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NEW MEXICO OIL CONSERVATION COMMISSION
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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

June 25, 1969

EXAMINER HEARING

IN THE MATTER OF:)
)
)

Application of Pan American)
Petroleum Corporation for an)
Exception to Order No. R-3221,)
as amended, Lea County, New)
Mexico.)
)

Case 4155

BEFORE: ELVIS A. UTZ, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 4155.

MR. HATCH: Case 4155, application of Pan American Petroleum Corporation for an exception to Order No. R-3221, as amended, Lea County, New Mexico.

MR. BUELL: For Pan American Petroleum Corporation, Guy Buell. We have one witness, Mr. Wells, who testified in the previous Case, 4154, and has previously been sworn.

MR. UTZ: Any other appearances? You may proceed.

(Thereupon, Applicant's Exhibits 1 through 5 were marked for identification.)

BILL WELLS

called as a witness by the Applicant, having been first duly sworn, was examined and testified as follows?

DIRECT EXAMINATION

BY MR. BUELL:

Q Mr. Wells, you are the same Bill Wells who testified in Case 4154 previously heard by the Examiner?

A Yes, I am.

Q In connection with your testimony in Case 4155, I wish you would look first at what has been identified as Pan American Exhibit No. 1. What is that exhibit?

A Exhibit No. 1 is a map of the area of our requested no pit exception. Exhibit 1 is a map of the area of our request no pit exempt area which we are asking in Sections

28 and 33, which are outlined in red tape. We have also shown on this map all wells in the area, and they are color coated as to their producing interval.

Q Before we go to the other areas that are distinguished, I wish you would state for the benefit of the record the various pools that produce in the area, and how you distinguish the wells completed therein.

A There are four pools producing in this area, the Lusk-Strawn pool, which is color coated in gold; the Lusk-Yates pool, which is color coated in blue; the Lusk-Morrow, which is color coated green; and the Lusk-Delaware is shown as red.

Q Now, let's go to these other areas. I notice to the left in the bottom of your exhibit you have a portion of an area that is labeled Potash No Pit exempt area. What is the significance of that?

A This is a portion of the area which has been designed by the Commission as exempt from the Statewide No-Pit Order. It includes the Potash area.

Q Is it a much larger area?

A Yes, it extends many miles to the south and southwest.

Q I notice an area in blue. Would you relate this for the record ?

A We show in the upper lefthand corner of our map

in Section 19, we show a blue square which is Tenneco's no pit exempt area.

We also show to the southeast of that in Section 32, another blue square indicating Texaco's exception to the no pit Order.

We show in the upper righthand corner of this map a note, "Hudson and Hudson No Pit Exempt area," located approximately two miles to the northeast.

Now, we show to the southeast of our requested area, Larry S. Squires exempt area, which is a four-section exempt area. I believe it coincides with the Laguna Plata dry lake bed.

Q I also notice an outline of a portion of what is labeled on this map as the Plains Unit. Would you comment on that?

A Yes, this is the Pan American operated Plains Federal Unit. It is outlined in black dashed tape.

Q And it is only a portion of the Plains Unit, as shown on this Exhibit?

A Yes, sir.

Q But Sections 28 and 33 are both wholly within the Plains Unit?

A Yes, sir.

Q And Pan American is the operator?

A Yes, sir.

Q Looking at our two Sections 28 and 33, you mentioned earlier that four pools produce in this area. Do we have production from all four of the pools?

A Yes, sir, within these two Sections, we do.

Q Now, let's see, we have seven wells completed in Sections 28 and 33, Do any of them at this time produce substantial quantities of water, and by substantial quantities of water I mean more water than one barrel per day on 40 assigned acres?

A Only one well. Our Pan American unit Federal Well No. 9 located in section 33 in the southeast quarter of the northwest quarter now produces about 35 barrels of water per day.

Q Has Pan American currently investigated the feasibility of further development on Sections 28 and 33?

A Yes, we are.

Q Is that with the application that was requested in the form of exceptions for Sections 28 and 33, and all the wells thereon?

A Yes sir, we were in anticipation of future development, and the possible need for disposal.

Q Certainly, if putting salt water near the surface pit from an existing well now will not cause any harm to any fresh water, putting additional salt water in the same pit from wells drilled in the future couldn't cause any harm?

A Yes, sir, right.

Q So the scope of the application is really for Sections 28 and 33, and those wells now in existence and future wells, is that correct?

