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Exhibit No. 1 (Robert B. Ottman)	Structure Map - Top Smackover Limestone	52	52
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STATE OIL & GAS BOARD OF ALABAMA

Mobile, Alabama

September 25, 1970

Testimony and proceedings before the State Oil & Gas Board of Alabama, in Regular Session, in the Directors Room of the First National Bank Building, Mobile, Alabama, pursuant to adjournment, on this the 25th day of September, 1970.

BEFORE:

BOARD MEMBERS

Mr. Drexel Cook.....Chairman

Mr. E. O. Eddins.....Associate Member

Mr. Julian Maddox.....Associate Member

BOARD STAFF

Mr. Philip E. LaMoreaux.....Secretary & Supervisor

Mr. Gene White.....Chief Petroleum Engineer

Mr. Thomas J. Joiner.....Assistant Supervisor

Mr. Donald B. Moore.....Geologist

(Reported by Lou M. Chambers)

A P P E A R A N C E S

	NAME	REPRESENTING
1.	Roland D. Taylor New Orleans, Louisiana	Humble Oil & Ref. Co.
2.	R. Ottman Harvey, Louisiana	Humble Oil & Ref. Co.
3.	John J. Metzger, Jr. New Orleans, Louisiana	Humble Oil & Ref. Co.
4.	T. P. Caldwell New Orleans, Louisiana	Humble Oil & Ref. Co.
5.	John W. Goehring Houston, Texas	Phillips Petroleum Co.
6.	E. H. Morrow Shreveport, Louisiana	Phillips Petroleum Co.
7.	N. C. Scaife Jackson, Mississippi	Chevron Oil Company
8.	J. T. Owen Jackson, Mississippi	Chevron Oil Company
9.	John H. Lurry New Orleans, Louisiana	Chevron Oil Company
10.	Lawrence Davis New Orleans, Louisiana	Louisiana Land & Exp. Co.
11.	James B. Miller New Orleans, Louisiana	Louisiana Land & Exp. Co.
12.	Thomas C. Moore New Orleans, Louisiana	Louisiana Land & Exp. Co.
13.	J. B. Miller New Orleans, Louisiana	Louisiana Land & Exp. Co.

A P P E A R A N C E S
(Continued)

NAME	REPRESENTING
14. Donald P. Mitchell New Orleans, Louisiana	Louisiana Land & Exp. Co.
15. John D. Myers Jackson, Mississippi	Placid Oil Company
16. Arden Anderson Pensacola, Florida	Florida Oil & Gas
17. A. C. Frost Houston, Texas	Signal Oil & Gas
18. W. C. Cather, III Birmingham, Alabama	Alabama Gas Corporation
19. X. M. Frascogna Jackson, Mississippi	Patrick Petroleum Corp.
20. Donn E. Young Jackson, Mississippi	Patrick Petroleum Corp.
21. P. L. Driscoll Mobile, Alabama	Mobil Oil Corporation
22. E. Harold Saer, Jr. New Orleans, Louisiana	Scott Paper Company
23. Raymond A. Corcoran Mobile, Alabama	Citmoco Services, Inc.
24. Clarence Turnipseed Brewton, Alabama	First Nat'l Bank, Brewton
25. C. N. Babcock Tallahassee, Florida	Bureau of Geology
26. Robert H. Jackson Mobile, Alabama	Jackson Oil Company, Inc.

A P P E A R A N C E S
(Continued)

NAME	REPRESENTING
27. R. B. Jefferies Citronelle, Alabama	Royalty Owner
28. Rev. A. Richardson Mobile, Alabama	Mobile CAD
29. John H. Douglas Brewton, Alabama	Land Owner
30. Ray E. Loper Bay Minette, Alabama	Land Owner
31. Graham B. Loper Mobile, Alabama	Land Owner
32. Curtis Finlay Pollard, Alabama	Land Owner
33. Vernon J. Main, Jr. New Orleans, Louisiana	Self
34. Lee M. Otts Brewton, Alabama	Self
35. Raymond C. Powell Flomaton, Alabama	Self
36. Martin Powell Flomaton, Alabama	Self
37. E. C. Herbert Double Springs, Alabama	Self
38. Mrs. E. C. Herbert Double Springs, Alabama	Self
39. Stan Atkins Mobile, Alabama	Associated Press

A P P E A R A N C E S
(Continued)

NAME	REPRESENTING
40. Boyd Bailey University, Alabama	Geological Survey of Ala.
41. Dan McKenzie Citronelle, Alabama	State Oil & Gas Board
42. L. C. Boney, Jr Gilbertown, Alabama	State Oil & Gas Board
43. James D. Turner Citronelle, Alabama	State Oil & Gas Board
44. Robert C. Wood Citronelle, Alabama	State Oil & Gas Board
45. Leon Slay Citronelle, Alabama	State Oil & Gas Board

P R O C E E D I N G S

(At 10:00 A.M., September 25, 1970, the hearing was convened in Regular Session.)

CHMN. COOK: Gentlemen, shall we call ourselves to order? As is customary, we will open our meeting with a prayer. Mr. LaMoreaux --

(A prayer was then offered by Mr. LaMoreaux)

CHMN. COOK: Has the meeting been properly advertised?

MR. LaMOREAUX: Mr. Chairman, this meeting has been properly advertised in accordance with law, and I'm going to transmit to the recording secretary, a copy of the notice of the meeting at this time to be included in the minutes. Mr. Chairman, we can proceed with the business before the Oil and Gas Board at this time.

NOTICE OF MEETING

"The State Oil and Gas Board will hold its regular monthly meeting on Friday, September 25, 1970, at 10 a.m. in the conference room of the First National Bank Building, 31 North Royale, Mobile, Alabama, to consider the following petitions:

"1. Petition by Phillips Petroleum Company, a foreign corporation but authorized to do and doing business in the State of Alabama, for the establishment of Special Field Rules for the Chatom Field, Washington County, Alabama, in the Smackover Formation and Upper Haynesville Formation.

"The petition and suggested field rules in this cause are now on file in the office of the State Oil and Gas Board, University Campus, Tuscaloosa, Alabama, and may there be examined.

"2. Petition by Phillips Petroleum Company requesting the State Oil and Gas Board of Alabama to set a daily allowable of oil production for each well producing from the Smackover Formation in the Chatom Field, Washington County, Alabama.

"3. Petition by Humble Oil & Refining Company, a Delaware corporation authorized to

do and doing business within the State of Alabama, requesting that the State Oil and Gas Board of Alabama enter an order prescribing Special Field Rules for the development and operation of the Smackover Oil Pool in the unnamed field in Escambia County, Alabama, herein referred to as the Southeast Flomaton Field, said Field Rules to include a rule prescribing 160-acre quarter-section spacing for said pool; and requesting the establishment of the NW/4 of Section 32, Township 1 North, Range 9 East, as the unit for the discovery well in said pool with the approval of said discovery well as the unit well for said unit as presently located thereon.

"Petitions before the State Oil and Gas Board of Alabama must be represented in person by the petitioner or by his duly authorized agent. In the absence of such representation, the petition before the said Board will be subject to dismissal.

"The Board was established by an act of the Legislature of Alabama in the regular session of 1945, an act that became effective May 22, 1945.

"The public is invited to attend this meeting.

"Philip E. LaMoreaux
Secretary to the Board
State Oil and Gas Supervisor"

CHMN. COOK: The first item on our regular agenda is:

"Petition by Phillips Petroleum Company, a foreign corporation but authorized to do and doing business in the State of Alabama, for the establishment of Special Field Rules for the Chatom Field, Washington County, Alabama, in the Smackover Formation and Upper Haynesville Formation."

Is someone here representing Phillips?

MR. MORROW: Yes, I am.

CHMN. COOK: Would you come forward, please, sir, and identify yourself?

