

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
November 2, 1960  
Examiner Hearing  
Case No. 2112

PHONE CH 3-6691

DEARNLEY-MEIER REPORTING SERVICE, Inc.

ALBUQUERQUE, NEW MEXICO

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IN THE MATTER OF: )

)  
Application of Potash Company of )  
America for an extension of the potash- )  
oil area as set forth in Order No. R-111-A. )  
Applicant, in the above-styled cause, seeks )  
an extension of the potash-oil area to )  
include the following acreage: )

)  
Section 14: S/2 NW/4, SW/4, W/2 SE/4, )  
NE/4 SE/4, SW/4 NE/4 )  
Section 15: E/2 SE/4 )  
Section 22: NE/4 NE/4 )  
Section 23: NW/4 )

)  
all in Township 20 South, Range 29 )  
East, Eddy County, New Mexico. )  
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BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 2112.

MR. PAYNE: Application of Potash Company of America  
for an extension of the potash-oil area.

MR. BLACKMAN: If the Examiner please, my name is R. H.  
Blackman, Carlsbad, representing the Petitioner in this case.  
We will have one witness -- Mr. Everett Jourdan, and one Exhibit.

MR. PAYNE: Mr. Blackman, you are resident counsel for



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PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO

the Potash Company of America, is that correct?

MR. BLACKMAN: That is correct.

(Witness sworn.)

MR. UTZ: Are there other appearances in this case?

MR. WHITE: If the Examiner please, Charles White, appearing on behalf of Texaco, Inc.

MR. UTZ: Other appearances? You may proceed.

EVERETT C. JOURDAN

called as a witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. BLACKMAN:

Q Will you please state your name, your employer and your occupation?

A Everett C. Jourdan, employed by Potash Company of America as Mining Engineer.

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

A Since 1946.

Q Have you ever appeared before the Oil Conservation Commission as an expert witness and given testimony in cases similar to this one?

A I have.

MR. BLACKMAN: Do you care to go into his qualifications any further?

MR. UTZ: No, sir, his qualifications are acceptable.



Q (By Mr. Blackman) Mr. Jourdan, I refer you to applicant's Exhibit A, which is a map of an area in Eddy County, New Mexico, showing, generally, a portion of Township 20 South, Range 29 East, and ask you if you will kindly identify the curved line which appears in red.

A (Witness indicates line on map.)

Q The curved line which appears in red.

A Pardon me. I am slightly color blind. This line, outlined here, is a four feet at 14% K<sub>2</sub>O line as established by Oil Conservation Order R-111-A in 1955. That line was projected by the United States Geological Survey from drill hole in formation and agrees with their information.

Q Mr. Jourdan, there is a line appears, also, on Exhibit A which is identified in green which is also identified on the Exhibit as the present R-111-A line.

A That is this.

Q Would you state what that line is?

A That is the limit of Oil Conservation Commission R-111-A Order in the oil-potash area as it presently exists.

Q Now, the area which is in the present Order R-111-A appears, generally, to the south and to the east of that green line, is that correct?

A Yes, sir.

Q Now, Mr. Jourdan, since Order R-111-A was entered by the Oil Conservation Commission in approximately 1955, has Potash



Company of America drilled any additional exploration wells to the potash producing zone in this area? If so, will you identify those as shown on the Exhibit?

A Drilled three -- core tests shown here as PCA 174, PCA 171, PCA 173.

Q Mr. Jourdan, as the result of the drilling of those wells and the information secured thereby, would you please give your opinion as to the present boundary of commercial ore in that area on the basis of a cut-off point at four feet of 14% K<sub>2</sub>O?

A That is delineated by this line which I am pointing to here.

Q The line which you are pointing to there, being a curved line which curves, generally, upward into -- commencing in the -- approximately the north-south center line of Section 22 at a point approximately a quarter of a mile west of the east boundary, proceeding then north to the north boundary of Section 22, proceeding through the southeast quarter of the southeast quarter of Section 15, and in a generally northeasterly direction, that's proceeding into Section 14, still in Township 20 South, Range 29 East, to a point north of the well designated as PCA 173, thence proceeding in a southwesterly direction into the southwest quarter of the southwest quarter of Section 13 in 20 South, 29 East, where it joins the line projected originally by the U. S. G. S., to which you have previously testified, is that correct?

A That is correct.



Q Mr. Jourdan, would you kindly explain how this boundary is determined?

A We assume that the deposit is a tapering -- in other words, this hole here, PCA 174, was a hole which did not encounter the oil bed. This hole here was slightly in excess of the four feet at 14%, so we interpolate that line and come out with a point here, and the same is true of this here and then we use this and a hole right out here, which is Federal hole, to interpolate the line.

