

CASE 5726: CITIES SERVICE OIL  
COMPANY FOR DOWNHOLE COMMINGLING,  
EDDY COUNTY, NEW MEXICO

CASE NO.

5726

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APPLICATION,  
TRANSCRIPTS,  
SMALL EXHIBITS,  
ETC.

## NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARINGSANTA FE, NEW MEXICO

Hearing Date

AUGUST 4, 1976

TIME: 9:00 A.M.

NAME	REPRESENTING	LOCATION
S. J. Talley	Pennaco Oil Corp.	Midland
James R. ...	...	Santa Fe
J. C. Raney	Pennaco	Midland
Elmer Stutz	Johns Service Oil	Midland
Bob Schaefer	Big "G" Lumber Co.	Midland
Case 5726		

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
August 4, 1976

EXAMINER HEARING

IN THE MATTER OF:

Application of Cities Service Oil  
Company for downhole commingling,  
Eddy County, New Mexico.

CASE  
5726

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

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

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1 MR. NUTTER: The hearing will come to order, please.  
 2 The first case on the docket this morning is Case Number 5726.

3 MR. CARR: Case 5726, application of Cities Service  
 4 Oil Company for downhole commingling, Eddy County, New Mexico.

5 MR. KELLAHIN: If the Examiner please, Jason Kellahin,  
 6 Kellahin and Fox appearing for the applicant and we have one  
 7 witness. I would suggest that you might swear the witnesses  
 8 for all four of these cases at once if you want to.

9 (THEREUPON, a discussion was held off the record.)

10 MR. CARR: Will the witness stand and be sworn,  
 11 please?

12 (THEREUPON, the witness was duly sworn.)  
 13

14 ELMER STARTZ

15 called as a witness, having been first duly sworn, was  
 16 examined and testified as follows:  
 17

18 DIRECT EXAMINATION

19 BY MR. KELLAHIN:

20 Q Would you state your name, please?

21 A Elmer Startz.

22 Q By whom are you employed?

23 A Cities Service Oil Company.

24 Q What is your position?

25 A I'm a Regional Petroleum Engineer in Midland, Texas.

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1 Q Have you testified before the Oil Conservation  
2 Commission and made your qualifications a matter of record?

3 A Yes, I have.

4 MR. KELLAHIN: Are the witness' qualifications  
5 acceptable?

6 MR. NUTTER: Yes, they are.

7 Q (Mr. Kellahin continuing.) Mr. Startz, are you  
8 familiar with the application of Cities Service in Case Number  
9 5726?

10 A Yes, sir.

11 Q What is proposed by the applicant in this case?

12 A We propose to commingle downhole the production from  
13 the Wolfcamp and Canyon zones.

14 Q In what well and where is it located?

15 A It's in the State CT Well located in Section 16,  
16 Township 20 South and Range 28 East, Eddy County.

17 Q Is that in Unit I of that Section?

18 A Yes, sir.

19 Q Now, referring to what has been marked as the  
20 Applicant's Exhibit Number One, would you identify that  
21 exhibit, please?

22 A This is a plat of the township that the well is  
23 located in with all of the wells from the Wolfcamp down spotted  
24 on it with the ownership and the formations marked.

25 Q And are the offsetting wells owned or operated by

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1 Cities Service?

2 A. Yes, sir.

3 Q. Is there any exception to that?

4 A. Not direct offsets, no, sir.

5 Q. No direct offsets?

6 A. No, sir.

7 Q. Except those operated by Cities Service?

8 A. Yes, sir.

9 Q. Now, referring to what has been marked as Exhibit  
10 Number Two, would you identify that exhibit, please?

11 A. That is a schematic of the wellbore completion as  
12 it now exists.

13 Q. What is the present status of this well?

14 A. At the present time the lower zone which is the  
15 Canyon is blanked off with a plug and a profile with the  
16 lower packer and the upper zone is open to the tubing and  
17 currently is shut in.

18 Q. The well is not presently being produced?

19 A. No, sir.

20 Q. Do you have a connection yet?

21 A. No, sir.

22 Q. How long ago was this well completed?

23 A. This well was completed May 21st of this year.

24 Q. Now, if the authority is granted by this Commission  
25 to commingle production what will you do?

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1 A. We will pull this plug from the tail pipe below  
2 this packer and commingle the zones downhole and then produce  
3 it.

4 Q. It will be produced through the tubing?

5 A. Yes, sir.

6 Q. Now, have you run any tests on the two zones involved?

7 A. We tested each zone.

8 Q. Referring to what has been marked as Exhibits Three,  
9 Four and Five, would you identify those exhibits and discuss  
10 the information shown on them, please?

11 A. Exhibit Three is the bottom-hole pressure of the  
12 two zones commingled. It's a seventy-two hour shut in just  
13 taken prior to the four-point and the seventy-two hour bottom-  
14 hole pressure was twenty-five, seventy-nine. This is after  
15 both zones had been tested separately and then the zones were  
16 tested commingled together.

17 Exhibit Number Three is the static bottom-hole  
18 pressure with both zones still open after five-hundred-and-  
19 four hours of shut in, which showed pressure had increased up  
20 to twenty-eight, sixty, which was a three-hundred-and-sixty-  
21 three pound increase during that time.

22 And then Exhibit Number <sup>Five</sup>~~Four~~ is a bottom-hole  
23 pressure of the Wolfcamp zone only after we blanked off the  
24 Lower Canyon zone and this was a total of one-thousand-and-  
25 eight hours of shut in and the pressure there then was twenty-

1 nine, oh, two, which appears to be just a continual, gradual  
2 build-up. The pressures of the two zones appear to be very  
3 close.