MR. MORROW: I'm E. H. Morrow, geologist for Phillips

Petroleum Company out of the Shreveport office. I believe a letter has been sent to the Board concerning this petition which asks for a cancellation, and Phillips Petroleum Company does propose to ask for a cancellation of this hearing at this time, the reason being that the well which is the discovery for the Chatom Field has not been completely tested as yet. We will file for the next meeting of the Board on this same subject.

CHMN. COOK: It's my understanding that your company asks the withdrawal of this petition without prejudice at this time?

MR. MORROW: That is correct.

MR. EDDINS: Mr. Chairman, I move that the request for withdrawal be granted.

MR. MADDOX: I second it.

CHMN. COOK: It's been moved and seconded that the request for withdrawal be granted. All in favor, say "aye" -- opposed, "no."

(All Board Members voted "aye")

CHMN. COOK: The petition is granted -- the request for withdrawal is granted.

MR. MORROW: Thank you, sir.

MR. WHITE: Mr. Chairman, does that include items 1

and 2 on the agenda?

CHMN. COOK: Only 1. Item number 2 is:

"Petition by Phillips Petroleum Company requesting the State Oil and Gas Board of Alabama to set a daily allowable of oil production for each well producing from the Smackover Formation in the Chatom Field, Washington County, Alabama."

Will you come forward again, sir?

MR. MORROW: Again, I am E. H. Morrow, and the request for item number 2 is the same as for item number 1, asking for cancellation of the petition for essentially the same reasons, and again, inasmuch as the well has not been completely tested as of this date.

CHMN. COOK: Thank you, sir. Do we have a motion on that petition?

MR. EDDINS: I move that the Phillips petition for withdrawal of the request for allowable in Washington County be granted without prejudice.

CHMN. COOK: Is there a second?

MR. MADDOX: I second it.

CHMN. COOK: All in favor, say "aye" -- opposed, "no."

(All Board Members voted "aye")

CHMN. COOK: The petition is granted. Thank you.

(Mr. Morrow was excused)

CHMN. COOK: Petition number 3, we'll ask the Supervisor to read the petition.

MR. LaMOREAUX: The item 3 on the agenda this morning is:

> "Petition by Humble Oil & Refining Company, a Delaware corporation authorized to do and doing business within the State of Alabama, requesting that the State Oil and Gas Board of Alabama enter an order prescribing Special Field Rules for the development and operation of the Smackover Oil Pool in the unnamed field in Escambia County, Alabama, herein referred to as the Southeast Flomaton Field, said Field Rules to include a rule prescribing 160-acre quarter-section spacing for said pool; and requesting the establishment of the NW/4 of Section 32, Township 1 North, Range 9 East, as the unit for the discovery well in said pool with the approval of said discovery well as the unit well for said unit as presently located thereon."

CHMN. COOK: Is there someone present representing Humble Oil Company?

MR. CALDWELL: Mr. Chairman, Members of the Board, my name is Tom Caldwell. I'm an attorney from New Orleans, Louisiana, representing the petitioner, Humble Oil & Refining Company, in this cause.

CHMN. COOK: Thank you. Proceed.

MR. CALDWELL: I have two witnesses to present. If you would like for me to state the nature of the petition and what we here seek first and then swear the witnesses in...

CHMN. COOK: I think that would be fine.

MR. CALDWELL: Some month ago, Humble Oil & Refining Company completed a well known as the T. R. Miller Mill Company No. 1 in Section 32 of Township 1 North, Range 9 East, Escambia County, Alabama. That well was permitted as a gas exploration well aimed at drilling to the Norphlet Formation productive in the Flomaton Field in the same general area immediately northwest of this well site, which well was drilled through the Norphlet Formation and was found dry in the area that is productive in the Flomaton Field. However, in the drilling of that well, we were able to complete a producible oil well in the Smackover

Formation in a dolomitic lime formation. That is the cause of this hearing.

Your rules provide that when a well has been drilled under a gas permit and oil discovery is made, that the unit therefore must be reformed to accord the oil well spacing, and we here seek the approval of a drilling unit and the establishment of field rules for further drilling in the development of the field in which this well is located.

The general purport of our recommendations and the evidence that we will present will show substantially this picture, that this well is completed in a formation that geologically is substantially identical to the formation in which two wells have been drilled and completed south of the Alabama line in the northern part of the State of Florida in what is known as the Jay area.

While we do not yet know positively that the Jay wells and the Southeast Flomaton well are on a connected structure and comprise one producing horizon, all of the evidence that is available to this date indicates that to an extent that our technical people would be considerably surprised if it did not prove ultimately true.

The wells in the State of Florida to which I refer are spaced on 160-acre drilling units. The character of the production from those Florida wells, one of which has been tested rather extensively, the other one was not tested because the data obtainable without a test appeared conclusive enough that it was felt that no test was necessary, and unfortunately, the production in those wells and the production in the Southeast Flomaton T. R. Miller Mill well, which has brought about this hearing, contains hydrogen sulfide in sufficient quantities that it is extremely hazardous to health and welfare and precautions have to be taken in dealing with it and it is not a marketable commodity in its natural state, the result of which has occasioned the regulatory authorities of the State of Florida to consult with us and advise us and in effect inform us that the production would have to be cleansed before the wells could be put on stream in Florida, which we did not object to and concur wholeheartedly with, because we realize what noxious qualities it does possess.

As a result of that, however, we are unable to go on stream with these wells at the present time, and until appropriate arrangements for the cleansing of the production to be had so that it will be marketable.

In view of the economics of the drilling of these wells, in view of the high productivity that has been evidenced in the well test made on both of the wells that have been tested, it is our opinion that a well drilled to this pool, whether it is a part of the Jay pool or whether it is separate and distinct from the Jay pool, will efficiently drain at least a quarter section containing 160 surface acres, and accordingly, we will recommend to this Board the adoption of spacing rules that provide for 160-acre production units, and we will recommend other field rules that in our opinion are necessary and proper for the handling of this hydrogen sulfide crude in a manner that will accord with the soundest production practices and the greatest precautions to prevent waste in the production and any damage resulting from the production.

We have two witnesses that we would like to present.

CHMN. COOK: Mr. Caldwell, a Board Member has a question. Are you going to come back before the Board later or do you want to receive questions now?

MR. CALDWELL: Well, I was going to present my witnesses and their evidence and any questions that you wish to direct to me that I could answer, I'll be happy to answer whenever you have them.

CHMN. COOK: Senator Eddins has a question now.

MR. EDDINS: What was the depth of the T. R. Miller well, the Smackover there that you are producing oil from?

MR. CALDWELL: Let me refer that to my witness, please, sir.

CHMN. COOK: They might as well be sworn in, then.

MR. EDDINS: I'll get to it.

MR. CALDWELL: I can give you an approximate depth, but I can't give you the exact figure. He can.

MR. EDDINS: He can probably answer this. How much gas and how much oil is being produced, is it estimated that they'll produce?

MR. CALDWELL: Well, he will give you the benefit of tests that have been conducted, the gas-oil ratios, the choke size of those tests, all of the information we have now. We want you to know everything we know about this.

MR. EDDINS: I have one other question that I would like to ask. It could probably be answered by one of them. Was any -- during the drilling of these other wells at Flomaton, was it a good oil show in any of them at the Smackover depth?

MR. CALDWELL: Well, I think our geological witness can answer that, too, if you'll put it to him. He's the

first witness I'm going to call, if you're ready.

CHMN. COOK: Well, are there any other questions from the Staff or the Board Members?

MR. LaMOREAUX: I have none.

MR. WHITE: No.

CHMN. COOK: Before you bring your witnesses, Mr. Caldwell, we would like to ask that anyone who is going to give testimony on this particular question, if they'll come forward now and be sworn in.

MR. LaMOREAUX: Any others that will present testimony on this same petition should come before the Board at this time and be sworn in.

CHMN. COOK: Is there anyone here in opposition that would like to be sworn at this time?

MR. MITCHELL: Gentlemen, I am not with the Humble group here, and depending on the testimony that is given, we might either give testimony or make a statement.

CHMN. COOK: That's all right.