A Yes, sir.

Q Now, you mentioned Well No. 9 was currently making in excess of 1 barrel per day for 40-assigned acres?

A Yes, sir.

Q In that connection, would you look at Exhibit 2, and state what that is?

A Exhibit 2 is a pertinent Data Sheet showing data about this well, the Plains Unit Federal Well No. 9. It produces from the Lusk-Delaware pool. It produces 35 barrels of water a day, with a chloride content of approximately 160,000 parts per million.

Q If the Commission approves your request here today and grants an exception for Sections 28 and 33, where will the pit be located that the produced water at this time for No. 9 will be placed into?

A It will be located in Unit E of Section 28, Township 19 South, Range 32 East, which just to the north, in the Section just to the north of the section that well No. 9 is.

Q What is the size of that pit?

A It is 33 by 45 feet.

MR. UTZ: Where will it be located from the No. 2 well?

THE WITNESS: From the No. 2, it would be in the next unit over the east, Unit E.

THE BUELL: Southeast of the northwest, Section 28.

THE WITNESS: It would be directly east in the next unit over.

MR. UTZ: Unit F?

THE WITNESS: I am wrong, then. It is located immediately adjacent east to Well No. 2. That is where our battery for this whole deal is.

MR. BUELL: So it would be in the southwest of the northwest of Section 28?

THE WITNESS: Right.

Q (By Mr. Buell) Turn now to Exhibit No. 3, please.

A Exhibit 3 is a commercial water analysis of the water from our plains Unit No. 9 from the Delaware, showing a chloride content as mentioned earlier of 160,000 parts per million.

Q Go back to Exhibit No. 1 now for a minute, and let me ask you this. From your analysis of previously issued Commission Orders, have you observed whether the State Engineer has found in areas around Sections 28 and 33 that there was not a sufficient quantity of fresh water to be protected from surface disposal of salt water?

A Yes, sir, this has been found in each of these

cases shown, each of these exceptions.

Q The nearest one to our Section 33 would be the Texaco exception in Section 32, which offsets 33 to the west, is that not correct?

A Yes, sir.

Q What about the Squires four-section exception which offsets our Section 33 at the southeast corner?

A Yes, this is also just adjacent to both ours and the Potash no pit exception area.

Q And the Potash area was exempt in the Commission's original no pit Order, is that not correct?

A Well, shortly thereafter, when they exempted this area.

Q Is it your understanding that the theory behind that exception was that for years, waste water from Potash operations had been placed on the surface, and if any harm was going to occur, it already had?

A Yes, sir, and the relative amounts of water that an oil company would put on the surface as to what was being dumped by the Potash companies was minimal and would be no additional harm in the area.

Q Let's look at Sections 28 and 33. Are there any fresh water wells on either of these two sections?

A No, sir, there are not.

Q Not even a windmill?

A No, sir, nothing on these two sections. The nearest

fresh water wells to these two sections is approximately six miles west -- I believe it is four-and-a-half miles north-northwest. And there is one about three or three-and-a-half miles northeast.

Q Is it your understanding that people who ranch in that area buy water from a pipeline to give to their cattle?

A Yes, sir, that is true, that is what I understand.

Q I have heard that in drilling operations for an oil and gas well, that you can tell when you have encountered a fresh water -- a water strata could be either fresh or salt water, is that correct?

A Yes, sir.

Q In the drilling of our wells, did we encounter any fresh water?

A No, sir, we haven't noticed any of this, and it is our understanding that other operators in the area have not noticed fresh water flowing through the potential zones.

Q Now, we have shown for the record that in our area and adjacent to our area, the State Engineer found there was no fresh subsurface water to protect. We have that based on all the data we can examine there is no fresh water to protect on Sections 28 and 33. Under those circumstances, if we place water in an unlined surface pit on either of these two sections, if it moves off, what is going to happen.

Let's look at the topography of this general area, and see if we had any surface drainage from our lined pit, what would happen to it?

A I believe that is Exhibit No. 4.

Q What does that Exhibit show?

A This Exhibit is an enlarged regional map of a portion of the same area shown on Exhibit 1. It is a surface topographic map. I believe these are twenty-foot contour -- or fifty-foot contours, I am not sure. But it does show the surface topography in the area.

Q We have some of the same land on this exhibit as we had previously, and let's orient the Examiner on this map.

A Our requested exempt area, Sections 28 and 33, are shaded in red and so designated. We show an expanded area of the Potash no pit exempt area. It is outlined in blue, and has a note on that.

