

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO  
NOVEMBER 28, 1956

TRANSCRIPT OF HEARING

Case No. 1183

DEARNLEY-MEIER AND ASSOCIATES

COURT REPORTERS

605 SIMMS BUILDING

TELEPHONE 3-6691

ALBUQUERQUE, NEW MEXICO

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO  
NOVEMBER 28, 1956

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 IN THE MATTER OF: :  
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 :  
 Application of Amerada Petroleum Corporation for an :  
 order authorizing a salt water disposal well in the :  
 Bagley-Pennsylvanian Pool, Lea County, New Mexico. :  
 Applicant, in the above-styled cause, seeks an or- : Case No.  
 der authorizing the conversion to a salt water dis- : 1183  
 posal well of its Amerada State BT "D" Well No. 4, :  
 located in the SE/4 SW/4 of Section 2, Township 12 :  
 South, Range 33 East, Lea County, New Mexico; the :  
 proposed zone of injection is from 9,045 to 9,230 :  
 in the Bagley-Pennsylvanian Pool. :  
 -----: :

BEFORE:

Mr. Daniel S. Nutter

TRANSCRIPT OF HEARING

W. G. ABBOTT

a witness, of lawful age, having been first duly sworn on oath,  
testified as follows:

DIRECT EXAMINATION

By MR. NUTTER:

Q State your name, please.

A W. G. Abbott, Amerada Petroleum Corporation.

MR. NUTTER: Case No. 1183 is the application of Amerada  
Petroleum Corporation for an order authorizing a salt water dis-  
posal well in the Bagley-Pennsylvanian Pool, Lea County, New Mexico,

said disposal well to be Amerada State BT "D" Well No. 4, located in the Southeast quarter, Southwest quarter, Section 2, Township 12 South, Range 33 East, Lea County, New Mexico.

MR. ABBOTT: We propose to recomplete our State BT "D" 4 which is presently producing in the Bagley-Pennsylvanian Pool, and by opening up additional perforations, use this well as a salt water disposal well.

Here is two copies of the plat showing the well. This well is located in the Southeast quarter of the Southwest quarter of Section 2, Township 12 South, Range 33 East. This well was completed as an oil well at a total depth of 9500 feet in the Pennsylvanian formation, August 14, 1951. The original perforation, we originally perforated ten feet in the upper part of the Pennsylvanian. Original perforations were from 9,045 to 9,055, and we propose to open up additional perforations to cover that whole zone in the Pennsylvanian to dispose of water between the intervals of 9,045 to 9,230 feet.

Here are two copies of the diagram of this proposed dual completion; I mean proposed disposal well. I would also like to submit two copies showing the oil production, the daily, average daily oil production versus time, drawn on a semi-log scale for this Amerada State BT "D", the State No. 4, and I would like to submit the electrical log of this well. I just have one copy.

At the present time there are six wells completed in this zone, two as we call it of the Bagley-Pennsylvanian zone. Those wells are State BT "D" No. 4, the proposed salt water disposal well, State BT "I" No. 2, State BT "A" No. 2, State BT "D" No. 5, State BT "C" No. 5, and the Texas Pacific Coal and Oil State C No. 5. It is questionable whether the Texas Pacific Coal and Oil State No. 6, C 6 is completed in this zone. Actually by correlation on the electrical logs, it could be in this zone, but the performance of the well and the production history have seemed to indicate that it might be a, just a localized condition around their C 6 well, and it might not have good connection with the rest of the Zone 2 reservoir.

I would like to also submit the production data for the Zone 2 of the Bagley-Pennsylvanian Pool showing the total production for the reservoir, and also the individual production for the individual well. There is two copies of that. Also we would like to submit production data curve for the Zone 2 of the Bagley-Pennsylvanian zone showing the bottomhole pressure, monthly oil and water production in accumulative oil production versus time. We want to use this well for disposal as we consider the well, the oil production in the well depleted. We feel that this would be our best and most economical means of disposing of the water produced in the Bagley Pool.

At the present time this water production amounts to approximately 7600 barrels a day. Of this 7600, about 71 percent is produced from the Siluro -Devonian Pool and about 29 percent from the Pennsylvanian. Of this total water produced, approximately 89 percent of it is produced by Amerada, and the remaining percentage is produced by Texas Pacific Coal and Oil.

By MR. NUTTER: Are you speaking of the water in the whole pool or just in Zone 2?

A No, the whole pool.

Q I see.

A We do not think that water injection in this zone will be detrimental to the remaining wells in the zone. Actually, we think that it will help recovery. We feel that all through there is sufficient water drive in this particular reservoir to recover the oil that by injecting water, the reservoir pressure may be maintained. This should result in preventing further shrinkage of the oil in the reservoir, and the wells can be produced to a lower chemical limit.

Also, this would increase the ultimate recovery slightly, and we feel that this water injection in this section can be done by gravity disposal of the salt water, where for approximately one and a half years, and probably additional disposal by pump for another three years, before the pressures become excessive in the reservoir.

I believe that's all.

MR. NUTTER: Does anyone have a question of the witness?

By MR. NUTTER:

Q Mr. Abbott, this zone No. 2, what in particular in your Well No. 4, what is the top of that zone and the bottom on it?

A Let's see, I have to look at that electric log. Actually the zoning in that Pennsylvanian is more or less a porosity development, we consider the top of our perforations fairly close to the top of that zone. Actually, if you are reading it off the electric log the top of that zone could be considered about 9,040 feet.

Q And how far down does that zone go?

A To the base of our post perforations down to 9230.

Q Now, how far, what is the interval in Zone No. 1?

A I don't have that.

Q What is the approximate bottom of Zone No. 1?

A Well, I don't believe I have that information.

Q Is it well above the Zone No. 2, however?

A Yes, sir.

Q Is there any evidence, in your opinion, between any vertical communication between Zone No. 1 and No. 2?

A We don't believe there is by the pressure information, but as this Zone 1 is a solution gas drive, even if there was a communication in the reservoir, it may actually help the zone 1 rather than hurt it.

Q I see. Is your BT "D" Well No. 4 presently producing?

A Yes, sir, in September it produced 55 barrels of oil.

Q Did it make water?

A Yes, sir, it made 450 barrels of water.

Q And you feel that it has reached its economic limit?

A Yes, sir. This production data for this entire Zone 2 seeks, if you look at the cumulative oil figure or curve, you can see that the slope of that curve is approaching zero, and we feel that that whole zone is just about depleted.

Q Is there any established water-oil contact in Zone No. 2 at the present time?

A No, sir, there isn't.

Q Don't you know whether your injection, your water injection program then is going to be throughout the entire zone, isn't it?

A Yes, sir.

Q From top to bottom?

A Yes, sir.

Q Do you think that there is any possibility in injecting water in this well, might contribute to watering out some of these wells surrounding?

A No, I think this is a fairly low well and I think that the higher wells on the structure will probably help, and the higher wells on the structure are Texas Pacific Coal Wells, and they may be helped by this water injection.

MR. NUTTER: Does anyone have any questions of the witness?  
If not he may be excused.

(Witness excused.)

MR. NUTTER: Did you want to offer these as Exhibits 1  
through 6, Mr. Abbott?

MR. ABBOTT: Yes, sir.

MR. NUTTER: Without objection, Exhibits No. 1 through  
6 will be received in evidence.

Does anyone have a statement they wish to make in this case?  
If there are no statements, we will take the case under advisement.

MR. ABBOTT: I may add on this case that that well is  
temporarily abandoned now.