MR. MITCHELL: Does that require swearing?

MR. LURRY: Mr. Chairman, I'm John Lurry with Chevron Oil Company. We'd like to make a statement, but no testimony.

MR. LaMOREAUX: Do you want to be sworn? You want

to make a statement?

CHMN. COOK: Do you want to make a sworn statement?

MR. LURRY: Well, my remarks won't be of an evidentiary nature. However, I'll be happy to be sworn.

MR. LaMOREAUX: Why don't you come forward. For the record, could we have each of your names?

MR. MITCHELL: My name is Donald P. Mitchell. I'm with the Louisiana Land & Exploration Company.

MR. TAYLOR: My name is Roland D. Taylor. I'm with Humble Oil & Refining Company.

MR. OTTMAN: My name is Robert B. Ottman. I'm with Humble Oil & Refining Company.

MR. LURRY: John H. Lurry with Chevron Oil Company.

MR. LaMOREAUX: Would you raise your right hand, please?

(Messrs. Mitchell, Taylor, Ottman and Lurry were then duly sworn by Mr. LaMoreaux)

MR. LaMOREAUX: Let it be stated that they were sworn in by the Secretary of the Oil and Gas Board.

CHMN. COOK: Now, Mr. Caldwell, if you'll bring up your witnesses and what evidence you wish to offer.

MR. CALDWELL: I will first ask Mr. Ottman to take the stand.

CHMN. COOK: Mr. Ottman, do you mind offering your qualifications for the record, please?

MR. OTTMAN: I am a petroleum geologist with Humble Oil & Refining Company; have been so employed for a period of 19 years. In that period of time, I have worked in Texas, California, Oklahoma, Louisiana, the general southeastern area of the United States.

I received a Bachelor of Science degree in geology from the University of Texas in the year 1951.

CHMN. COOK: Thank you, sir. Would you kindly proceed.

ROBERT B. OTTMAN

appearing as a witness on behalf of Petitioner, Humble Oil & Refining Company, being first duly sworn, testified as follows:

DIRECT EXAMINATION

Questions by Mr. Caldwell:

Q Mr. Ottman, I believe you have also testified before this Board as the personnel existed at that time in connection with the Flomaton Field in Southeast Alabama and your qualifications were then accepted, correct?

A That is correct.

CHMN. COOK: All right. You may proceed.

MR. CALDWELL: If the Board please, for the convenience of the Board, we have arranged the exhibits that will be presented by these two witnesses of Humble in a package that we've put together, the first three being -- the first three of these exhibits are exhibits to the testimony of this geological witness. The next three will be exhibits to the testimony of our petroleum engineer, and we would like for them to be accepted at least for identification purposes now and after the testimony has been entered, received in evidence.

CHMN. COOK: Thank you, sir. You may proceed.

(Questions by Mr. Caldwell cont'd:)

Q Mr. Ottman, in your responsibilities as a geologist of Humble Oil & Refining Company, does your area of responsibility extend to Escambia County, Alabama?

A Yes sir, it does.

Q Have you had particular responsibility in connection with T. R. Miller Mill Company Well No. 1 recently drilled in the Section 32, Township 1 North, Range 9 East, Escambia County, Alabama?

A Yes sir.

Q Have you prepared or caused to be prepared under your supervision certain exhibits evidencing matters as to

which you intend to testify to portray the conditions that exist in that area as revealed by that well?

A Yes sir.

Q Are those exhibits the first three in the yellow exhibit folder?

A They are.

Q Do those exhibits, in your opinion, accurately reflect and portray the matters that they purport to show?

A To the extent of the data that is currently available.

Q In other words, they represent your best interpretation of all the currently available data?

A Yes sir.

Q How was that well initially drilled, under what sort of plans?

A This well was drilled initially as a well permitted for the Norphlet Formation producing in the Flomaton Gas Field approximately two miles to the northwest on a 640-acre permit.

Q Was that Norphlet Pool Sand tested in this well and what were the results?

A To the extent that it was penetrated and found to be wet, the Norphlet was penetrated in its entirety in the well bottom, what we believe to be salt section.

Q Then what action was taken in the well?

A Following the penetration of the Norphlet, having determined it not to be productive, the casing was set to evaluate the porosity that had been cored in the Smackover Limestone, Smackover interval.

Q In the drilling of that well then, the Smackover section was cored in process of drilling to the Norphlet?

A Yes, it was.

Q Now, what was the status of the core recovery in the Smackover Formation?

A The coring began slightly beneath the top of the Smackover and the entirety of the Smackover was cored at that point. The first cores recovered, dense Micritic Limestone, had no indication of any pay zone whatever. However, in the process of coring, three distinct zones were recognized as having some inherent porosity and permeability accompanied by oil shows.

Q Then was an effort made to complete a well in the porosity evidenced in the Smackover Formation?

A Yes sir.

Q Please state the results of that effort.

A On initial tests of the perforation shown on Exhibit 2, the well flowed at the rate of 479 barrels of oil per

day, 50.2° gravity thru a 20/64-inch choke with a 2192 gas-oil ratio.

Q What then did you do to that well?

A The well was then acidized with 5,000 gallons of acid and then subsequently tested again. The results of that second test appear further on over in the exhibits. The last two tests have the flow rates, flowing tubing pressure, size chokes, gas-oil ratio, all indicated. The flow rate after acidization on the first test was 867 barrels of stock tank oil per day.

Q In your opinion, is this a commercial producer?

A Yes sir, in my opinion, it is.

Q Is this the first well found in the State of Alabama in this formation in this area?

A Yes sir.

Q Are there adjacent producible oil wells in this immediate vicinity?

A In my opinion, there are.

Q What are those wells?

A Excuse me. I didn't understand what your question was. There are two wells that are capable of production, the same geologic horizon, both being located in the State of Florida, the Jay area, the two wells being Humble St.

Regis No. 1 and the Humble Jones McDavid Lands No. 1. Both of these wells are indicated in their proximity on Exhibit No. 1.

Q In other words, even though this well is in effect the first oil well found in the Smackover section in this particular area of Alabama, there are other wells drilled in the immediate vicinity that helped in the geologic determination of what that presents there?

A Yes.

Q Is that portrayed by you on the Exhibit No. 1?

A Yes sir, it is.

Q Will you please explain to the Board just what that Exhibit 1 does show?

A Exhibit 1 is a map on a ~~piece~~ scale of 1 inch equals 2,000 feet on which has been interpreted the structural configuration of the Top Smackover Limestone which will show the structural relation of each of the three wells that we have mentioned and the relationship of the surrounding area. This general interpretation portrays a semi-regional structural nose extending off of the southeastern corner of the Flomaton structure and out into the Jay area.

Q What does the southernmost green dot represent, Mr. Ottman?

A The southernmost green dot is the location of the St. Regis No. 1 well, this well having been perforated and completed in the Smackover.

Q That is the well on which certain test data is proven?

A That is correct.

Q What is the green dot immediately north?

A That is the Humble-Jones-McDavid-Lands No. 1, the well just recently drilled and cased through the same Smackover horizon. This well is indicated from core analysis information also to be productive in the same formation.

Q And the well, the third green dot still further to the north and just north of the Alabama-Florida boundary line?

A The Humble Miller Mill 32, originally drilled as Gas Unit 32, Well No. 1. We since determined, however, that the gas unit designation is not appropriate. It has been completed in the same Smackover horizon as the two wells to the south.

Q Now, the certain wells spotted on the map or dry holes spotted on the map in the northern part, what do they represent?

A There are three wells spotted on the map in the area of

the Flomaton Gas Field. Two of the wells are dry holes and the third most westerly of the three is Humble R. E. Loper No. 1, a well completed in the Norphlet Formation.

Q Those wells are not productive from this pool that we here ask to be identified as the Southeast Flomaton Oil Pool, is that correct?

A Yes sir, that is correct.

Q But those wells do give geologic control in the area that is useful in making interpretations of structure and sand interplay?

A Yes sir.