4 Q Now, what does that indicate as to the size of the  
5 reservoir that you are in or its state of depletion?

6 A Well, the pressure we have, we have no initial  
7 bottom-hole pressure data, but the normal pressures at this  
8 depth would be expected to be something over forty-five  
9 hundred psi. It indicates depletion in both zones just from  
10 our completion work.

11 Q Did you have a similar pressure to forty-five  
12 hundred pounds in other wells in this area?

13 A Just in these offset Wolfcamp wells to the east  
14 and they were all initially above forty-five hundred psi.  
15 And although they are in a different zone in the Wolfcamp,  
16 the zone that these wells are completed in, that zone did not  
17 appear in this well here. This well is somewhat lower in the  
18 Wolfcamp. Now, of course, there is no offset Canyon  
19 production but just a normal gradient would set the bottom-  
20 hole pressure at something considerably higher than this but  
21 we don't have any information.

22 Q In your opinion then has that zone been depleted?

23 A It appears to be.

24 Q By the production of the other Wolfcamp wells in the  
25 area?

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1 A. Well, I don't think mainly from the other Wolfcamp  
2 wells but I think our completion, the amount of gas recovered  
3 from our completion evidently indicates depletion.

4 MR. NUTTER: You think that is a separate small  
5 stringer in the Wolfcamp, aside from the main one over here to  
6 the east?

7 A. Yes, sir.

8 Q. (Mr. Kellahin continuing.) In your testing you did  
9 deplete the reservoir to some extent?

10 A. Yes. Now, how much we don't know because we don't  
11 have any original bottom-hole pressure data.

12 Q. Now, do you have any tests on the productivity of  
13 the two zones?

14 A. Yes, we tested the Canyon zone first and it flowed,  
15 after acid and clean-up, it flowed six barrels of distillate  
16 and six barrels of water in three hours with a gas rate of  
17 fourteen hundred and fifty-two MCF per day and then this  
18 wasn't what we really, you know, anticipated from the zone,  
19 making the water which the log also indicated that it would  
20 probably make some water so we perforated an additional zone  
21 which our log analyst recommended to us and which turned out  
22 to be Wolfcamp. At the time we thought we were still in the  
23 Canyon and we tested this Wolfcamp zone after an acid job and  
24 after it had been cleaned up and it flowed sixty-eight barrels  
25 of distillate and seventeen barrels of water in eight-and-a-

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Canyon

$$\frac{24}{3} = 8$$

$$8 \times 6 = 48 \text{ BPD}$$

Wolfcamp

$$\frac{24}{8.5} = 2.82$$

$$\begin{array}{r} 68 \\ \times 2.82 \\ \hline 192 \\ 8PD \end{array}$$

$$192 + 48 = 240$$

$$\frac{192}{240} = 80 \quad 80\% \text{ of dist is Wolfcamp}$$

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1452 Canyon  
529 WC  
1981

529 - 27%  
1981  
Page

1 half hours and the gas rate was five hundred and twenty-nine  
2 MCF per day.

3 And then after we did that we put both zones together  
4 and together commingled they flowed twenty-three barrels of  
5 distillate and forty-two barrels of water in eight-and-a-half  
6 hours with a gas rate of fourteen hundred and ninety MCF per  
7 day. And then they were shut-in at that time and these  
8 pressures were taken.

9 Q In your opinion would it be economical to make a  
10 separate completion for each of these zones or dually complete  
11 the well?

12 A No, sir, I don't believe it would be.

13 Q Is there sufficient production to justify such  
14 completions?

15 A No, sir.

16 Q What is the ownership of the two zones, is it  
17 common?

18 A Yes, sir.

19 Q It is common throughout?

20 A Yes, sir.

21 Q And how would you account for the production from  
22 the Wolfcamp and the Canyon, the commingled streams?

23 A I would recommend that it would be allocated deep  
24 zone based on these initial separate tests. In the Wolfcamp  
25 it was five hundred and twenty-nine and this would be twenty-

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1 seven percent of the flow stream.

2 Q You allocate twenty-seven percent of the gas then  
 3 to the Wolfcamp?

4 A Yes, and then seventy-three percent to the Canyon.

5 Q And how about the oil or distillate, would you  
 6 allocate it on the same basis?

7 A Yes, sir, on the same basis.

8 Q You haven't figured the allocation?

9 A No, sir, I haven't figured it at a percentage.

10 Q But it would be sixty-eight against six <sup>barrels</sup> months?

11 A Yes, sir. Well, the sixty-eight is over a longer  
 12 period of time there, it would have to be adjusted on the  
 13 same hourly basis.

14 Q Would you be willing to work up your suggestion on  
 15 that and give it to the Examiner?

16 A Yes, sir.

17 Q Based on an adjustment of the time?

18 A Yes, sir.

19 Q Now, referring to what has been marked as Exhibit  
 20 Number Six, would you identify that Exhibit, please?

21 A That's the well log of the, the electric log of  
 22 the well, and it shows the Wolfcamp top and the Canyon top  
 23 and the Wolfcamp perforations and the Canyon perforations.

24 The Wolfcamp top is at eighty-seven, twelve and  
 25 then the Wolfcamp perforations are at ninety-five hundred and

1 the Canyon top is at ninety-seven, eighty-seven with the  
2 Canyon perfs at ninety-eight, twenty-five to ninety-eight,  
3 sixty-four.

4 Q Mr. Startz, in your opinion will commingling of  
5 this production cause any damage to either the Wolfcamp or  
6 the Canyon zones?

7 A No, sir, in my opinion it wouldn't.

8 Q Would it have any adverse effect on any offsetting  
9 wells?

10 A No, sir.

11 Q In your opinion will approval of this application  
12 result in the production of oil and gas that would not  
13 otherwise be recovered?

