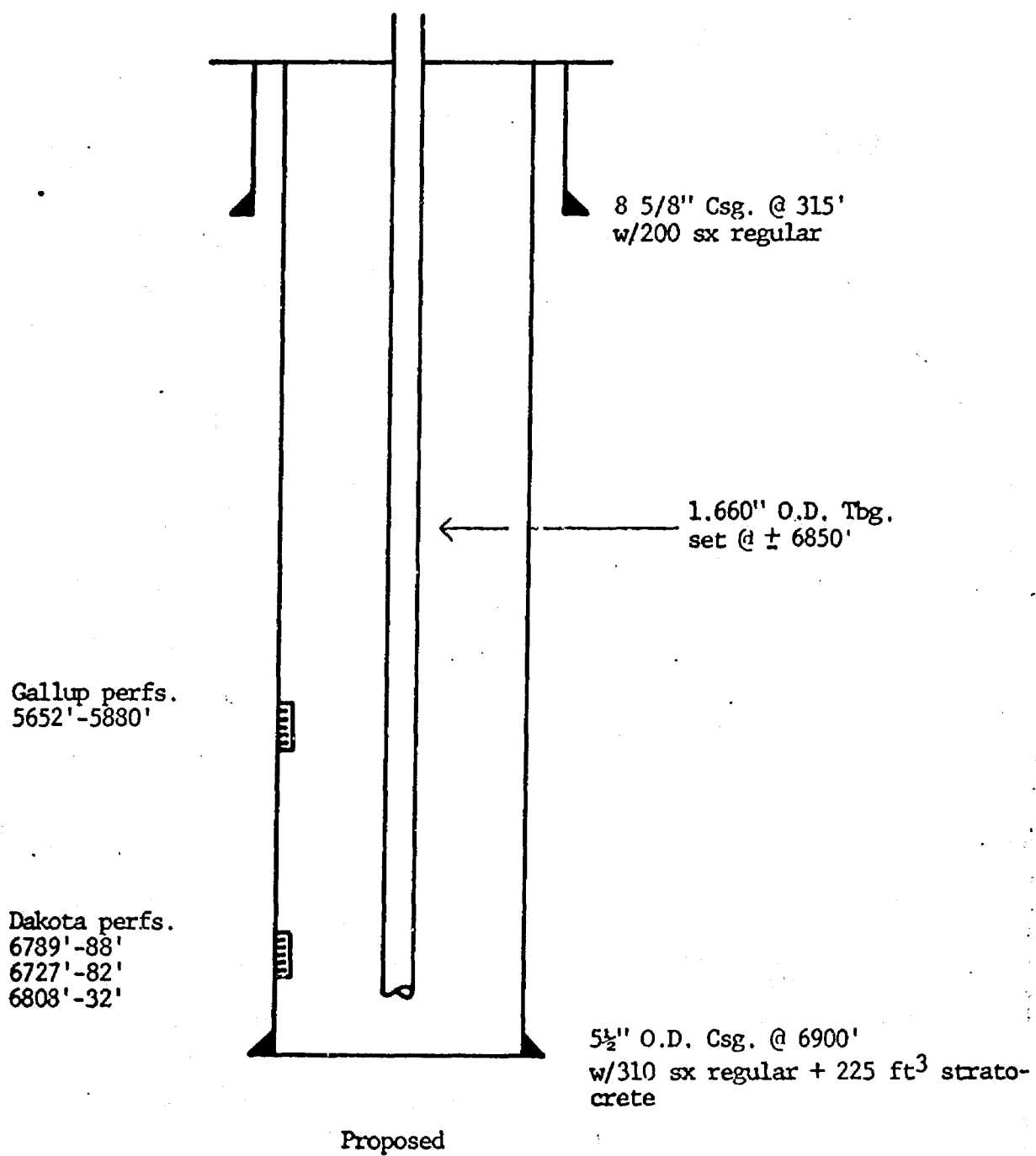


Present

Case 5652
Exhibit 4

Exhibit No. 4

N.E. Haynes #3
911 FSL; 1033 FEL
15-24N-5W
Elev. 6670' + 11' KB



Case 5652
Exhibit 5

Exhibit No. 5

NORTHEAST HAYNES LEASE

Tabulation of Equipment in Wells

Well No.	Elev. G. L.	Total Depth	P. B. T. D.	Casing		Gallup		Dakota		Packer Set at
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				4-1/2	5934	5660-5688	at	6754-6784	at	
				4-1/2	6927	5694-5698	5790'		6766'	
				2-7/8	5890X	5760-5818				
2	6517	6865		8-5/8	213	5558-5752	1.660"	6676-6718	1.660"	6490' Model "D"
				5-1/2	6865		at 5431		at 5542 in 2-3/8" at 6766	
3	6673	6905	6877	8-5/8	310	5658-5881	2.375"	6838-6848	1.660"	6690' Model "D"
				5-1/2	6905		at 5771		at 6690	
4	6612	6887	6835	8-5/8	328	5536-5757	2.375"	6698-6705	1.660"	6540' Model "D"
				5-1/2	6887		at 5728		at 6540	
5	6692	6855	6855	8-5/8	305	5643-5860	2.375"	6800'	S.I. W/Tbg Plug	6655' Model "D"
				5-1/2	6855		at 6655 with sliding sleeve			
6	6545	6832	6809	8-5/8	310	5597-5812	2.375"	6756-6764	1.660"	6544' Model "D"