Q Now, cores were taken in the drilling of all three of the wells that are spotted green on this map?

A Yes sir.

Q Have you been privileged to analyze these cores and the results of tests run?

A Yes sir.

Q What did you find in the analysis of those cores as to whether or not they resemble each other and appear to be from the same formation?

A The cores on the two wells to the south exhibited a slightly greater degree of porosity than the other

well. However, the flow test information from the Miller Mill well indicates the deliverability of that well is in all likelihood very close to the same type of permeability that we found in the wells to the south because of the type of test we obtained in this well after the acidization.

Q Was the appearance of the cores in each of the wells indicative that they were substantially the same material?

A Yes sir, the lithology of the productive formation in the Miller Mill well is almost identical in appearance to that that we found in the two wells to the south.

Q Have you taken into account geological evidence obtained from all of the wells spotted on that Exhibit No. 1 and all the core data information that you had available and all the seismic information that was available to you in this field in making the interpretation that is portrayed on that exhibit?

A Yes sir.

Q Are you of the opinion at this time that the well to the north in Alabama and the wells to the south in Florida are productive from the same pool?

A Yes sir, in my opinion, they are. I obviously can't say

conclusively that they are, but I will, in fact, be very surprised if they turn out not to be. The information that we have at this point in time would indicate the wells are indeed productive in the same stratigraphic interval, they are productive within the same structural range. The lithology is the same and there has been no limitation of any kind indicated between the Miller Mill well and those wells in the Jay area.

Q Now, turning to your second exhibit, Mr. Ottman...

MR. LaMOREAUX: Mr. Caldwell, before you go on to the second exhibit, the Staff may have questions to ask, and I'll lead off.

EXAMINATION BY BOARD AND/OR STAFF

Questions by Mr. LaMoreaux:

Q One, in the diagram that you're going to present as Exhibit 1, I see no definition as to the base that these figures are related to, whether it's mean sea level or assumed data. I assume it's mean sea level, but it is not stated so in the diagram.

A That is correct, Mr. LaMoreaux. It is mean sea level.

Q It is mean sea level? Then in the exhibit submitted, that should be so stated on the exhibit.

A All right, sir.

Q Now, in addition, as relates to these structural contours, are these based on interpretations of geologic information, samples, cuttings, cores and electric logs, or are these interpretations based on the type of information I just listed plus geophysical information, surface geophysical information?

A The interpretations are based on all of the factual evidence that is available to us at this point, which includes cores, cuttings, electric log data and also seismic information that we have in this general area.

Q Did you prepare this or was it prepared under your supervision?

A Yes sir, it was.

Questions by Mr. Joiner:

Q For clarification of the Board Members -- I'm Tom Joiner, the Assistant Oil and Gas Supervisor -- you mentioned when you drilled into the Norphlet, you found it wet. Would you please explain that?

A We actually cored into the Norphlet and had the core analyzed and the determination from the analysis was that it was salt water bearing.

Q You also mentioned that you drilled through the Norphlet and bottomed in salt. At what depth did you penetrate

the salt?

A At approximately 15,615 feet.

Q Do you believe this to be the Louann Salt?

A Yes, we do.

Q Do you have any porosity and permeability figures to give us?

MR. WHITE: That will come later.

MR. JOINER: That'll come in the next testimony?

MR. LaMOREAUX: One more clarification on the illustration, Exhibit 1.

Questions by Mr. LaMoreaux:

Q I think we need a label here on the fault, this symbol that you have in the northeast corner of the exhibit as to what it is. Will you so label this feature?

A Yes sir, we can. This is the fault that occurs actually on the surface in Alabama. This is the projection of that same fault down to the sub-surface depth.

Q I'd like to have that recorded so that it will clearly state what it is.

A Yes sir. (Mr. Ottman so wrote the description on the exhibit.)

CHMN. COOK: Any further questions of Mr. Ottman?

MR. EDDINS: I'd like to ask one.

CHMN. COOK: Senator Eddins --

Questions by Mr. Eddins:

Q Mr. Ottman, are you familiar with all the wells in the Flomaton area?

A Yes sir, I am.

Q Was there any evidence of oil production in the Smackover in any of these wells, that is, paying production?

A Senator, in each of the wells that we drilled in the Flomaton Field, we employed a mud logging unit which would record the characteristics of the mud stream as the well was drilled. There were a few scattered isolated shows in the Smackover in the Flomaton Field, none of which would appear to be commercial either in thickness or in extent, but we did in fact find a few places in the wells in the Flomaton Field that would be indicative of hydrocarbons.

CHMN. COOK: Any further questions by the Board or the Staff of Mr. Ottman?

MR. JOINER: One further question.

CHMN. COOK: Mr. Joiner --

Questions by Mr. Joiner:

Q Again for clarification, Mr. Ottman, you mentioned the lithology of the intervals in the T. R. Miller well being

similar to the lithology in the other two wells in the Jay Field. Would you explain to the Board Members just what you're speaking of when you say the "lithology"?

A The pay interval in all three wells can be described as sucrosic, porous dolomite. The term "sucrosic" merely refers to the texture. In this instance, it would have the appearance that, if you can envision sugar being solidified, brown sugar being solidified, it would be very similar in appearance. The porosity in each of the three wells appears primarily composed of the relationship of ~~Rambahedral~~ Rhombohedral (phon.) Dolomite, and in looking at the porous section through a microscope, it's very easy to recognize each ~~Rambahedral~~ Rhombohedral crystal. The size of these crystals appear to be very similar; as to one core as opposed to another, there could be a few hubs depending on the random formation of such crystalization when this dolomite was formed.

MR. JOINER: Is this questioning just on Exhibit 1 now?

CHMN. COOK: The questioning is of Mr. Ottman.

MR. JOINER: Right, but pertaining to Exhibit 1?

CHMN. COOK: Pertaining to the exhibits that are before you.

MR. CALDWELL: If the tenor of his inquiry is whether or not I have completed my examination, I do intend to go through Exhibits 2 and 3.

MR. JOINER: That answers my question.

MR. CALDWELL: Shall I proceed?

CHMN. COOK: Please proceed, Mr. Caldwell.

REDIRECT EXAMINATION

Questions by Mr. Caldwell:

Q Mr. Ottman, please state to the Board what your Exhibit No. 2 purports to show.

A Exhibit 2 is a cross section that's formed on top of the Smackover Limestone in which we have indicated the comparison of four wells by tracing the electric logs and also by indicating the general lithology of that interval that was cored. This cross section runs from the Flomaton Field from our Humble No. 1 Powe Gas Unit 19, a dry hole drilled by us, to the Humble Miller Mill well presently under discussion, and on to the south, to the Humble No. 1 Jones McDavid Lands and Humble No. 1 St. Regis. This cross section indicates the formations above and below the Smackover, the distances between wells, and in general, the relationship of the producing intervals to each other. The intervals colored purple on this

cross section are those intervals that were found to be porous and productive.

Q Is it your opinion, Mr. Ottman, that the cross section information which is portrayed on that exhibit indicates continuity within the producing formation in this reservoir?

A Yes sir, that factor plus the other factors that we considered in putting all this geologic data together.

Q You have other information not strictly in the field of geology but test information made by independent agencies and gas-oil ratio tests and gravity tests that supply additional information to supplement your geological information, is that correct?

A Yes sir, that is correct.

Q What is that information with respect to the gravity of the oil in this well?

A Here again, we refer to the one of the exhibits farther back. The gravity in three tests from the Miller Mill well indicates a range from 50.2° gravity to 51.2° gravity. The information we have as a result of testing our St. Regis well would indicate this gravity to be in the range of 50.7, so we would say that the gravities of crudes from each of these two wells is quite similar.

Q In fact, you find some range of gravity between wells completed in the same pool, do you not?

A Yes sir.

Q This is well within the range of what you would expect if they were part of the same pool?

A Yes sir.

Q And you also have information as to the composition of this construction, do you not?