14 A Yes, sir.

15 Q Were Exhibits One through Six prepared by you or  
16 under your supervision?

17 A Yes, sir.

18 MR. KELLAHIN: At this time I would like to offer  
19 into evidence Exhibits One through Six, inclusive.

20 MR. NUTTER: Cities Service Exhibits One through  
21 Six will be admitted into evidence.

22 (THEREUPON, Cities Services Exhibits One  
23 through Six were admitted into evidence.)  
24  
25

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CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Startz, you gave the two tests that were taken on the individual sets of perforations and then you gave a test of when they were flowed together in which you made twenty-three barrels of distillate and forty-two barrels of water and produced gas at the rate of fourteen, ninety MCF a day, what was the length of that test?

A Eight-and-one-half hours.

Q So that was of the same duration that the original tests on the upper perms was made, it was also eight-and-a-half hours?

A Yes.

Q Okay, now, when you flowed the individual zones you made approximately two thousand MCF per day, combined rate, so that the production from the upper perms was the twenty-seven percent you mentioned, of the total gas produced?

A Yes, sir.

Q Yet when you flowed them both together you only made fourteen, ninety, which is just a little bit more than the Canyon will produce by itself, doesn't it appear from that without getting into the distillate and the condensate and the water and other liquids that the pressure here on the Canyon is keeping the Wolfcamp from flowings? It's not contributing much when you are producing the two together,

1 apparently, is it?

2 A. The well made more water during that time.

3 Q. I said aside from liquids, though.

4 A. Well, I feel the pressures are the same in the two  
5 zones or real close to the same.

6 Q. You don't have any individual pressures, though,  
7 to compare?

8 A. No.

9 Q. You've got a pressure on the Canyon and you've got  
10 a combined pressure for Canyon and Wolfcamp?

11 A. We have the pressure on the Wolfcamp and the combined  
12 on -- then the combined pressure.

13 Q. Okay, that's right. You've got the single pressure  
14 on the Wolfcamp?

15 A. Yes, sir.

16 Q. However, it's high which would tend to say that the  
17 two zones are similar in pressure because the pressure on the  
18 combined was not much less than the total pressure on the  
19 Wolfcamp, but also you had a heck of a lot longer shut-in  
20 period on the Wolfcamp when you got that single pressure,  
21 didn't you?

22 A. Yes.

23 Q. You had a thousand and eight hours, I think it  
24 was?

25 A. Right. I think what we are seeing is just a gradual

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1 buildup after the -- when you push that in you get a pretty  
2 good buildup and then it is just a gradual, slow buildup. I  
3 think the two zones probably if they are commingled would  
4 probably exhibit close to the same pressure after a thousand  
5 hours.

6 Q Does the well have a connection yet?

7 A No, sir.

8 Q So you haven't been able to produce this Wolfcamp  
9 with the Canyon blanking plug in place as of now?

10 A No, sir.

11 Q The only production you have had is on test?

12 A Yes, sir.

13 Q And the way the well is equipped there is no way  
14 to produce one through the annulus and one through the tubing,  
15 is there?

16 A No, sir.

17 Q So a dual completion is impossible with this  
18 equipment in the hole?

19 A Yes, sir.

20 Q Is the Baker lockset packer at ninety-four, twenty-  
21 nine a retrievable packer?

22 A Yes, sir.

23 Q Now, this perforated tubing stub does not have a  
24 sliding sleeve, does it?

25 A No, sir.

1 Q So when it's open it's open?

2 A Yes, it's open all of the time right now, there is  
3 no way of blanking it off.

4 Q So the only separation you have between the two is  
5 to put the blanking plug in place at the bottom of the single  
6 string of tubing and maybe produce the upper one?

7 A Yes, sir.

8 MR. NUTTER: Are there any further questions of  
9 Mr. Startz? He may be excused.

10 (THEREUPON, the witness was excused.)

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

13 MR. KELLAHIN: That's all, thank you.

14 MR. NUTTER: Does anyone have anything they wish to  
15 offer in Case Number 5726? We will take the case under  
16 advisement.

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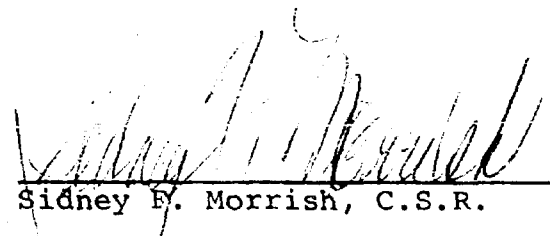
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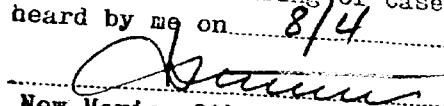
REPORTER'S CERTIFICATE

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.

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I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Examiner hearing of Case No. 5726,  
heard by me on 8/4, 1976.  
  
Examiner  
New Mexico Oil Conservation Commission



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. 5726  
Order No. R-5276

APPLICATION OF CITIES SERVICE OIL  
COMPANY FOR DOWNHOLE COMMINGLING,  
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 4, 1976, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 31st day of August, 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, Cities Service Oil Company, is the owner and operator of the State CT Well No. 1, located in Unit I of Section 16, Township 20 South, Range 28 East, NMPM, Eddy County, New Mexico.

(3) That the applicant seeks authority to commingle North Burton Flats-Wolfcamp Gas Pool and undesignated Canyon pool production within the wellbore of the above-described well.

(4) That from the North Burton Flats-Wolfcamp zone, the subject well is capable of low marginal production only.