Q Mr. Jourdan, do you have with you the analysis of the cores obtained by Potash Company of America --

A Yes, sir.

Q -- on those three holes? Will you kindly read those into the record, identifying them as to hole?

A PCA 171 is 79 inches at 21%  $K_2O$ , PCA 172 is 21.3% at  $K_2O$ , PCA 173 is 48 inches at 18.9%  $K_2O$ ; the outside limits -- hole outside is what we call a salt hole, missing in that particular hole.

Q Now, based upon your particular experience in potash mining, would you state that the projected line which you have caused to be projected, as I previously delineated, is a fair average of the cut-off point of the approximate boundary of the ore zone?

A It is. We are mining this type of ore right now in this area.



MR. BLACKMAN: I believe that is all of the direct examination.

MR. UTZ: Any questions of the witness?

MR. PAYNE: No, sir.

MR. WHITE: I have a few questions.

MR. UTZ: Proceed, Mr. White.

CROSS-EXAMINATION

BY MR. WHITE:

Q Mr. Jourdan, there are a few questions I want to ask which were not brought out on direct, but, mainly for my own education, so bear with me, please. When was this potash lease acquired by you?

A I can't answer that question right offhand, Mr. White. We have got so many leases that I can't remember. It was very recently, I can tell you that -- I am not sure about the smaller area, but I think part of it was rather recent.

Q Now, are these leases for five-year terms with right of renewal, do you know?

A I don't know what the terms are. Our leasing department handles the leasing, so I can't personally answer that question.

MR. BLACKMAN: Twenty years --

MR. WHITE: Twenty years?

MR. BLACKMAN: Yes, generally these leases are for a period of twenty years with right of renewal. Part of this is held under a potash permit, but since the ore was discovered, the



company has a preferential right to acquire a lease. That lease has been applied for and, in due course, will be issued.

Q (By Mr. White) Is it customary in the potash industry for one potash company to acquire lease holes adjoining another potash company's operations?

A Yes, very common. We have leases right within a mile or two of International, for example.

Q Within a mile or two?

A Yes, right adjoining. In fact, they have recently taken over one section we had down there. I don't recall right offhand, but they are mining that and the property is held by us.

Q Now, will Potash Company of America object to the drilling of an oil well in this area, providing the oil operator carries out the casing program as prescribed by Order R-111-A?

A I can't answer that question until I know the specific location. I would say, offhand, that if it was in this area right in the center of the high ore, I believe we would object to the drilling of that well.

Q Well, let's assume the well might be drilled in the southwest quarter of the southeast quarter of Section 14.

A Southwest quarter of the -- wait a minute, southwest quarter of the southeast quarter? Yes, I believe we would object to that. Actually, within this R-111-A line, if we started secondary mining a well, that area might be in danger of being damaged, assuming we recovered pillars.

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PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



Q What are the reasons for your objections, please?

A The loss of the potash within the hundred-foot barrier, which, I believe, is worth around fifty thousand dollars, but in that one hundred-foot barrier that we would have to leave around the well, in addition to that it would preclude any secondary mining or pillar extraction within an area of, I believe that is about seven hundred feet out there to the potash bed -- I am not quite certain of it -- but within seven hundred feet of that well, we would not be able to take any pillars because of the subsidence.

Q Now, where are your mining operations at the present time within that area?

A At the present time, this area has not been developed. Our mining operations are back approximately ten thousand feet, and we have plans on the board now for an eight thousand-foot tunnel through the salt to this ore body out in here where we will be, I would say, within five years, or less.

Q Then within the approximate period of five years, you will still be conducting your mining operations within the presently defined potash area?

A Yes.

Q And then how many years will it be before you will be mining within the southwest quarter of the southeast quarter of Section 14?

A That, again, depends upon production, sales. It is pretty hard to plan the potash business more than three or four





years ahead. We assume that we will actually produce at a high rate, and if that is true, I would say we would be out here within very close to five or, possibly, six years.

Q At the very earliest?

A Well, yes. I would say that is -- to the best of my knowledge that is right.

Q Now, before you would conduct any mining operations in the new proposed area, I assume that you would take and make additional core tests, would you not?

A Yes, we would. We would probably delineate this a little more clearly, actually, for mining information only.

Q Approximately how many core tests would you make?

A It would depend upon what the individual core test showed. We would plan one from the results of the other.

Q And that exploration program would take approximately how long?

A Not very long. These holes here were drilled in a period of about three months, or less.

Q But before you undertook any mining operations, you would conduct additional core tests and make certain that there was commercial ore?

A We know there is commercial ore there. We would probably drill the holes to outline it more clearly so we could draw our mine plans and our main haulage-ways more accurately.