				5-1/2	6832		at 5749		at 6544	
7	6564	6956		8-5/8	308	5746-5764	2.375"	6790-6794	1.660"	6769' Model "D"
				5-1/2	6956		at 5806	6802-6806 6812-6842	at 6769	
8	6670	6900		8-5/8	315	5652-5880	2.375"	6784-6788	1.660"	6670' Model "D"
				5-1/2	6900		at 5661	6727-6782 6808-6832	at 6670	

Case 5652
Exhibit 6

Exhibit No. 6

NORTHEAST HAYNES LEASE

Tabulation of Completion and Production History

GALLUP ZONE

GALLUP ZONE											
Well No.	Date Completed	Initial Prod.			Cumulative Prod. thru January, 1976			Last Test			Date Last Test
		B/D	MCF/D								
		Oil	Water	Gas	Oil	Water	Gas	Oil	Water	Gas	
1	10-13-60	10	-	25	17485	40	244104	1	0	26	Jan. 76
2	3-26-67	40	16	160	18981	501	88394	3	0	23	Jan. 76
3	12-31-63	53	-	58	31974	41	187838	0	0	15	Jan. 76
4	6-21-63	46	-	43	46610	80	184653	5	0	38	Jan. 76
5	8-21-63	110	0	220	35963	83	206493	3	0	30	Jan. 76
6	10-16-63	15	0	33	18265	-	95924	2	0	26	Jan. 76
7	3-28-71	10	0	52	5885	447	57436	2	0	29	Jan. 76
8	4-12-64	94	0	188	13627	967	132521	4	0	36	Jan. 76