(5) That from the undesignated Canyon zone, the subject well is 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 well is 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 Artesia 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 well, 27 percent of the commingled gas production and 80 percent of the commingled distillate production should be allocated to the North Burton Flats-Wolfcamp zone, and 73 percent of the commingled gas and 20 percent of the distillate production to the undesignated Canyon zone.

IT IS THEREFORE ORDERED:

(1) That the applicant, Cities Service Oil Company, is hereby authorized to commingle North Burton Flats-Wolfcamp and undesignated Canyon pool production within the wellbore of the State CT Well No. 1, located in Unit I of Section 16, Township 20 South, Range 28 East, NMPM, Eddy County, New Mexico.

(2) That 27 percent of the commingled gas production and 80 percent of the commingled distillate production shall be allocated to the North Burton Flats-Wolfcamp zone and 73 percent of the commingled gas production and 20 percent of the distillate shall be allocated to the undesignated Canyon zone.

(3) That the operator of the subject well shall immediately notify the Commission's Artesia district office any time the well has 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.

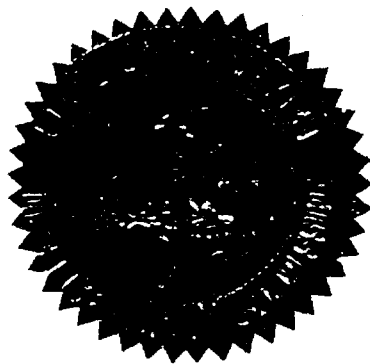
DONE at Santa Fe, New Mexico, on the day and year herein-above designated.

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



S E A L

jr/

Dockets Nos. 23-76 and 24-76 are tentatively set for hearing on August 18 and September 1, 1976. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 4, 1976

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

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

- CASE 5726: Application of Cities Service Oil Company for downhole commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the North Burton Flats-Wolfcamp Gas Pool and an undesignated Canyon pool in the wellbore of its State CT Well No. 1, located in Unit I of Section 16, Township 20 South, Range 28 East, Eddy County, New Mexico.
- CASE 5727: Application of Big "6" Drilling Corporation for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Bone Springs formation through the perforated interval from 10,062 feet to 10,119 feet in its Ora Jackson "A" Well No. 1 located in Unit M of Section 5, Township 19 South, Range 35 East, Scharb-Bone Springs Pool, Lea County, New Mexico.
- CASE 5728: Application of Pennzoil Company for an exception to Order No. R-3221, Lea County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the provisions of Commission Order No. R-3221, permission to dispose of, in an unlined pit, produced salt water from its Mescalero Ridge Unit Well No. 1, located in Unit M of Section 20, Township 19 South, Range 34 East, Quail Ridge-Morrow Pool, Lea County, New Mexico.
- CASE 5729: Application of Penroc Oil Corporation for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the N/2 of Section 33, Township 19 South, Range 28 East, Eddy County, New Mexico, to be dedicated to applicant's Angell Ranch Well No. 1 to be drilled at an orthodox location in Unit B of said Section 33 to test the Morrow formation. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 5730: Southeastern New Mexico nomenclature case calling for the creation and extension of certain pools in Eddy, Chaves, and Lea Counties, New Mexico:
- a) CREATE a new pool in Lea County, New Mexico, classified as a gas pool for Morrow production and designated as the Mid Bell Lake-Morrow Gas Pool. The discovery well is the Continental Oil Company Bradley "A" Well No. 1 located in Unit F of Section 19, Township 23 South, Range 34 East, NMPM. Said pool would comprise:

TOWNSHIP 23 SOUTH, RANGE 34 EAST, NMPM  
Section 19: W/2

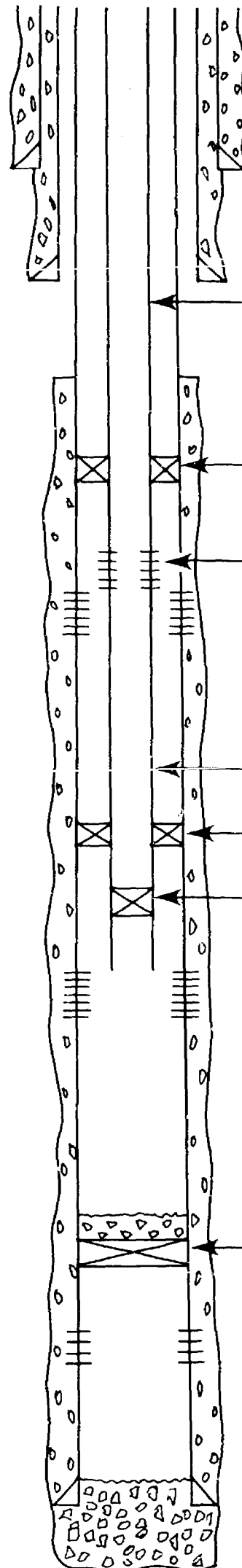
- b) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the East Burton Flat-Morrow Gas Pool. The discovery well is the Texas Oil and Gas Corporation Superior Federal Well No. 1 located in Unit G of Section 8, Township 20 South, Range 29 East, NMPM. Said pool would comprise:

TOWNSHIP 20 SOUTH, RANGE 29 EAST, NMPM  
Section 4: W/2  
Section 8: All  
Section 9: All  
Section 16: All  
Section 17: All  
Section 18: All

- c) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Strawn production and designated as the East Burton Flat-Strawn Gas Pool. The discovery well is the Texas Oil and Gas Corporation Yates Federal Well No. 1 located in Unit N of Section 8, Township 20 South, Range 29 East, NMPM. Said pool would comprise:

TOWNSHIP 20 SOUTH, RANGE 29 EAST, NMPM  
Section 8: S/2

WELLBORE DIAGRAM



13 3/8" @ 655'

8 5/8" @ 3000'

27 7/8" O.D. EUE 6.5" N-80 TBG

TOP OF CEMENT 9401'

BAKER "LOC-SET" PACKER @ 9429'

27 7/8" OD EUE 6.5" N-80 PERFORATED TBG SUB.