Q Then it is true that the only purpose for acquiring of



the proposed Order extending this area is merely to prevent any oil operator from drilling an oil well in that area?

A Not necessarily. I think we would probably be reasonable, perhaps, if it was up in the corner here -- if they followed the casing program we would not object to the well, but we certainly would object to it in commercial ore, because potash reserves are not what they once were ten years ago.

Q Well, let's reframe it, then. The only purpose is to prevent any oil operator from possibly drilling within the southwest quarter of the southeast quarter of Section 14?

A Specifically, yes

Q Regardless of what his correlative rights might be?

A We would object, yes.

Q Now, the reason for your objection is the economic loss of leaving the pillars, or the hundred-foot barriers in place, is that correct?

A Plus the possible damage to the formation by the drilling of the well. That is a very -- as a matter of fact, these holes cause us considerable trouble because of quicksand and voids in the formation above the salt, and there is a lot of placings in the area. We have oil wells already over in this area -- they are already there.

Q Well, the same would exist as to where you say you would permit the drilling of a well outside --

A I didn't say, we would; I said, we might. It would be



taken under consideration. Of course, if we actually found that sometimes this line here, when you have a more -- closer drilling pattern, we might drill a hole here and find that this line curves down, then we would try to be reasonable. If it is on the outside edge far enough away from the ore so we felt there would be no damage, we wouldn't object as long as the casing program was followed.

Q Mr. Jourdan, how long do you figure -- how many years do you figure it would take to actually mine the proposed area, that is, the time it would take you to mine before you started retreating and pulling out?

A That is a factor of the mining plans in the other portion of the mine at the time. If we had, for example, three mining machines in that area, or one, or five -- we actually have twelve mining machines now -- if we put twelve of them in there we could probably mine it out in a year.

Q Now, do you anticipate you will be using twelve?

A No -- that I can't answer, because, as I point out, it depends upon the production demands at the time, the grade of the ore in other parts of the mine. In other words, we try to maintain an even grade by blending. We would probably not use twelve. Whether we would four, or three, or five, I can't answer that question, because that would be dependent on our mining operations in the other areas at the time.

Q In other words, it might be several years before you



start your retreating operations?

A It could be.

Q And until you started your retreating operations, would there be any loss as to the hundred-foot barrier?

A That is hard to say. I don't believe that there would be, no, but I don't think we would take that barrier out. Our present plans for pillar recovery, we are a little bit worried about a well in taking that barrier. We are going to leave, in the existing oil areas -- we are not even coming within fifteen hundred feet of the existing wells in the area, and we are in a quandary at the present time as to what to do about the abandoned wells, whether to plug them or abandon the potash, or go ahead and take it and hope for the best.

Q Now, what is the value of this ore per ton?

A About sixteen -- let's see, it would be sixteen dollars per ton; muriated, it would be about six dollars.

Q Six dollars?

A Wait a minute.

MR. BLACKMAN: Well, let me correct the witness here, Mr. White, if you don't mind. The field price of potash per unit is 17.65 cents; a unit of case roll is 20 lbs., so if you multiply the percentage of  $K_2O$  by 17.65, you will arrive at the value of a ton of ore which will, in this area, probably be in the area of three dollars -- say from three dollars to four dollars a ton.

Q (By Mr. White) Let's assume it is four dollars a ton.



Now, Mr. Jourdan, how many cubic feet does it take to make a ton of ore at six dollars per ton?

A Tonnage would be your cubic feet divided by 15.3. I see somebody has a slide rule.

Q Be what?

A Divide your cubic feet by 15.3.

Q What do you figure the economic loss would be to the company by reason of their leaving this one hundred-foot barrier -- in dollars and cents?

A Oh, I would roughly say -- it is pretty hard to figure it -- I would have to know the exact depth and on a 90% recovery, it would be a considerable amount.

MR. BLACKMAN: If the Examiner please, I haven't objected to any of this line of questioning in this case, because I felt Mr. White should be allowed great latitude, but it seems to me that the question involved at this stage of the proceedings is whether or not a commercial ore body exists in this area, not whether a well should be drilled in this area. Now, we didn't come prepared to enlighten the Commission on the economic factors that are involved in whether or not a well should be drilled. We have done that previously in the case of Velma Oil Corporation-Potash Company of America -- I can get the number for it, I don't have it with me immediately. All of this information is set forth in great detail. We are perfectly willing to furnish it, we have no objection to furnishing it. There is nothing secret about it, but

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it does seem to me that it is quite a good distance outside the direct examination when this witness did not come prepared to give these immediate figures.

MR. PAYNE: Your position is that at such time as an operator proposed to drill a well in the proposed extension that at that time you would be prepared to come forth, either object to the program, whatever the case might be?