DAKOTA ZONE

Dakota Zone											
Well No.	Date Completed	Initial Prod.			Cumulative Prod.			Last Test			Date Last Test
		B/D	MCF/D		thru January, 1976						
		Oil	Water	Gas	Oil	Water	Gas	Oil	Water	Gas	
1	10-13-60	-	-	883	14717	6000	1178164	1	2	170	Jan. 76
2	10-23-61	72	-	1990	15507	3318	1335494	1	2	195	Jan. 76
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4	6-4-62	34	-	1980	17942	2470	1837711	1	1	250	Jan. 76
5	10-8-62	16	-	404	5087	-	82378	-	S. I.	-	Jan. 76
6	7-20-62	28	-	1632	9939	5410	1244156	1	2	175	Jan. 76
7	9-10-63	18	-	1400	10118	2704	1295007	1	1	172	Jan. 76
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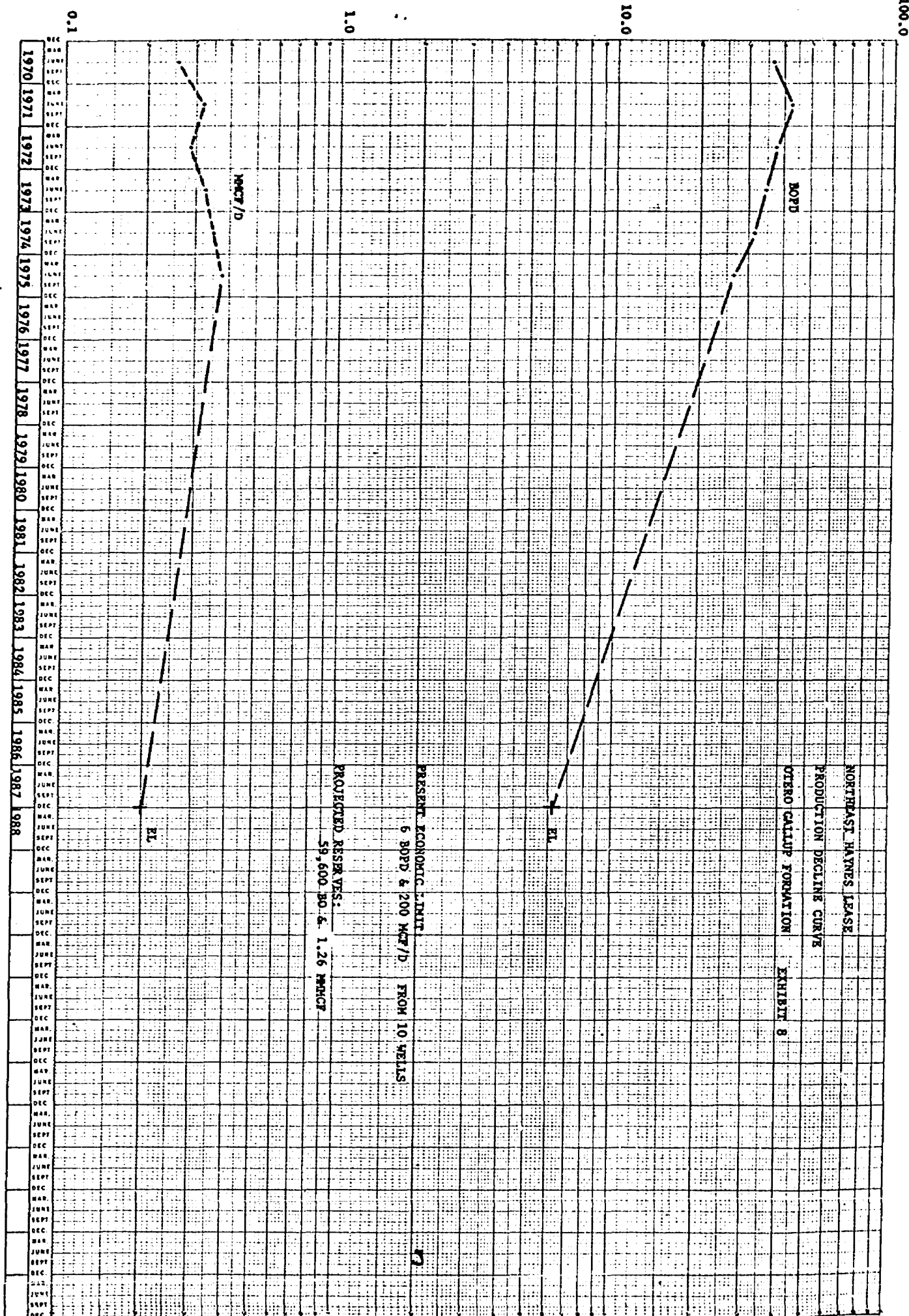
Case 5652