WOLFCAMP PERFORATIONS 9499', 9500', 9501', 9502', 9503', 9504',  
9505', 9506', 9507', 9508', 9509' (TOTAL  
22 HOLES).

ACIDIZED W/2500 GAL. 15% HCL AND N<sub>2</sub>  
FLOWED 529 MCFPD 20/64" CK FTP 600" BP 500" WITH  
68 BBL. CONDENSATE, 5 BLW & 12 BNW IN 8 1/2 HRS.

27 7/8" OD EUE 6.5" N-80 TBG

BAKER MODEL "DB" PERMANENT PACKER @ 9800'.

BAKER TYPE "F" NIPPLE @ 9820' W/BLANKING PLUG IN PLACE

CANYON PERFORATIONS 9825, 9834, 9835, 9838, 9843, 9845, 9848,  
9853, 9859, 9861, 9863, 9864, (TOTAL  
24 HOLES).

ACIDIZED 1/2500 GAL. 15% HCL AND N<sub>2</sub>  
FLOWED 1452 MCFPD 26/64" CK FTP 700" WITH 6 BBL.  
CONDENSATE AND 6 BW IN 3 HRS.

CIBP W/4sx. CEMENT ON TOP - PBTD 10,550'

ATOKA PERFORATIONS 10,635, 10,636, 10,637, 10,638, 10,639, 10,640,  
10,641, 10,642, 10,643, 10,644 (TOTAL 20 HOLES)  
ACIDIZED W/2000 GAL 7 1/2% HCL AND N<sub>2</sub>  
FRACED W/17,500" SD AND 12000 GAL 3% HCL AND CO<sub>2</sub>  
FLOWED 138 MCFPD 1" CK FTP 15"

5 1/2" CASING @ 11,301 - TOP OF CEMENT 9401'

TD. 11,425'