MR. BLACKMAN: Yes, sir. At this time it seems to me we are concerned with whether this piece of land should be included in R-111-A. If it is included in R-111-A, then that requires certain notice be given to Potash Company of America in the event an operator wants to drill a well, and at that time the Commission will decide whether an oil well is proper. At that time, we would be willing and perfectly prepared to deliver any information you cared to have.

If I had had any notion, if I had considered it relevant, I certainly would have brought it today, but I considered it irrelevant.

MR. UTZ: Objection sustained.

MR. WHITE: May I have the privilege of stating our reasons for asking these questions?

MR. UTZ: You may state your case.

MR. WHITE: Mr. Blackman says he was wholly unaware I was going to ask these questions, but I think the record will show, and it is true enough that if an oil operator wants to drill an oil

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PHONE CH 3-6691

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well in a potash area, we have a right to have a hearing and, as he said, at that time he will be in a position to put forth all the testimony. But the record will show that once any lease hold is dedicated to the potash area, or brought within the potash area, there has never been one instance where an oil operator has been granted permission to drill a well within the potash area over the objection of the potash operators, and once it is thrown in, why, you might as well give up your oil leases; and the record -- I think the Commission can take administrative knowledge of their own records -- and he said he would object to the drilling of a well in that particular area because of the economics. He claims this hundred-foot barrier is worth around fifty thousand dollars, and according to our calculations, it only comes to three thousand two hundred-eighty dollars.

THE WITNESS: You are talking about the hundred-foot barrier, I am talking about the mining area around which we would have to leave, because you can't extract pillars, if that is seven hundred fifty feet deep out there, within a radius of seven hundred fifty feet we would not be able to remove any pillars.

Q (By Mr. White) What size are those pillars?

A We have, in our mining plan at the present time, we have -- the centers are seventy-five feet, room centers, and we leave -- the rooms are thirty feet wide; therefore, we leave a square pillar which is seventy-five minus the thirty, or forty-five feet square.



Q And then is it not true that of this forty-five by forty-five pillar that you can remove approximately thirty percent of that when you retreat?

A We would probably take thirty to forty percent, depending upon our type of mining method and the success we have with our second mining operation.

Q Assuming that were successful, then that would decrease your fifty thousand dollars by thirty percent, would it not?

A No. I am just giving a rough figure. As Mr. Blackman pointed out, I didn't come prepared with dollars and cents figures. I could sit down and figure it out, I am sure, but at the present time I am not prepared for dollars and cents over the large area.

Now, you are speaking of one well, Mr. White. If you put one well down there and you hit oil, would you be content with one well, or would you want to put an offset to it?

Q Well, in answer to your question, we would be content with one well.

A You are sure that there is oil there, as sure that we are that the potash is there?

MR. WHITE: We will put our --

MR. UTZ: What is the lease hold effect in this area? Is that just forty acres?

MR. ROBINSON: Texaco holds the east half of Section 14, with the exception of the southeast of the southeast, and then we also have a hundred sixty acre lease up in the northwest quarter





of -- I believe that is Section 13.

THE WITNESS: Thirteen, over here?

MR. ROBINSON: We have thirteen hundred forty acres there altogether.

Q (By Mr. White) Mr. Jourdan, what percentage of the present holdings of the Potash Company of America, within the potash area, have been mined or explored?

MR. BLACKMAN: I object to that question as being irrelevant. This particular information now is information which we consider to be secret. The information has been given, insofar as it is available, to the Oil Conservation Commission and is available on the basis where we believe the lines to be, and the confidential maps submitted in accordance with our previous understanding.

MR. WHITE: If the Examiner please, I believe it is wholly relevant. If, for example, they have only explored, say, one percent, or mined only one percent of the present holdings within the present area, why, there might be some question in the Commission's mind as to whether or not they want to give them additional area. And as far as being confidential, the potash companies are supposed to file copies of their lease hold interests and their mining interests, which the rules say are open to the public.

MR. UTZ: What was your question again?

MR. WHITE: Asked them what percentage of their present



mine, or lease hold, within the present area, has been mined.

MR. BLACKMAN: Still object as being irrelevant.

MR. WHITE: If they are not going to get to this for some years to come, all they are trying to do is keep some oil operator out.

MR. UTZ: Mr. Blackman, the Examiner will overrule your objection, and if the witness can answer the question within the realm of reason, I ask him to do so.

THE WITNESS: I would say that it is around seventy-five percent, seventy to seventy-five percent, probably, has been mined -- as much as I hate to give that information. That is first mining. That may be slightly high, it may be a little less, but, as I say, I would have to look at the actual maps and measure it.

MR. UTZ: That wouldn't include any secondary mining?