Exhibit 7

Exhibit No. 7

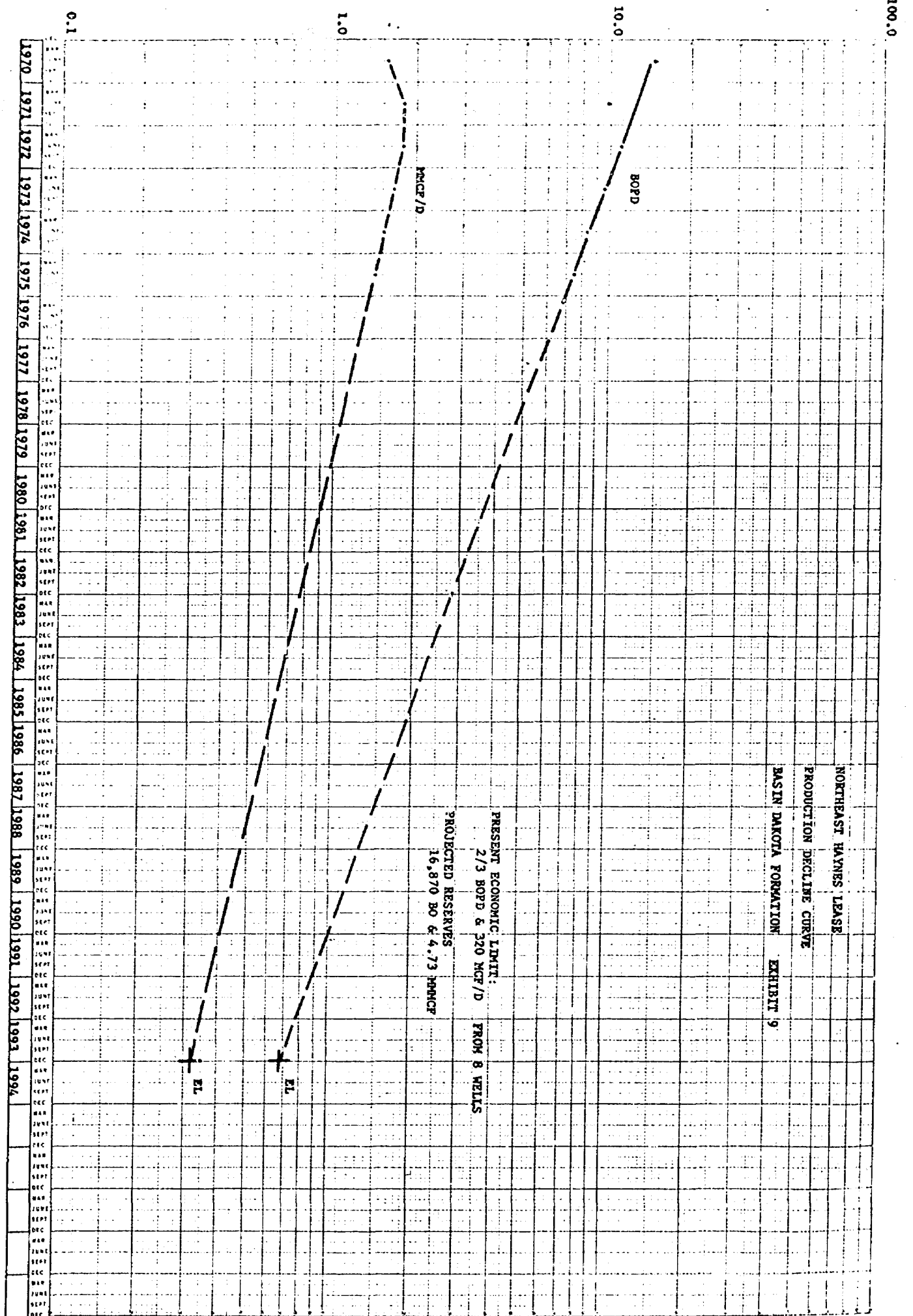


GAS PRODUCTION - MMCF/D
OIL PRODUCTION - BOPD



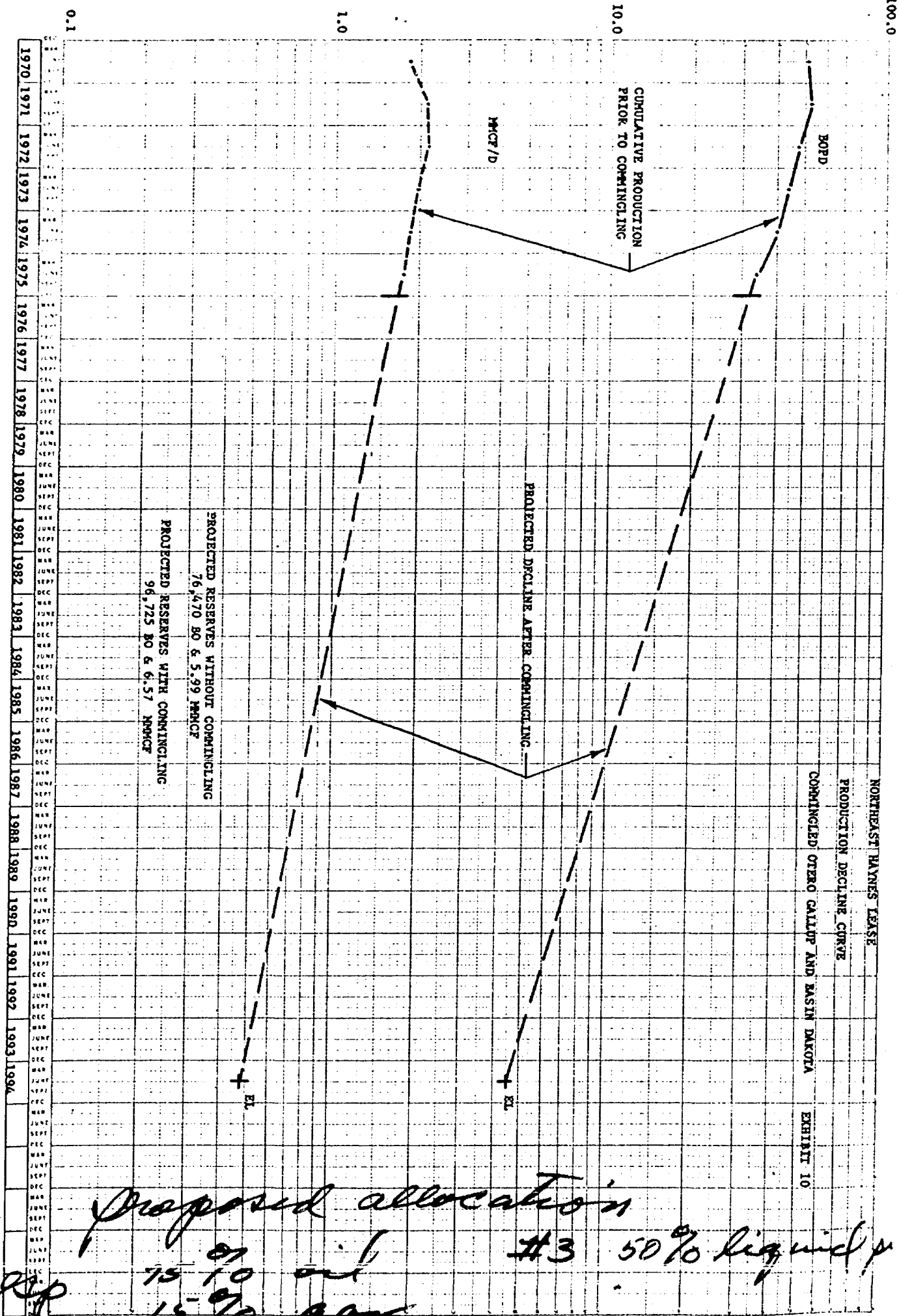
Case 5652
Exhibit 8

GAS PRODUCTION - MMCF/D
OIL PRODUCTION - BOPD



Case 5652
Exhibit 9

GAS PRODUCTION - MMCF/D
OIL PRODUCTION - BOPD



Proposed allocations

#3 50% liquid p

15% oil

15% gas

DK 25% oil

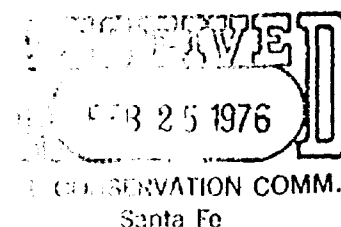
85% gas

DK 5I

Case 5652
Exhibit 10

L. P. Thompson
Division Manager
Production Department
Hobbs Division
Western Hemisphere Petroleum Division

Continental Oil Company
P.O. Box 460
1001 North Turner
Hobbs, New Mexico 88240
(505) 393-4141



February 23, 1976

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

Attention Mr. Joe D. Ramey
Secretary-Director

Gentlemen:

Applications For March 17, 1976 Examiner Hearing

Attached are applications in triplicate for authority to assign a 480-acre non-standard gas proration unit jointly to State J-2 wells Nos. 9 and 12 and for authority to downhole commingle production from the Basin Dakota and Otero Gallup pools in eight wells on the Northeast Haynes Lease. It is respectfully requested that these matters be placed on the docket for examiner hearing on March 17, 1976.