A Yes sir. The hydrogen sulfide that was mentioned earlier in this hearing appears to be in the same range in each of the two wells, 11.5%, I believe, in the Miller Mill well, and around 9.7-8% in the Jay area well.

Q And analyses have been made of these cores to determine porosity and permeability within those particular well bores, have they not?

A Yes sir, they have.

MR. LaMOREAUX: Mr. Caldwell, may I ask a question? Is this testimony now as related to these last two or three exhibits for the purpose of correlation or is it related to the presentation of engineering data?

MR. CALDWELL: My purpose is to show that he has had available to him for the expert opinions I now wish to solicit from him relative to appropriate spacing in this

reservoir, his concept of what that is, taking into account all factors that are available to his information.

MR. LaMOREAUX: Now, will you introduce engineering -- do you have engineers here to present the second testimony?

MR. CALDWELL: I intend to present to the Board the expert testimony of a geologist and of a petroleum engineer as to the ultimate questions of what is appropriate spacing in the field rules. I intend to present the geologist for the basic geologic information and the engineer for the basic engineering information, but expect the expert opinions that they express to be based upon all data of which they are informed.

MR. LaMOREAUX: Fine. We were in question about this matter. That's fine. Proceed.

(Questions by Mr. Caldwell cont'd:)

Q Now, Mr. Ottman, based upon the entirety of the information that you have obtained in connection with this reservoir as to the character of the reservoir rock, the porosity and permeability, the character of the production, the character of the structure, and all other matters, please state whether or not in your opinion a well drilled on a quarter section containing approximately 160 contiguous surface acres and located

at a point no more distant than 660 feet and no closer than 660 feet to the exterior boundary of a drilling unit will efficiently drain the recoverable hydrocarbons from that unit in the Smackover?

A Yes sir, in my opinion, it certainly will drain 160 acres.

Q Would you care to elaborate on that? Is that a close question or do you feel complete assurance in that respect?

A I think there's a good chance, if time were not a factor, the wells would drain in excess of 160 acres.

Q Taking into account the time, reasonable depletion rates, you say 160 acres for a section is...

A Yes sir.

Q Appropriate spacing which you would recommend?

A Yes sir, that is correct.

Q Is it your opinion that promulgation of rules providing for such spacing will protect the correlative rights of the owners in this pool and will prevent waste?

A Yes sir.

Q Is that your opinion, Mr. Ottman, whether this well in Alabama is a part of the reservoir from which and the same pool from which the wells currently are

capable of producing in the State of Florida, or whether they are separate from those wells?

A Yes sir. Whether it ultimately turns out these wells are in the exact same reservoir or whether they turn out to be in separate reservoirs, I would not qualify my idea that 160 acres would be the appropriate spacing. I think a well located in this reservoir has the capacity to drain a 160-acre area.

Q Mr. Ottman, is it important, in your opinion, if this well should be productive from the same reservoir as those in the Jay area, that similar spacing and similar regulations and provisions should be adopted to regulate the production from both?

A Yes sir. I would say...

Q What is the current spacing in the State of Florida?

A The State of Florida has spacing for 160-acres, oil spacing, and I would say that whatever spacing is adopted for this field should certainly be the same across both sides of the state line.

Q If it is productive on both sides?

A Yes sir.

Q In your opinion, it is productive?

A In my opinion, it is productive on both sides.

Q Mr. Ottman, would you please state to the Board what your third exhibit is?

A The third exhibit is a plat of six sections around the Humble 32-2 Miller well depicting the 160 acres we would attribute to the proration unit for this well to be assigned an allowable.

Q You have six governmental sections reflected on this plat in the State of Alabama. Why do you have these six sections represented?

A These six sections are on this exhibit simply to show the area that may be affected by the development of this pool in this area. Certainly, the limits of the reservoir are not as yet defined, but it would seem logical that these areas surrounding this proposed 160-acre unit would be the area most likely to be affected in such reservoir development.

Q Now, nominating six sections does not necessarily imply that all acreage in those six sections will prove productive in this field?

A No sir, it does not.

Q And also it does not indicate that only those six sections may prove productive?

A No sir, there's no limitation implied here at all.

Q Let me ask you if, in your opinion, this would be an appropriate definition to be included in the field rules to define what we are here calling the Southeast Flomaton Field: "The Southeast Flomaton Field as used herein is the area of Sections 28, 29, 30, 31, 32, and 33 of Township 1 North, Range 9 East, Escambia County, Alabama, including all productive extensions thereof that are underlain by the Smackover oil pool."

A Yes sir, I would agree with that.

Q Now, let me ask you in that connection if this, in your opinion, is an appropriate definition of the Smackover oil pool to which reference is made in the definition: "A Smackover oil pool as used herein shall mean that accumulation of oil and gas encountered at a depth of 15,253 feet to 15,544 feet in the Humble et al T. R. Miller Mill Company Unit 32, Well No. 1, located in the Southeast Quarter of the Northwest Quarter of Section 32, Township 1 North, Range 9 East, Escambia County, Alabama, and all hydrocarbons in communication therewith."

A Would you mind giving me the depth again, please, Mr. Caldwell?

Q The depth I have of 15,253 to 15,544 feet.

A Yes sir.

Q You mean by that "yes sir" that your response to the question is yes, you consider that...

A I consider that an appropriate definition of the Smackover in that well, yes sir.

Q And you have also testified, I believe, already that in your opinion, governmental quarter sections spaced within this area, the rule of 660 feet on well locations within the drilling unit is, in your opinion...

A Yes sir, that is my opinion.

Q Mr. Ottman, the discovery well being drilled pursuant to the gas well spacing does not accord to your proposals in connection with the location of a well on a drilling unit under the rules that you propose, is that correct?

A I'm sorry, I didn't understand the question.

Q I say, the locations that you are recommending rules that provide for wells to be located at least 660 feet from the nearest exterior boundary of a drilling unit?

A Yes sir.

Q The well, the discovery well in Alabama in this pool is not located that great a distance from the nearest

exterior boundary of the drilling unit?

A No sir.

MR. CALDWELL: In this connection, if the Board please, I would like to offer by reference the plat that is contained in the Board's records as to the location of this well, which, for the information of all and tied to this proposed drilling unit in the Northwest Quarter of the Section, is 612.8 feet West of the East Line and 459.3 feet North of the South Line of the Northwest Quarter of Section 32.

(Questions by Mr. Caldwell cont'd:)

Q Is it, in your opinion, appropriate for that well to be approved as a unit well for a unit comprised of the Northwest Quarter of Section 32 in the Smackover Formation?

A Yes sir, it is. Frequently, when a field is discovered, subsequent rules are established as special field rules for that field which cause the original discovery well to be an exception to those rules. However, this well has been drilled prior to the proposal of these rules, and we feel these rules are reasonable, that the location of this well off of the unit line will not cause any undue hardship, the production of this well being

designated as the producing well for that 160-acre unit.

Q If the wells are produced ratably or pursuant to an allowable established by this Board, will that drilling unit derive any undue advantage over any other drilling unit by virtue of the off-center location of that well?

A Not that we can recognize at this time, no sir.

MR. CALDWELL: I believe that's all I have of this witness.

CHMN. COOK: Senator Eddins has a question for Mr. Ottman.

REEXAMINATION BY BOARD AND/OR STAFF

Questions by Mr. Eddins:

Q Do you have the oil rights on the land south of this area that you're asking as a drilling unit?

A Yes sir, we do.

Q How about all around it?

A Do you mean in 360°, Senator?

Q In Section 32.

A Do we have the rights all around this particular unit?

Q Yes, east of it, at least.

A We own the J. W. Kelly lease to the west. This lease that the well is drilled on designated as Clarence G. Kelly lease is a Humble lease. I have a little problem

recalling at this point as to the specific ownership of those small tracts in the Northwest of the Northeast of Section 32.

Q I see.

MR. CALDWELL: I might answer this way, Senator, that we don't own all of the acreage in the section in a lease nor in adjacent sections. We have interests and others have interests in nearly all of the acreage in this immediate area.