together:  
23 B Dist } 8 1/2  
42 BW }  
1490 MCF/day

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

Cities Serv. EXHIBIT NO. 2

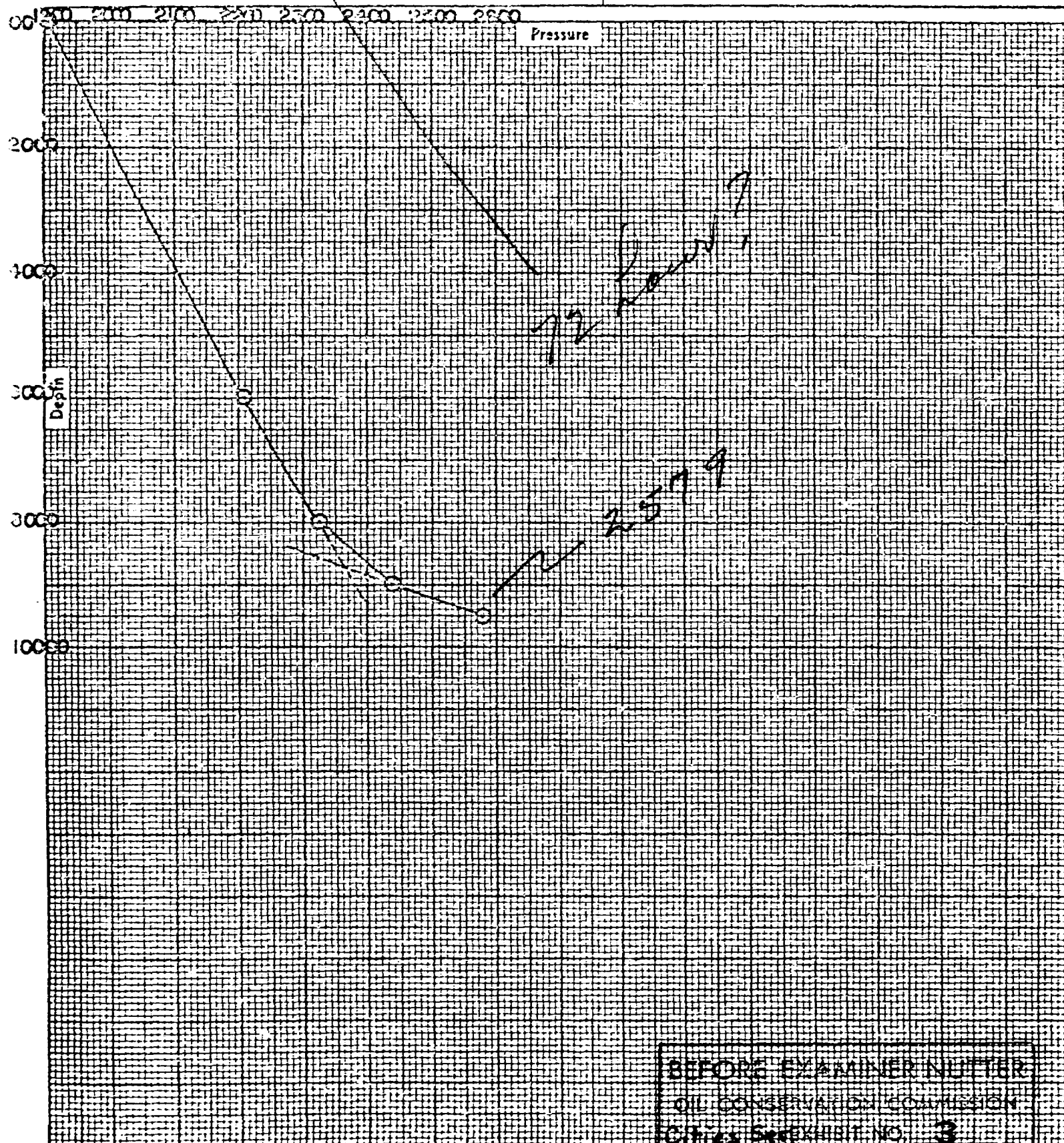
CASE NO. 5726

## BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR CITIES SERVICE OIL COMPANY  
LEASE STATE "CT"  
WELL NO. 1  
FIELD \_\_\_\_\_  
DATE 5-21-76 TIME 10:15 A.M.  
STATUS Shut-In TEST DEPTH 9504 feet  
TIME S. 66 hrs. LAST TEST DATE \_\_\_\_\_  
CAS. PRES. \_\_\_\_\_ BHP LAST TEST \_\_\_\_\_  
TUB. PRES. 1913" D.W. BHP CHANGE \_\_\_\_\_  
ELEV. \_\_\_\_\_ FLUID TOP 8700 feet  
DATUM \_\_\_\_\_ WATER TOP \_\_\_\_\_  
TEMP \_\_\_\_\_ RUN BY Don Tyson  
CLOCK NO. 11782 GAUGE NO. 12434  
ELEMENT NO. 34911-N (0-6000")

DEPTH	PRESSURE	GRADIENT
000	1905	
6000	2207	.050
8000	2323	.058
9000	2436	.113
9504	2579	.284

*Canyon & Wolfcamp open*



BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
CASE NO. 5726

JOHN W. WEST ENGINEERING COMPANY  
412 NORTH DAL PASO, HOBBS, NEW MEXICO

TELEPHONES 3 3942  
3-6770

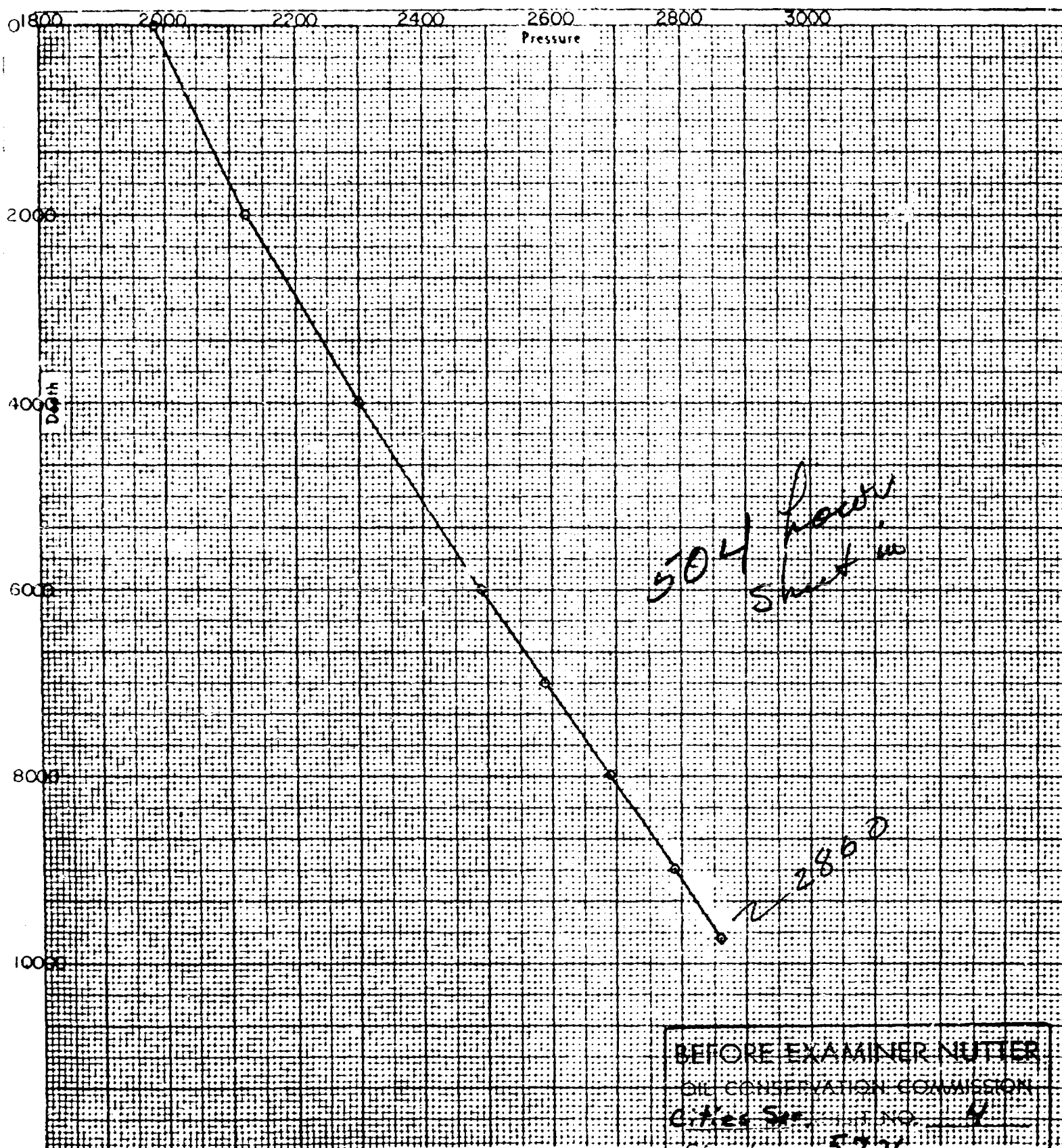
## BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR CITIES SERVICE OIL CO.  
LEASE STATE "CT"  
WELL NO. 1  
FIELD   
DATE 6-11-76 TIME 10:45 A.M.  
STATUS SHUT-IN TEST DEPTH 9,745'  
TIME S.I.  LAST TEST DATE 5-22-76  
CAS PRES.  BHP LAST TEST 2497 PSIG  
TUB PRES. 1987 PSI BHP CHANGE +363  
ELEV.  FLUID TOP   
DATUM  WATER TOP   
TEMP  RUN BY D.A.T.  
CLOCK NO 5255 GAUGE NO. 12822  
ELEMENT NO. 4391-N (0-3700 PSI)