THE WITNESS: No. Our company has not started secondary mining at the present time, although we anticipate starting within the next year or two.

Q (By Mr. White) Have the mine operations of the Potash Company of America in New Mexico been as extensive in 1959 as in 1958?

A We have had one of the highest production years, or will have. We set a production record the other day, and our warehouses are low, so I assume we will go at a high rate. Barring unforeseen circumstances, I anticipate we will mine three million tons a year from now until the life of the mine.

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Q And how long do you figure the life of the mine might be in the present potash area?

A I prefer not to answer that question. I would say that -- I think our annual report said that we will -- are setting well for the next ten years. I can answer it that way, which is, of course, common knowledge of the stockholders, and anyone who wants to read the report.

MR. BLACKMAN: Again I object to this line of questioning as being in the area of pretty much pure conjecture. It is well-known that in mining operations the amount of reserves is a very relative thing. It depends upon market conditions and competitive conditions to tell just what the reserves are.

Q (By Mr. White) Mr. Jourdan, you stated that you leave a --

MR. UTZ: Wait a minute, we have got another objection to rule on.

Mr. Blackman, the Examiner will take note of whatever the testimony happens to be and will use it in this case for whatever relevancy it may have; therefore, your objection is overruled.

MR. BLACKMAN: Well, I don't particularly care about the information, but I do want the Commission to understand that we did not come in here prepared to give this kind of testimony and, consequently, it is given as a matter of conjecture rather than being based upon any figures on that.



MR. UTZ: Well, if the witness cannot answer the question from knowledge, well, he doesn't have to answer it.

MR. BLACKMAN: Because this is all set forth in great detail in the Velma case.

MR. WHITE: The Velma case is no part of this record.

Q (By Mr. White) Mr. Jourdan, you stated that you left pillars forty-five-foot square. Now, what would be the approximate area of the excavated area?

A Well, your rooms would be thirty feet wide. In other words -- if I had a blackboard here I could probably show you a little easier -- your mining machine comes through and takes a thirty-foot wide tunnel, or entry, as we call it, and then from the center of that entry to the center of the next one is seventy-five feet, and they are square, so the pillar that we leave on first mining, which is approximately sixty-eight percent that is taken out on first mining --

Q Then do you cross-hatch at right angles?

A Yes. We leave, actually, squares. It is just a series of squares.

Q And how wide?

A Thirty feet apart.

Q Then after you, as I understand it -- you say you have an area of potash --

A We need a blackboard.

Q Then you go in and you tunnel, say, from north to south



and you run your tunnels through?

A That is right.

Q And then you go back in these tunnels and cross-hatch at right angles?

A Well, we do that as we advance. The machine -- pardon me for talking with my hands -- the machine advances and then it turns at seventy-five feet centers, from each room it turns both ways and, therefore, you have a checkerboard, in effect, with the mined-out area and the square pillars that we leave on first mining. What we have planned for second mining, we will come back with a second machine and we will split those pillars, taking from twenty-four to thirty feet straight through the center, depending on our experience in the type of ground we are in. It is a hard thing to say that we will do this specifically, because our company has had no experience, and I think that opinion differs very considerably between -- from mine to mine in the potash areas as to what you can and can't do, so we are going to have to find out the hard way.

Q Then after you have done that secondary mining, as I understand it, you go back again and retreat and pull out the pillars and let the earth drop down?

A We would not take a hundred percent of the pillars, no. We would leave, probably, ten or twelve percent in as we move out to hold the ground up as it sags down.

Q And that would be what you might call a third operation.



or abandonment, would that be right?

A Yes. Certainly after it caved in we couldn't come back in and mine again.

Q That operation would be many years in the future, possibly, would it not?

A No, I don't think so.

Q Approximately how long?

A In what area?

Q In this particular area.

A Well, there, again, we are talking about production and figures. I would say six or seven years.

Q And when you retreated, when you got around -- say there were a well drilled in this area, this hundred-foot barrier, you could take about what percent of that in your retreating operation?

A We would not touch it; in fact, I think we have not yet decided what to do about pillar recovery in the vicinity of an oil well. That is a problem for our top management, because there is a possibility that the mine may be endangered.

Q Is it not true that some potash operators take as high as thirty or forty percent?

A Thirty or forty percent of the --

Q -- of the barrier?

A Of the oil well barrier?

Q Yes.

A I don't know of anyone who has recovered pillars in an



oil well area. Mr. Herbert is here from Southwest Potash Company and maybe he will answer that question for you.

MR. WHITE: I believe that is all the questions we have.

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

MR. PAYNE: Yes.