Q I notice the State has some land there in Section 32?

MR. CALDWELL: I expect there's a -- does the river flow through there? If so, I'm sure there is. There may be other State ownership without the river. It could be true, yes sir.

Q But you do have the Kelly tract?

A (Ottman) Yes sir.

Q How about the T. R. Miller? It looks like it extends over in Section 32.

A Yes sir, I believe we do own the Miller Mill tract also.

MR. CALDWELL: Yes.

Questions by Mr. Maddox:

Q You made a statement, said at this time, you do not think it would affect the drilling rights or privileges

of other people who might drill. What do you mean by "at this time"? I believe that is the statement you made.

A That we can see no inequity at this point in time for this well to be located 403 feet North of the South Line of this proposed unit.

Q I notice you've got two wells in Florida. Why did you drill two wells instead of doing the same thing in Florida that you're requesting in Alabama?

A I'm not sure I understood the nature of your question.

Q I believe you have two wells of your company's in Florida down there in the Jay area?

A Yes sir.

Q I wonder why you didn't do the same thing you're requesting us to do in this area that you're requesting us to do, make one well into 160 acres...

MR. CALDWELL: We intend to. Those are all separate 160-acre tracts in Florida.

Q Do you know what Louisiana has on spacing?

A The State of Louisiana is not on the lease basis on 40-acre spacing. However, unitization is a factor in Louisiana wherein when a pool is developed, the total reservoir in many instances is put into a common produc-

ing unit.

Q Do they give anybody drilling rights on 160 acres in Louisiana? I mean, would it be prohibited or allowed or do not allow it? I'm not questioning it. I just don't know.

A There are so many varieties of situations that occur that being able to give you one specific answer to your question is not that straightforward.

Q If you did this, put your well where you're talking about on this 160, would each one of these people in this immediate area be getting their rightful part of the royalty or would these people up in this, say, in this extreme corner be getting the same amount of pro rata that you get out of the well, or suppose they don't have any oil up there much that they have down here? I believe you said you drilled some up in this area that were dry holes?

A Yes sir.

Q I would like...

MR. LaMOREAUX: Mr. Maddox, could I ask a question here and perhaps clarify what you would like to know. Are you talking about if this well is located and 160-acre spacing designated in this Exhibit D-3 in the location

that is designated, will the correlative rights of the property owners throughout the 160 acres be safeguarded. Is this what you're asking?

MR. MADDOX: I don't -- I'm asking -- you've got oil here?

MR. LaMOREAUX: Right.

MR. MADDOX: Apparently you didn't strike much success up there. This man will be getting as much royalty as this man?

MR. EDDINS: No sir.

MR. CALDWELL: No sir. Only the owners within the 160 acres that is placed in the drilling unit will share in the production from the drilling unit.

MR. MADDOX: Well, isn't this up there on 160 acres?

MR. CALDWELL: Oh, no, no. Maybe we didn't -- if you will turn to his Exhibit No. 3, you will see this drilling unit set up. The other covers a good many sections.

MR. MADDOX: Now I've got you right here.

(There was a brief off-the-record discussion between Messrs. LaMoreaux and Maddox)

MR. JOINER: Mr. Chairman, could I ask a question?

CHMN. COOK: Mr. Joiner --

Questions by Mr. Joiner:

Q Mr. Ottman, I notice the cross section on Exhibit 2, I

believe you said hung on the top of the Smackover, is a very nice way to present exactly what the thickness of the formation and the intervals of porosity are doing between the Jay Field in Florida and the discovery well in Alabama. In looking at Exhibit 1, I think you're indicating by your structural contour that there's a possibility of a saddle between the Jay Field and this discovery well in Alabama. Is this correct?

A Yes sir.

Q And in looking at the elevation for the top of the Smackover, I see that the elevation of the top of the Smackover in the T. R. Miller well indicates that the T. R. Miller well has the highest occurring Smackover of the three wells in green on that map, is that correct?

A Yes sir.

Q By virtue of having hung this cross section and the Anhydrite on top of the Smackover, it's hard for me to develop a feeling of the relationship as far as the elevation of the porosity, and I wondered if you could tell me which of the three wells have the highest porosity?

A The Jones McDavid well had the highest sub-sea porosity at the elevation, and the elevation had a sub-sea value

on top of the porosity in the Jones McDavid, 15,214 feet.

Q All right. Here in the T. R. Miller well, it was 15,380, is that right?

A Not sub-sea. Sub-sea is 293 -- 15,293.

Q 15,293?

A Yes sir. I'd like to make one comment with respect to one of the questions the Board Member posed a while ago, and that is the question as to what happens in Louisiana. There is a statute in the State of Louisiana, one of the Regulations No. 29-E which gives the basic 40-acre pattern for oil development. There are also other statutes which give larger spacing, like the 29-H Regulation whereby you can get 80-acre spacing. So all I'm trying to say is that there is a complex situation in the State of Louisiana, but nevertheless, 29-E is considered your basic oil spacing.

CHMN. COOK: Just a minute -- Mr. White?

MR. WHITE: Some of these questions have probably already been covered, but I'll just...

Questions by Mr. White:

Q I believe you testified that Exhibit 1 was prepared

under your supervision?

A Yes sir.

Q Were Exhibits 2 and 3 also prepared by you or under your supervision?

A Yes sir.

Q Mr. Ottman, are you familiar with the oil and gas laws of the State of Alabama?

A Yes sir.

Q Was this well below the depth of 9,990 feet?

A Yes sir.

Q Will the granting of this petition prevent waste as that term is defined by the statute of Alabama?

A Yes sir.

Q Will the granting of this petition prevent the drilling of all unnecessary wells as that term is defined by the statute?

A Yes sir.

Q Will the granting of this petition protect the co-equal and correlative rights of owners of interest in the Smackover pool in this field as that term is defined by the statute?

A Yes sir.

MR. WHITE: Thank you.

CHMN. COOK: Anything further, gentlemen -- Staff?

(No response)

CHMN. COOK: Thank you, Mr. Ottman.

(Witness was excused)

CHMN. COOK: Do you want to call your next witness, Mr. Caldwell?

MR. CALDWELL: Mr. Chairman, I would like to have Exhibits 1, 2 and 3 received in evidence.

CHMN. COOK: The Board will receive those named exhibits for that purpose.

(Whereupon, documents identified as Structure Map - Top Smackover Limestone, North-South Cross Section, and Land Ownership Base Map were received in evidence as Exhibits 1, 2 and 3, respectively, to the testimony of Robert B. Ottman.)

CHMN. COOK: Mr. Caldwell, will you introduce your witness and have your witness state his qualifications?

ROLAND D. TAYLOR

appearing as a witness on behalf of Petitioner, Humble Oil & Refining Company, being first duly sworn, testified as follows:

DIRECT EXAMINATION

Questions by Mr. Caldwell:

Q You are Mr. Roland D. Taylor?

A Yes, that is correct.

Q Are you a petroleum engineer employed by Humble Oil & Refining Company in its New Orleans office?

A I am.

Q And you have responsibility in your employ for petroleum engineering related to the Escambia area of Alabama?

A Yes, I do.

Q Will you please state to the Board your educational qualifications and background experience that qualifies you as a petroleum engineer?

A I graduated from the University of Missouri in 1953 and thereafter was employed by Humble as a petroleum engineer. During the last 15 years, I have been in New Orleans working with Alabama, Mississippi and Louisiana property. During this time, I have appeared before the regulatory agencies of Arkansas, Louisiana and Mississippi, and before this Board also, where my qualifications as a petroleum engineer were recognized.

MR. EDDINS: His qualifications will be accepted.

Q (Caldwell) Mr. Taylor, we have offered a booklet of exhibits here which include Exhibits 1, 2 and 3 to your testimony. Were those exhibits prepared by you or under

your supervision?

A Yes, they were.

Q And do they, in your opinion, accurately reflect the information that is purported to be portrayed thereon?