Yours very truly,

VTL:reh
Enc
CC:
CFE: FOH: JWK

Before The Oil Conservation Commission
Of The State Of New Mexico

IN THE MATTER OF THE APPLICATION
OF CONTINENTAL OIL COMPANY FOR
AUTHORIZATION TO COMMINGLE IN
THE WELLBORE PRODUCTION FROM
THE BASIN-DAKOTA AND OTERO-
GALLUP POOLS IN EIGHT WELLS
ON ITS NORTHEAST HAYNES LEASE
IN SECTIONS 9, 10, 15 16, 21
AND 22, TOWNSHIP 24 NORTH,
RANGE 5 WEST, RIO ARRIBA
COUNTY, NEW MEXICO

A P P L I C A T I O N

Applicant, Continental Oil Company, respectfully requests authority to commingle in the wellbore production from the Basin-Dakota Gas Pool and the Otero-Gallup Oil Pool in eight wells on its Northeast Haynes Lease located in Sections 9, 10, 15, 16, 21 and 22, T-24N, R-5W, Rio Arriba County, New Mexico and in support thereof would show:

1. Applicant is owner of the Northeast Haynes Lease consisting of S/2 Section 9, S/2 Section 10, Sections 15 and 16, N/2 Section 21 and N/2 Section 22, T-24N, R-5W, Rio Arriba County, New Mexico.
2. Applicant has heretofore drilled and dually completed in Basin-Dakota and Otero-Gallup pools the wells described below:

Northeast Haynes No. 1	Unit "L"	Section 9, T-24N, R-5W
Northeast Haynes No. 2	Unit "D"	Section 16, T-24N, R-5W
Northeast Haynes No. 3	Unit "P"	Section 16, T-24N, R-5W
Northeast Haynes No. 4	Unit "E"	Section 21, T-24N, R-5W
Northeast Haynes No. 5	Unit "E"	Section 22, T-24N, R-5W
Northeast Haynes No. 6	Unit "D"	Section 15, T-24N, R-5W
Northeast Haynes No. 7	Unit "L"	Section 19, T-24N, R-5W
Northeast Haynes No. 8	Unit "P"	Section 15, T-24N, R-5W

3. Said wells have declined in productivity to the extent it is no longer economical to continue production on a segregated basis.
4. Downhole commingling will prolong the producing life of said wells and will result in the recovery of more oil and gas than otherwise would be economically feasible.
5. The granting of this application will prevent waste and will not impair the correlative rights of other parties.

WHEREFORE applicant respectfully requests that this matter be set for hearing before the commission's duly appointed examiner and upon hearing an order be entered authorizing the commingling in the wellbore of the

should be "10"

similar commingling R 5602

oil and gas production and wells described above.

Respectfully Submitted,

CONTINENTAL OIL COMPANY

A handwritten signature in cursive script, appearing to read "L. P. Thompson".

L. P. Thompson
Division Manager of
Production

reh

5

R 5 W

Jicorilla

8

5.

710

11

Continental 7
52094 HBP 890 ac.

Kga
Kd

6
Rga
Kd

17

16

15

14

T
24
N

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☀
PC



4
8
K_{9a}
K_d

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P.