CROSS-EXAMINATION

BY MR. PAYNE:

Q Mr. Jourdan, in view of where you have drawn your line as to what you believe are the productive limits in the proposed extended area, what is your reason for asking that the northeast quarter of the southeast quarter of Section 14 and the southwest quarter of the northwest quarter of Section 14 --

A Let's see, you are referring to this particular area?

Q Yes, sir.

A And here.

Q Why do you feel that those should be included?

A Actually, this line is proven, in our experience, to be conservative. Now, in addition to that, if this is eight hundred feet, or seven hundred feet, we will have subsidence which will, actually, come out seven hundred feet from that line and any well drilled within that area would certainly be damaged and we would not -- that would preclude second mining in there where we would touch that well, which would allow the water from the Rustler formation to come into the mine.

Q Your answer is the same, then, as to the northeast



quarter and southeast quarter of Section 15?

A Yes, it is. Again I will point out that this line is probably conservative. We have found it in every case in our mining operations that this line -- actually, we have mined out beyond that -- that cut-off line. As I say, we are basing it on two drill holes here which are a half a mile apart, plus some information down in this area here, and we have been reasonable in projecting this line and we feel that, actually, if we come into here, why, that we might get out into the center of that section and then if we, or when we recover pillars here, we would cave, and the subsidence would be 45 degrees, so any well in the center of that area would, in all probability, be in danger.

Q Now, when you say your lines have generally been proven to be conservative, are you talking about lines drawn on the basis of two core tests, or after more fully --

A After it is more fully drilled out, yes. As has been pointed out, before we would mine this, we would definitely try to establish the -- actually these lines are not -- the actual ore is not deposited in a very straight curve like that. It may come out here similar to this, more like this line here. Actually, we had more information here which showed this nose in here.

Q So at this time we don't really know whether this line is conservative or not, do we?

A I would say that, from our experience and knowledge, I would say that the line is probably conservative. That is kind of





hedging the question a bit, but I would say that we are sure that there is ore in this area, that this line is right.

MR. PAYNE: Thank you.

MR. UTZ: Are there any other questions?

MR. PORTER: Mr. Jourdan, did you testify as to what constitutes consideration for cut-off of potash ore?

A Four feet at 14% is the present cut-off that the U. S. Geological Survey uses as commercial potash ore. Actually, there is one mine in the basin that is mining ore in the neighborhood of about four feet at eleven or twelve percent, and I dare say within the next year that that will probably go even lower, the grade and the mining height.

MR. PORTER: Thank you.

MR. UTZ: Mr. Jourdan, you do have copies of your core analysis on your 171 and 173 core holes, do you not?

THE WITNESS: I have copies. I have actually written it down here. I can state that, for the record, that that is correct, that we have a chemical analysis of these holes which we would be glad to furnish the Commission, if we can send them to you, if that is all right with you. We have our laboratory analysis of these holes.

MR. UTZ: Would you send us photocopies of the originals, please?

MR. BLACKMAN: What, exactly, is it that you wanted, Mr. Utz?



MR. UTZ: The core analysis of the two holes here.

MR. BLACKMAN: The laboratory analysis?

MR. UTZ: Yes. Are there any other questions? The witness may be excused.

Are there statements in this case? Is there other testimony in this case?

MR. WHITE: Yes.

MR. UTZ: We will take a ten-minute recess.

(After recess.)

J. E. ROBINSON, JR.

called as a witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. WHITE:

Q Will you state your name, please?

A J. E. Robinson, Jr.

Q Mr. Robinson, by whom are you employed and in what capacity?

A I am employed by Texaco, Inc. as Pro-ration Engineer out of their Midland Division.

Q Does that cover the State of New Mexico?

A Yes, sir, it does.

Q Does Texaco have any Federal lease, oil-gas lease within the subject area in discussion today?

A Yes, sir. We have a four hundred forty acre Federal



lease which --

Q Will you draw the location of the lease on the Exhibit?

MR. WHITE: -- if it is permissible with the Examiner.

MR. UTZ: Yes, sir.

THE WITNESS: It covers the east half of Section 14, with the exception of the southeast-southeast of the -- southeast of the southeast quarter, and it also includes the northwest quarter of Section 13.

Q (By Mr. White) Will you cross-hatch the area?

A (Witness marks on Exhibit.)

Q When was this lease acquired, Mr. Robinson?

A It was acquired January 1, 1957.

Q Have any geological studies been made on this lease?

A Yes, they have.

Q And from these studies, is it the opinion of Texaco that this lease is commercially productive?

A Yes, sir. It is on a known geological structure and we have prospects for the Bone Springs, Wolfcamp, Atoka and Devonian.

Q Does Texaco intend to drill upon this lease within the next twelve months?