Additionally, the **Texaco** and Tenneco exempt area is shown shaded in blue. An additional feature on this map that wasn't shown on the previous is the V. S. Welch and Pan American exempt area located in the Shugart pool area. This is northwest of our requested exemption.

We show L. C. Squires no pit exempt area just to the southeast of our requested area. This again is covering the Laguna Plata area, the salt lake.

Q And again a portion of the Potash exempt area?

A Yes, sir.

Q Looking at that map of the surface, in which direction from Sections 28 and 33 is the surface of the earth dipping?

A The slope in the area of our request is to the south and southwest into the Potash exempt area.

Q So if we have surface drainage of any water we put into the pit on Sections 28 and 33, it would simply drain into another exempt area?

A Yes, that is true.

Q Do you have any other comments on this exhibit?

A No, sir, I don't believe I do.

Q Let's go now to Exhibit No. 5.

A Exhibit No. 5 is a map contoured on the top of the Redbeds, and the area of our requested exempt or requested exception. Again, we show our requested exemption shaded in red. This is Sections 28 and 33. We show a portion of the Potash no pit exempt area, and the same previous exemptions. We also show the Hudson and Hudson no pit exempt area located in the northeast of our exempted area.

Q I notice the datum on some of these contours -- here is one, 3,750. Is that below the San Andres?

A No, sir, these are elevations above sea level,

as opposed to the normal structure map below sea level. In other words, these are positive datums.

Q About how far in the general area are these datums below the surface of the earth?

A 300 to 400 feet.

Q Let me ask you this, what is the significance of the top of the Redbeds with regard to fresh subsurface water?

A Hydrologic studies of this area have determined that the Redbeds are actually the base of any possible fresh water bearing zones. It is actually a core marker for the top of the rustler anhydrite, I believe is what it is. But below this point, they have determined there is no fresh water.

Q Now, in what direction are we dipping in at this subsurface interval from our two section area, 28 and 33?

A Again, we are dipping to the south and southwest into the Potash no pit exempt area.

Q Would it be your opinion, based on your general knowledge of the strata and its formation, that from the surface of the earth to a datum point 300 to 400 feet below, such as we are looking at here, that all the intervening strata in that interval would also be dipping in the same direction?

A Yes, sir, I feel that they would.

Q In your opinion, then, if any of the salt water

that we put in an unlined pit on Sections 28 and 33 percolates below the surface and migrates off 28 and 33, where will it go?

A Due to the structural portion of it, I feel it will move south and southwest into the no pit exempt area. Also, from a review of the studies in this area, it has been determined that movement of any potential ground water or any possible ground water anywhere in this area will flow toward the no pit area or to the south and southwest.

Q Mr. Wells, based on your study which has shown that the State Engineer in areas around us has found there was not sufficient fresh water to protect, and our study which has revealed that on Sections 28 and 33, if there is any fresh subsurface water there, we can't locate it, nor have any of the ranchers located it, and that all drainage from 28 and 33 will be to an exempt area, what is your recommendation to the Commission?

A My recommendation would be that the Commission grant us an exception to the Statewide No Pit Order for Sections 28 and 33, all wells currently thereon, and all future wells to be drilled on these two sections.

MR. BUELL: May it please the Examiner, that is all we have to offer at this time. I would like to formally offer Exhibits 1 through 5, inclusive.

MR. UTZ: Applicant's Exhibits 1 through 5 will

be entered into the record.

(Thereupon, Applicant's Exhibits 1
through 5 were admitted in evidence.)

MR. UTZ: Are there any questions of the witness?

MR. PORTER: I believe you mentioned that the
nearest fresh water was three to three-and-a-half miles
to the east?

THE WITNESS: Yes, sir.

MR. PORTER: Do you know how deep that water is?

THE WITNESS: It is producing from the Santa Rosa.
I think that is in this area probably about 350 to 400 feet.

MR. PORTER: That is all I have.

MR. UTZ: Any other questions? The witness may
be excused. Any statements? The Case will be taken under
advisement.

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STATE OF NEW MEXICO)
) SS.
COUNTY OF BERNALILLO)

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

Samuel B. Mortelette

I do hereby certify that the foregoing is a complete record of the proceedings of the hearing of Case No. 4155 heard by me on June 25 1969
Samuel B. Mortelette
New Mexico Oil Conservation Commission