DEPTH	PRESSURE	GRADIENT
000	1987 *	
2000	2124	.070
4000	2300	.088
6000	2489	.095
7000	2590	.101
8000	2690	.100
9000	2788	.098
9745	2860	.097

\*DEAD WEIGHT 1990 PSIG

*Canyon & Wolfcamp open*



BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
Cities Serv. Well No. 1  
CASE NO. 5726

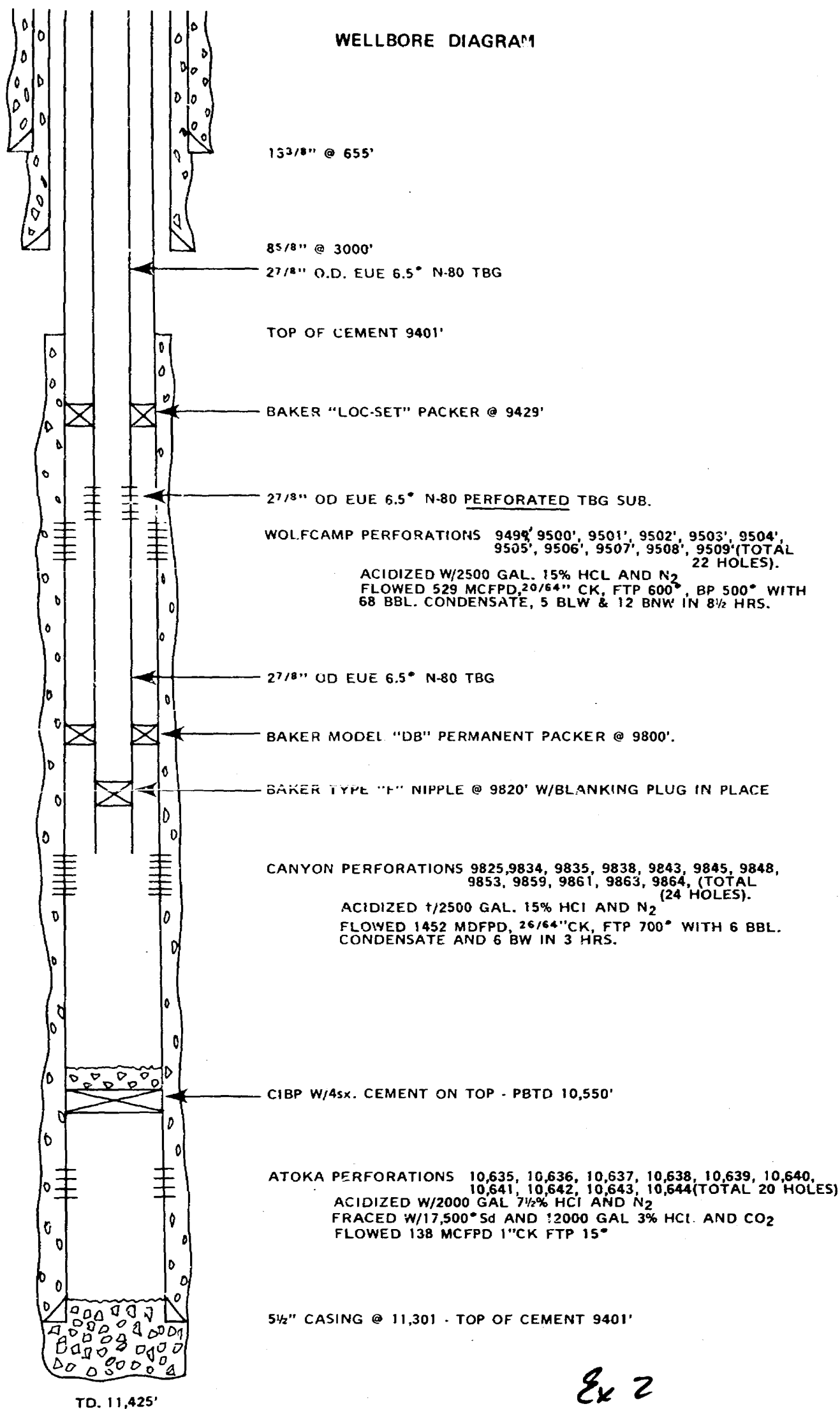
Cities Service Oil Company  
State CT #1 - Wolfcamp Zone (Canyon blanked off)  
1008 hr. Shut-in BHP  
7-23-76

<u>Depth</u>	<u>Pressure</u>	<u>Gradient</u>
000	2037#	-
2000	2219	.091
4000	2399	.090
6000	2585	.093
8000	2765	.090
9000	2854	.089
9504 mid perfs	2902	.095

*Canyon flow*

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
~~Cities Service~~ EXHIBIT NO. 5  
CASE NO. 5726

WELLBORE DIAGRAM

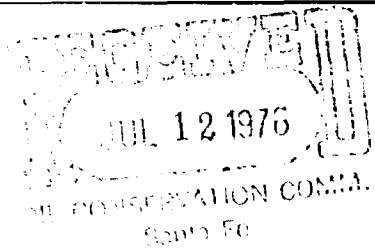


Ex 2

C 5726

JASON W. KELLAHIN  
ROBERT E. FOX  
W. THOMAS KELLAHIN

KELLAHIN AND FOX  
ATTORNEYS AT LAW  
500 DON GASPAR AVENUE  
POST OFFICE BOX 1769  
SANTA FE, NEW MEXICO 87501



TELEPHONE 982-4315  
AREA CODE 505

July 9, 1976

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

Dear Joe:

Enclosed please find the original and two copies  
of the application of Cities Service Oil Company for  
down-hole commingling, Eddy County, New Mexico.