A We have not completed their final geological study. We are going to conduct additional surveys in the area and if these additional surveys are as attractive as our present studies, we will certainly drill a well within the next month. The land covered by this lease is on a known geological structure and the

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PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



lease cannot be extended beyond the expiration date unless production is obtained.

Q And when is the expiration date?

A The expiration date is December 31, 1961.

Q What effect, if any, will the granting of this application have upon the correlative rights of Texaco?

A Well, it will be an encroachment upon the correlative rights of Texaco, Inc., in that they will be prohibited from drilling their lease and developing it in an orderly manner.

Q Has any well been drilled upon the lease in the past?

A Yes, sir. A well was drilled to a TD of 1381 to evaluate the Yates, and it was completed on July 18, 1960.

Q Was it productive, or non-productive?

A No, sir, it was a non-productive well. It was plugged and abandoned.

Q Does this have any significance, in your opinion?

A No. While the well did prove that the Yates was unproductive, it does not destroy our confidence in the prospects for the deeper zones.

Q How many acres are embraced in this lease?

A There are four hundred forty acres of Federal lease here.

Q And how many of those acres would be included in the potash area if this application were granted?

A One hundred sixty acres.

Q Do you believe that the remaining two hundred eighty



acres is of the same geological structure?

A Our interpretation right now is that the remaining acreage is not as good acreage as the hundred sixty acres in that our present interpretation gives our structure "high" on this hundred sixty acres and any prudent operator, in attempting to locate his well, attempts to locate it on the known geological high part of the structure.

Q Again, referring to your Federal lease, do you have a copy of that lease?

A Yes, sir, I have a photostatic copy of this lease. It was acquired January 1, 1957, for a total consideration of \$13,346.10.

MR. UTZ: What was the ten cents for?

THE WITNESS: I really don't know. Oh, I think I could find it if you would like.

MR. WHITE: We offer the subject lease as Contestant's Exhibit No. 1 in evidence.

MR. BLACKMAN: May I have a copy of that, Mr. White, please? Thank you.

MR. WHITE: That is all I have at this time.

MR. UTZ: Any questions of the witness?

MR. PAYNE: Yes, sir.

MR. BLACKMAN: I don't think so.

CROSS-EXAMINATION

BY MR. PAYNE:

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PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



Q Mr. Robinson, why did you abandon and plug the well after testing the Yates rather than taking that well deeper at the time to test the other horizon?

A This was a farmed-out well to Curtis and Nix and it was farmed out for a total depth of fifty feet below the Yates.

Q Now, Mr. Robinson, to the best of your knowledge, the United States Geological Survey has not changed its policy and does not renew leases until such time as the potash has been mined, is that correct?

A Mr. Payne, at the present time, we have two leases where we paid approximately ninety thousand dollars and they are in a potash area where we are prohibited from drilling in this area, and we have asked that the U. S. G. S. hold these leases in suspense for us until the time that the potash is mined; however, we do not have any assurance at all. We think that the leases will terminate.

Q Even though the fact that you couldn't drill a well during the primary term was because the U. S. G. S. wouldn't let you?

A Yes, sir, that is right.

Q Now, the Secretary of the Interior does have the power to renew these leases, doesn't he?

A Yes, sir, he does.

MR. PAYNE: That is all.

Q (By Mr. Utz) Mr. Robinson, I believe you said that this was a known structure, is that correct?



A Yes, sir.

Q Is that the same structure as the Getty Oil Pool, or what pool is it?

A This is in the area of the Getty, I believe.

Q Separate structure, however?

A I don't know if it is a separate structure from these. It is on a trend with other structures in the area, and if it is a separate structure, I don't know.

Q You said you have good prospects in the Bone Springs, Wolfcamp and Devonian. How near is any of that production?

A Some of the deeper production is producing approximately four to four and a half miles to the north of this location.

MR. UTZ: Are there any other questions?

MR. BLACKMAN: Yes.

CROSS-EXAMINATION

BY MR. BLACKMAN:

Q You said, if I understood your correctly, that this lease was going to expire as of December the 31st, 1961?

A Yes, sir.

Q That is at the end of the first five-year term, is it -- is that what you mean, or is this --

A This is a five-year lease.

Q This is a five-year lease which is not subject to renewal, no preferential rights?

A No, sir.



Q I have made a quick look at it and I do not find the potash clause in here which you testified was in a different one, am I correct?

A No, sir, this lease does not have a potash stipulation in it. We have acquired other leases that have the potash stipulation in it, and when we acquire those leases, we do that solely upon the risk involved, but this lease does not have a potash stipulation in it.

MR. BLACKMAN: That is all.

MR. UTZ: Any other questions? The witness may be excused.

Do you wish to enter your Exhibit?