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-21

422

23

Jicarilla



Jicarilla

29

- 28

-27

26

		CONTINENTAL OIL COMPANY PRODUCTION DEPARTMENT			
DRAWN _____		SCALE 1" = 2000'		FILE NO. _____	
CHECKED _____		DATE _____			
APPROVED _____		SHEET _____ OF _____			

NE. HAYNES

RIO ARriba CO., NEW MEXICO

Before The Oil Conservation Commission
Of The State Of New Mexico

IN THE MATTER OF THE APPLICATION
OF CONTINENTAL OIL COMPANY FOR
AUTHORIZATION TO COMMINGLE IN
THE WELLBORE PRODUCTION FROM
THE BASIN-DAKOTA AND OTERO-
GALLUP POOLS IN EIGHT WELLS
ON ITS NORTHEAST HAYNES LEASE
IN SECTIONS 9, 10, 15 16, 21
AND 22, TOWNSHIP 24 NORTH,
RANGE 5 WEST, RIO ARriba
COUNTY, NEW MEXICO

A P P L I C A T I O N

Applicant, Continental Oil Company, respectfully requests authority to commingle in the wellbore production from the Basin-Dakota Gas Pool and the Otero-Gallup Oil Pool in eight wells on its Northeast Haynes Lease located in Sections 9, 10, 15, 16, 21 and 22, T-24N, R-5W, Rio Arriba County, New Mexico and in support thereof would show:

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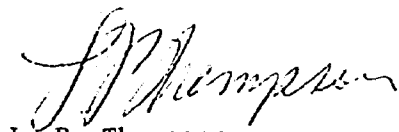
Northeast Haynes No. 1	Unit "L"	Section 9, T-24N, R-5W
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Northeast Haynes No. 5	Unit "E"	Section 22, T-24N, R-5W
Northeast Haynes No. 6	Unit "D"	Section 15, T-24N, R-5W
Northeast Haynes No. 7	Unit "L"	Section 19, T-24N, R-5W
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WHEREFORE applicant respectfully requests that this matter be set for hearing before the commission's duly appointed examiner and upon hearing an order be entered authorizing the commingling in the wellbore of the

oil and gas production and wells described above.

Respectfully Submitted,

CONTINENTAL OIL COMPANY

A handwritten signature in dark ink, appearing to read "L. P. Thompson". The signature is written in a cursive style with a large, stylized "L" and "P".

L. P. Thompson
Division Manager of
Production

reh

5

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3

Case 56522

Jicarilla

R 5 W

Jicarilla

8

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11

Continental
52094 HSP 3200 ac.



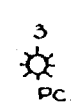
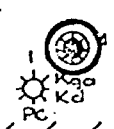
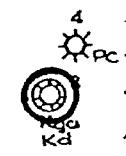
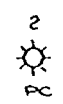
17

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N.E. Haynes

Jicarilla



Jicarilla

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27

26

 CONTINENTAL OIL COMPANY PRODUCTION DEPARTMENT 		
DRAWN _____	SCALE 1" = 2000'	FILE NO. _____
CHECKED _____	DATE _____	
APPROVED _____	SHEET _____ OF _____	
NE. HAYNES		
RO ARriba CO., NEW MEXICO		

Before The Oil Conservation Commission
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ON ITS NORTHEAST HAYNES LEASE
IN SECTIONS 9, 10, 15 16, 21
AND 22, TOWNSHIP 24 NORTH,
RANGE 5 WEST, RIO ARRIBA
COUNTY, NEW MEXICO

A P P L I C A T I O N

Applicant, Continental Oil Company, respectfully requests authority to commingle in the wellbore production from the Basin-Dakota Gas Pool and the Otero-Gallup Oil Pool in eight wells on its Northeast Haynes Lease located in Sections 9, 10, 15, 16, 21 and 22, T-24N, R-5W, Rio Arriba County, New Mexico and in support thereof would show:

1. Applicant is owner of the Northeast Haynes Lease consisting of S/2 Section 9, S/2 Section 10, Sections 15 and 16, N/2 Section 21 and N/2 Section 22, T-24N, R-5W, Rio Arriba County, New Mexico.
2. Applicant has heretofore drilled and dually completed in Basin-Dakota and Otero-Gallup pools the wells described below:

Northeast Haynes No. 1	Unit "L"	Section 9, T-24N, R-5W
Northeast Haynes No. 2	Unit "D"	Section 16, T-24N, R-5W
Northeast Haynes No. 3	Unit "P"	Section 16, T-24N, R-5W
Northeast Haynes No. 4	Unit "E"	Section 21, T-24N, R-5W
Northeast Haynes No. 5	Unit "E"	Section 22, T-24N, R-5W
Northeast Haynes No. 6	Unit "D"	Section 15, T-24N, R-5W
Northeast Haynes No. 7	Unit "L"	Section 19, T-24N, R-5W
Northeast Haynes No. 8	Unit "P"	Section 15, T-24N, R-5W
3. Said wells have declined in productivity to the extent it is no longer economical to continue production on a segregated basis.
4. Downhole commingling will prolong the producing life of said wells and will result in the recovery of more oil and gas than otherwise would be economically feasible.
5. The granting of this application will prevent waste and will not impair the correlative rights of other parties.