A They do.

Q Turning to your Exhibit No. 1, will you please explain to the Board just what that exhibit is?

A This is an exhibit showing the results of testing of the T. R. Miller Mill Company Unit 2, Well 1, during the final completion stages of this well, noting at the top the perforated interval of the well. This is from 15,380 feet to 402 feet. The next section is from 15,436 to 452, and the next is from 15,460 to 470. The three vertical columns of figures are the test information. These tests were made September 10th and 11th. The most important information on these, I feel, is the three figures in the middle part of the exhibit, the first being the flowing tubing pressure, the next being the oil rate in stock tank barrels per day, and the third being the gas-oil ratio in cubic feet per barrel. I direct your attention to the star by tests 2 and 3. This is the result of testing the well after it was acidized. You will note that the effect of this was

to increase the flowing tubing pressure and it was possible to reduce the size of the choke, but yet after acidizing, the well produced 867 barrels per day as compared to 479 barrels before acidizing.

Q That second test was through what size choke, Mr. Taylor?

A It was through a 12/64-inch choke.

Q And does this exhibit reflect the pressure draw down that was experienced at that rate?

A No, it does not show that, but I can give you the information. In the second test, there was a draw down of 340 pounds in well head pressure.

Q Will you go a little further with that statement? What is the significance of producing at that rate with that pressure draw down?

A This shows to me that this well has unusually high productivity.

Q Are you familiar with the tests, comparable tests, that were run on the discovery well in the Jay area in Florida immediately to the south?

A Yes, I am.

Q What did that well test indicate in connection with the productivity of that well?

A It also was a well with very high capability.

Q In other words, does it affirmatively appear here that this reservoir is capable of giving up high quantities of production?

A Yes, it does.

Q Turning to your second exhibit, will you explain to the Board what is portrayed by that second exhibit?

A This is an exhibit showing the results of the total laboratory analysis of the cores obtained from the T. R. Miller Mill Company well. These three columns are headed at the depth from which the sample was obtained. The next is the permeability which is the ease with which fluids may flow through the reservoir material, and the third is porosity which shows the ability of the reservoir rock to hold materials. I have tabulated at the bottom of the page the arithmetic average of these samples. 7.4 is the average millidarcy and 13.7 is the average porosity. Now, these samples I have tabulated here are for all cores with one millidarcy for greater permeability.

Q And your Exhibit 3 shows what evidence?

A Exhibit 3 is the results of chemical analysis of the produced separator gas again from the T. R. Miller Mill

Company well. The hydrogen sulfide is 11.4%, carbon dioxide is 5.4%, nitrogen is 1.9%, and the remaining 81.3% is hydrocarbon gasses.

Q Is that tabulation of the components within this well stream of the Alabama well substantially identical to the same information relative to the two wells or the one well that has been tested in the State of Florida in the Jay area?

A Yes, it is. The St. Regis well was sampled.

Q What, Mr. Taylor, is the significance of the hydrogen sulfide content in this production?

A That it must be cleaned to be made usable.

Q Will you elaborate a little bit on that answer?

A The hydrogen sulfide content by far exceeds the specifications that pipelines will accept or that any of us would want to burn in our home.

Q Does that in your opinion require for ordinary prudence and safety the employment of unusual care in your drilling, equipping and handling of the production that is encountered from this pool?

A Yes. It requires caution and care in the operation and use of this resource.

Q Does it in your opinion require cleansing in order to

make it marketable?

A Yes, it does.

Q Mr. Taylor, at what depth is this production encountered in this well?

A At this well, being the Miller Mill Company's well, it is encountered between the depths of 15,380 and 15,470. That is the perforated interval from which this production is obtained.

Q That's a pretty deep well, isn't it?

A Well, yes, I would say so.

Q Approximately how much time does it take to drill a well to that depth and complete?

A The Miller Mill well required 65 days.

Q Was that drilled without any mishap?

A It was. It was drilled in a shorter than normal time.

Q What is the approximate range of the cost of wells drilled to this depth in this area?

A The range of cost has been up to as high as one and a quarter million dollars. This well cost about $540,000, this well being the Miller well, 32 well, and when I say range, I'm talking about the experience of drilling the wells in the Jay area, Southeast Flomaton and the Flomaton area.

Q Now, Mr. Taylor, have you participated in analyses and discussions in connection with the requirements that are involved to make this production marketable?

A Yes. There is now being installed a facility in Florida to cleanse this production and make it merchantable.

Q What is the size of that unit?

A The size of that unit is to clean 2,000 barrels of oil per day.

Q That was a unit acquired and moved to the site, and supplemented at the site to enable some production to be had as quickly as possible?

A Yes. It is an existing facility that is being moved and modified to be useful here in this field.

Q Is that considered a permanent answer to the problem of cleansing the production from this pool?

A It would be a permanent answer insofar as its capability is concerned, that is, barrels per day of production that will flow to it.

Q If the production from the pool is substantially in excess of the capacity of that plant, it will be inadequate to handle that production?

A Yes, it will be inadequate to handle in excess of the

designed capacity.

Q In your opinion, just for present purposes, is the deliverability of this reservoir without waste considerably above the capacity of that plant?

A Yes, in my opinion, it is.

Q Will that then require that additional facilities be installed and constructed or additional arrangements be made for the cleansing of the production from this reservoir?

A Yes, if it is proven to be as large as, of course, we all hope it will be, there will have to be additional facilities made available to cleanse the production.

Q Will those facilities result in increasing substantially the cost per well of the production from this field?

A Yes. There will have to be substantial additional investment made for each well here, its pro rata part of the facility installed to make this production merchantable.

Q Mr. Taylor, in your opinion, is it imperative that this production be cleaned or treated before it is or can be marketed?

A Yes, in my opinion, it should be cleaned before it is

marketed, made marketable.

Q With the limitations on the productivity to which you've testified resulting from the necessity to clean the production and the limited capacity of the plant that is currently being installed which is the only installation currently being installed to cleanse it, and the high productivity of the wells tested particularly with relation to the low capacity of that unit, is it your opinion that it is essential that wells producing to that unit produce ratably in order for the correlative rights to be protected?

A Yes, I believe the wells should be produced ratably to the cleaning facilities installed.

Q Is it your opinion that those wells must, in the event there are plural wells producing to the unit, that they must be produced below their actual capacity to produce without waste in order that they will not use a greater proportionate part of that unit capacity than their rightful share?

A Yes, in my opinion, they should be produced at a rate less than what they could produce efficiently so that this production can be cleansed.

Q You have heard the testimony of the geologic witness

who preceded you here as to the geological factors that are applicable to this pool?

A Yes, I have.

Q Taking into account those geological factors and all of the engineering evidence to which you have testified here, please state to the Board in your opinion what is an appropriate drilling unit for establishment in this field?

A In my opinion, 160 acres is an appropriate drilling unit on which to space this field.

Q That is the equivalent of a governmental quarter section?

A Yes.

Q Is it your opinion, Mr. Taylor, from everything you know and everything you have heard that spacing on the basis of 160-acre quarter section drilling units will protect the co-equal and correlative rights of all owners in the pool and prevent waste?

A In my opinion, it will.

Q What do you recommend as to the distance from the exterior boundary of the drilling unit within which a well location should be confined?

A 660 feet.

Q Now, Mr. Taylor, are you familiar with Rules 4, 5, 6, 7, 8, 9, 10, 11 and 12 that are contained in this proposed order that I hold in my hand now and which I will submit to the Board as a recommended order for adoption?

A Yes sir, I'm familiar with it. I participated in the writing of those rules.

Q To what broadly do those rules apply?

A Broadly they apply to the spacing that we propose here, the casing requirements and cementing requirements, the assignment of allowable, and we propose that this be on an acreage basis of the particular units, the permissible daily tolerance production and monthly tolerance, and lastly, to the measurement of production, equipment for tests and the use of meters, and the 13th and last being or requiring that this production be cleaned before it is made salable.