We would appreciate this being set for hearing  
on August 4, 1976.

Yours very truly

*Jason W. Kellahin*  
Jason W. Kellahin

CC: Mr. E. F. Motter

JWK:kjf

Enclosure

JUL 12 1975

OIL CONSERVATION COMMISSION  
SANTA FE

BEFORE THE  
OIL CONSERVATION COMMISSION OF NEW MEXICO

IN THE MATTER OF THE APPLICATION  
OF CITIES SERVICE OIL COMPANY  
FOR DOWN-HOLE COMMINGLING,  
EDDY COUNTY, NEW MEXICO

Comes now Cities Service Oil Company and applies to the Oil Conservation Commission of New Mexico for an order permitting down-hole commingling of production in its State CT No. 1 Well, located 1980 feet from the South line, and 660 feet from the East line of Section 16, Township 20 South, Range 28 East, N.M.P.M., Eddy County, New Mexico, and in support thereof would show the Commission:

1. Applicant proposes to commingle in the well bore, production from the North Burton Flats-Wolfcamp gas pool, and an undesignated Canyon pool.
2. Production from the Canyon formation is limited, and there is no other production from this formation in the vicinity of the subject well.
3. Commingling of production in the well bore will not cause waste, will not damage either of the two reservoirs involved, and will result in the production of additional hydrocarbons that would not otherwise be recovered, thereby preventing waste.

WHEREFORE applicant prays that this application be set for hearing before the Commission or the Commission's duly appointed examiner and the earliest available date, and that after notice and hearing as required by law, the Commission enter its order approving commingling as prayed for.

Respectfully submitted,  
CITIES SERVICE OIL COMPANY

By James W. Kellahin  
KELLAHIN & FOX  
P. O. Box 1769  
Santa Fe, New Mexico 87501  
Attorneys for Applicant

Case 5726

RECEIVED  
JUL 12 1976  
OIL CONSERVATION COMM.  
SANTA FE

BEFORE THE  
OIL CONSERVATION COMMISSION OF NEW MEXICO

IN THE MATTER OF THE APPLICATION  
OF CITIES SERVICE OIL COMPANY  
FOR DOWN-HOLE COMMINGLING,  
EDDY COUNTY, NEW MEXICO

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1. Applicant proposes to commingle in the well bore, production from the North Burton Flats-Wolfcamp gas pool, and an undesignated Canyon pool.
2. Production from the Canyon formation is limited, and there is no other production from this formation in the vicinity of the subject well.
3. Commingling of production in the well bore will not cause waste, will not damage either of the two reservoirs involved, and will result in the production of additional hydrocarbons that would not otherwise be recovered, thereby preventing waste.

WHEREFORE applicant prays that this application be set for hearing before the Commission or the Commission's duly appointed examiner and the earliest available date, and that after notice and hearing as required by law, the Commission enter its order approving commingling as prayed for.

Respectfully submitted,  
CITIES SERVICE OIL COMPANY

By Jason W. Kullahin  
KULLAHIN & FOX  
P. O. Box 1769  
Santa Fe, New Mexico 87501  
Attorneys for Applicant

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. 5726

Order No. R- 5276

APPLICATION OF CITIES SERVICE OIL COMPANY  
FOR DOWNHOLE COMMINGLING, EDDY  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 4, 1976,  
19\_\_\_\_, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this \_\_\_\_\_ day of August, 19 76, 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, Cities Service Oil Company, is the  
owner and operator of the State CT Well No. 1, located  
in Unit I of Section 16, Township 20 South, Range  
28 East, NMFM, Eddy County, New Mexico.

(3) That the applicant seeks authority to commingle North  
Pool  
Burton Flats-Wolfcamp Gas and undesignated Canyon pool production  
within the wellbore of the above-described well.

(4) That from the North Burton Flats-Wolfcamp zone, the  
subject well is capable of low marginal production only.

(5) That from the undesignated Canyon zone, the  
subject well is 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.

Case No. 5726  
Order No. R-                    

(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 well is 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 Artesia 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 well, 27 percent of the commingled gas production and 80 percent percent of the commingled distillate production should be allocated to the North Burton Flats-Wolfcamp zone, and 73 percent of the commingled gas production to the undesigned Canyon zone.

IT IS THEREFORE ORDERED:

(1) That the applicant, Cities Service Oil Company, is hereby authorized to commingle North Burton Flats-Wolfcamp and undesigned Canyon pool production within the wellbore of the State CT Well No. 1, located in Unit I of Section 16, Township 20 South, Range 28 East, NMPM, Eddy County, New Mexico.

(2) That 27 percent of the commingled gas production shall be allocated to the North Burton Flats-Wolfcamp zone and 73 percent of the commingled gas production shall be allocated to the undesigned Canyon zone.

(3) That the operator of the subject well shall immediately notify the Commission's Artesia district office any time the well has 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.