MR. WHITE: Yes, sir, at this time.

MR. UTZ: Without objection, it will be received into the record.

MR. BLACKMAN: I would like, also, to offer the Applicant's Exhibit A into evidence in this case.

MR. WHITE: No objection.

MR. UTZ: It may be entered into the record.

Is there any other testimony in this case? Statements?

MR. FULTON: I am R. S. Fulton, Regional Mining Supervisor, U. S. G. S., Carlsbad. The proposed ore cut-off line, four feet and fourteen percent, the acreage sought corresponds very closely with the information we have to this date. It is the Survey's opinion, and my opinion, that it is entirely justified.

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PHONE CH 3-6691

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MR. UTZ: Any other statements? The case will be taken under advisement.

MR. BLACKMAN: If the Examiner please, I would like to make a short statement.

MR. UTZ: You may proceed.

MR. BLACKMAN: I think that the question in this case is not the question Mr. White has been talking about; the question in this case is whether there is commercial potash in this area. We think that we have found it, we know there is commercial potash there. That has been completely proved and, therefore, the area of R-111-A, the past rules of the Commission, should be extended to include this area.

Now, the evidence showed the reasons why we had picked the particular forty-acre tracts. The reason we put it in forty-acre tracts is because this is the practice followed by the Commission in taking legal subdivisions in rather than curving it around on any particular line.

Mr. Jourdan testified that the area of subsidence danger is approximately the area from the location of a well projected to a distance equivalent to the depth of the potash zone, in other words, that is the area of average proximate damage from the subsidence due to pillar removal in potash mines.

If the Commission decides to put this land in our R-111-A they have not made any determination as to whether or not an oil well should be drilled. I should like to remind the Commission of

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ALBUQUERQUE, NEW MEXICO



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PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO

its prerogative to protect both the potash measures and the oil measures, and this particular case does not have anywhere near enough evidence in it that the Commission could make any decision on that basis.

R-111-A simply says that some additional notice will be given, and that a particular casing program will be followed, unless that is amended by the Commission, and the Commission has the right, and in some cases has changed the rules of R-111-A on the application of an oil producer. I still say this is irrelevant, but I will make a statement on it because it was raised, the value of the potash measure. In several cases, this has been up, including the Velma case. There have been four or five cases in which the value of potash measure has been testified to by several experts, and that testimony all shows that one acre of four feet of fourteen percent potash has a value in the neighborhood of between forty and forty-five thousand dollars.

Thank you.

MR. WHITE: May I make a short response to Mr. Blackman's statement?

MR. UTZ: Yes.

MR. WHITE: I see what the issues are before the Examiner, but in extending these potash areas, certain equities should be considered as between an oil operator who has gone in and obtained a Federal oil and gas lease which contains no potash stipulations, which I assume, in this instance, was prior to the potash company's



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PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO

obtaining the lease, apparently they haven't even obtained a lease on this yet. And they have testified that 1959 was their biggest production year in history, they established a record; further testified that it would be ten years before they could deplete their present holdings within the present potash area, and they showed no economic necessity for having this expansion at the present time, and we submit that, in view of the fact that they say they are going to have to go ahead and made additional core drillings before they even go in there, they are premature in asking that this area be included in the potash area, and the only purpose is to prevent an oil operator who had acquired a lease prior to the potash company from drilling an oil well in there.

They have already testified that they would object to the drilling of any well where we have mentioned that we would like to drill, and the Commission and Commissioner can take administrative notice of the records of prior cases. In no instance has the Commission ever permitted the drilling of an oil well in a potash area where any potash operator has objected, and they have already stated that they would so object, and, in view of that, why, we believe that their application is premature until they definitely determine there is potash in that area by additional core drilling. And the equities are wholly in favor of Texaco in this instance.

MR. UTZ: Any other statements?

The case will be taken under advisement.



**PHONE CH 3-6691**

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I N D E X

| <u>WITNESS</u>                     | <u>PAGE</u> |
|------------------------------------|-------------|
| EVERETT C. JOURDAN                 |             |
| Direct Examination by Mr. Blackman | 2           |
| Cross-Examination by Mr. White     | 6           |
| Cross-Examination by Mr. Payne     | 23          |
| J. E. ROBINSON, JR.                |             |
| Direct Examination by Mr. White    | 26          |
| Cross-Examination by Mr. Payne     | 29          |
| Cross-Examination by Mr. Blackman  | 31          |

E X H I B I T S

| <u>NUMBER</u>          | <u>OFFERED</u> | <u>ENTERED</u> |
|------------------------|----------------|----------------|
| Applicant's Exhibit A  | (3)            | 32             |
| Contestant's Exhibit 1 | 29             | 32             |