WHEREFORE applicant respectfully requests that this matter be set for hearing before the commission's duly appointed examiner and upon hearing an order be entered authorizing the commingling in the wellbore of the

oil and gas production and wells described above.

Respectfully Submitted,

CONTINENTAL OIL COMPANY

A handwritten signature in cursive script, appearing to read "L. P. Thompson".

L. P. Thompson
Division Manager of
Production

reh

5

4

3

Case 5652 2

Jicarilla

R 5W

Jicarilla

8

9

10

11

Continental
52094 HSP 2800 ac.



7

16

15

14



T
24
N



20

21

22

23



N.E. Haynes

Jicarilla

Jicarilla

29

28

27

26



CONTINENTAL OIL COMPANY
PRODUCTION DEPARTMENT



DRAWN _____
CHECKED _____
APPROVED _____

SCALE 1" = 2000'
DATE _____
SHEET _____ OF _____

FILE NO. _____

NE. HAYNES

PC ARriba CO., NEW MEXICO

hrg Apr 14

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. 5652
Order No. R-5205

APPLICATION OF CONTINENTAL OIL COMPANY
FOR DOWNHOLE COMMINGLING, RIO ARRIBA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 14, 1976 March 17, 1976, at Santa Fe, New Mexico, before Examiner, Deane S. Mendenhall

NOW, on this April day of April, 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, Continental Oil Company, is the owner and operator on its Northeast Haynes Lease of the following wells/in Township 24 North, Range 5 West, NMPM, Rio Arriba County, New Mexico:

- No. 1 in Unit L of Section 9
- No. 2 in Unit D of Section 16
- No. 3 in Unit P of Section 16
- No. 4 in Unit E of Section 21
- No. 5 in Unit E of Section 22
- No. 6 in Unit D of Section 15
- No. 7 in Unit L of Section 1910
- No. 8 in Unit P of Section 15

(3) That the applicant seeks authority to commingle Basin-Dakota gas and Otero-Gallup oil production within the wellbore of the above-described wells.

(4) That from the Basin-Dakota zone, the subject wells are capable of low marginal production only.

(5) That from the Otero-Gallup zone, the subject wells are capable of low marginal production only.

(6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the wells are not shut-in for an extended period.

(8) That to afford the Commission the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Commission any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject wells, ^{each of} 75 percent of the commingled oil production should be allocated to the Gallup zone, and 25 percent of the commingled oil production to the Dakota zone. ^{and 15 percent of the commingled gas production} ^{and 85 percent of the commingled gas production}

IT IS THEREFORE ORDERED:

(1) That the applicant, Continental Oil Company, is hereby authorized to commingle Basin-Dakota gas and Otero-Gallup oil production within the wellbore of the following wells on its Northeast Haynes Lease in Township 24 North, Range 5 West, NMPM, Rio Arriba County, New Mexico:

- No. 1 in Unit L of Section 9
- No. 2 in Unit D of Section 16
- No. 3 in Unit P of Section 16
- No. 4 in Unit E of Section 21
- No. 5 in Unit E of Section 22
- No. 6 in Unit D of Section 15
- No. 7 in Unit L of Section 19 ¹⁰
- No. 8 in Unit P of Section 15

^{in each of the aforesaid wells,}
(2) That 75 percent of the commingled oil production shall be allocated to the Gallup zone and 25 percent of the commingled oil production shall be allocated to the Dakota zone. ^{and 15 percent of the commingled gas production} ^{and 85 percent of the commingled gas production}

(3) That the operator of the subject wells shall immediately notify the Commission's Aztec district office any time the wells have been shut-in for 7 consecutive days and shall concurrently present, to the Commission a plan for remedial action.

(4) 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.