Q And the last one in effect, does it not, well, I'll read the last one:

> "It is hereby expressly provided that no well completed in the said Smackover pool shall be permitted to produce except for test purposes other than to an installation

or plant designed and equipped to cleanse the hydrocarbons of the hydrogen sulfide contained therein sufficiently to eliminate toxicity and make the oil and gas acceptable to market, any such facilities to meet the applicable standards for air and water pollution control."

Is it your opinion, Mr. Taylor, that that is an appropriate and essential provision of these rules?

A In my opinion, it is.

Q The other rules track pretty well, do they not, the normal rules contained in an order of field rules promulgated by the State Oil and Gas Board of Alabama in other cases?

A Yes, in my opinion, it's normal.

Q With such modifications as in your opinion are appropriate for this field?

A Yes sir, that's correct.

Q And as I understand you, your testimony is that in your opinion those rules are appropriate to be adopted in an order regulating the production from this particular field?

A Yes, in my opinion.

Q Mr. Taylor, do you agree with the conclusions expressed by the geological witness who preceded you that it is important, if this pool is a part of the same pool as is productive in Florida, for the same general spacing rules to be applied in both states?

A Yes, in my opinion, it's very important that the same rules apply to both of the states that this pool we hope will be proven to be within.

Q In other words, the rules we are now proposing for Alabama we think are appropriate to be proposed to and adopted by the State of Florida as well?

A Yes sir.

Q To the extent that they need adoption by the State of Florida or not already in force there?

A Yes sir.

Q Do you also believe that the expert opinion expressed by the witness who preceded you that the approval of the existing well on a drilling unit in compliance to the Northwest Quarter of Section 32 as the unit well for that Northwest Quarter of Section 32 should be approved as it is?

A Yes, I believe it should be.

Q Would that eliminate the waste incident to the drilling

of another well to that depth and the materials and surface acreage and all other excessive use that would be involved?

A Yes, it would.

Q Is it customary where necessary for an exception to be given to a discovery well?

A Yes, it is.

Q Is it your opinion likewise that the approval of that well as located on that section will not give to that drilling unit an undue advantage over the other drilling units competitive thereto?

A That well will not enjoy any advantage.

Q Are there any other particular provisions of the proposed field rules that you have testified with respect to that you think should be called to the attention of the Board?

A None that I see.

MR. CALDWELL: I'll tender the witness for any questions you have.

CHMN. COOK: Any questions by the Board or Staff?

MR. WHITE: I have some.

CHMN. COOK: Mr. White --

EXAMINATION BY BOARD AND/OR STAFF

Questions by Mr. White:

Q Mr. Taylor, I will take these exhibits one at a time. I will have some questions on those. I now refer to your Exhibit 1 to your testimony. I note that the well flowed at approximately 479 barrels of stock tank oil per day with a gas-oil ratio of 2,192 cubic feet per barrel. Following the acid job, the well flowed at some 867 barrels per day, gas-oil ratio only 1,411 cubic feet per barrel. I was wondering if you could explain the significance of this reduction in gas-oil ratio for the prevention of waste and the proper utilization of reservoir energy?

A To me this is probably the result of -- if you'll notice the tubing pressure being 700 pounds, that due to the reduction of the pressure to that point that the area in the vicinity of the well bore may well have been and I expect it was below the saturation pressure of this crude. Now, this saturation pressure we have determined from a laboratory analysis is 2,920 pounds at reservoir conditions. In any event, I feel like that the two latter tests there, one at 1,411 and the other one at 1,424, shows the present true producing

ratio of this well.

Q Would you, again on your Exhibit 1, would you compare the physical appearance of the oil, that is, what color it is, what it looks like, and so forth, gravity, gas-oil ratio, water cut, et cetera, of the Miller well with the Jay wells?

A The Miller well and the Jay wells? I don't believe I put into the record the produced gravity of the St. Regis well. It was 50.70°. You will note that the gravity of the oil of the Miller well during this test varied from 50.2 to 51.2° API. This is amazingly similar. The produced ratio, that is the gas-oil ratio, was likewise very close. The initial potential of the Regis well was 1,253 cubic feet per barrel whereas these tests that I think are representative of the current condition of the Miller well was 1,411 and 1,424 cubic feet per barrel. Again, very close one to the other.

Q Did you acidize the St. Regis well?

A No, we did not.

Q Will you compare the porosities and permeabilities between the Miller well and the St. Regis well?

A The average porosity, and in all cases here I will

refer to the value applicable to the cores with greater than one millidarcy of permeability, the average porosity in the Miller Mill well was 13.7%, in the St. Regis well was 15.8%, and in the Jones McDavid was 15.6%. The permeability of the St. Regis well, the average was 101 millidarcys. Jones McDavid was 38 millidarcys, and the Miller well, 7.4 millidarcys.

Q I think it would be well, Mr. Taylor and Mr. Caldwell, if we could discuss briefly the economics of drilling and producing wells at this depth in this area on spacing less than 160 acres, that is, could it be done on 40-acre spacing, what would be the general economics of producing wells on various spacing patterns.

A The recovery that we would anticipate from this reservoir material, taking into consideration what we know about it, I would expect to be around 120 barrels per acre foot. This Miller Mill well encountered a 22-foot section. This recovery for a 160-acre unit would be 426,000 barrels. The cost of drilling the wells here, the average that I would expect to be applicable, taking into consideration more specifically the last three wells drilled, I would expect to be $620,000.

At the time the additional facilities are installed that will be required to be installed to make this material clean and usable, this cost per well I would hope would be able to be put in for $400,000 a well. This puts a value in excess of a million dollars on each well based on this 160-acre spacing. The value of materials that I would expect to be produced would have a value of all the oil, the gas, the sulfur, after it's cleaned and made usable at $2.88 a barrel, giving a value of the recoverable material at a million and two hundred thousand dollars. This gives a residual, what we might call a gross profit of about $200,000 per well. This is a very low profit to investment ratio, something like .2 to 1. At any density of drilling less than this 160 acres we propose, the economics would be very poor, as I'm sure you recognize. This, to be applicable to be developed, I feel it's imperative that it be on 160-acre spacing.

Q Just straightforward, would it be possible to drill a well and make a profit on any spacing less than 160-acre spacing?

A Based on the sand thickness that we encounter here in this well, the Miller well, and the recovery we expect, no.

REDIRECT EXAMINATION

Questions by Mr. Caldwell:

Q In fact, Mr. Taylor, isn't it necessary under your figures which you've just stated for the entirety of 160 acres of reserves in this pool to be devoted to this one well for it to break even, and anything less, of course, would necessarily be a substantial loss?

A Yes. I'm contemplating the entire 160 acres as to being underlain by 22 feet of sand, and of course, we all recognize, we think in our minds about Mr. Ottman's exhibit, there were some dry holes drilled in the Flomaton area, and I know there will be some in this area before we're finished with defining it.

REEXAMINATION BY BOARD AND/OR STAFF

Questions by Mr. White:

Q Do I understand that the gas will be marketed after the cleaning process?

A That is what we propose. This is what we envision now. Those arrangements have not been completed though.

Q You don't anticipate commercial production prior to arrangement for marketing the gas, is that correct?

A And cleaning.

Q I'm asking you if you intend to produce the wells and

flare the gas except for testing purposes?

MR. CALDWELL: May I answer that?

A I believe Mr. Caldwell could answer better than I.

MR. CALDWELL: It's not in the range of any particular expertise. It's just a question of where we are in negotiations. We have made arrangements for a part of the gas to be handled only because the stage of commitments now, we made a deal on what we then were looking at. It is our expectation that everything of value within the entire well stream will be produced.

Q I would like to ask, and I think this is an awfully important point since this will involve the transportation of a hazardous material across a state boundary, Mr. Caldwell, I might ask you this, or anybody else that can shed some light on it, would this involve invoking the Federal Pipeline Safety Act? Will it involve -- what's the agency -- the Pipeline Safety Agency? Will this involve the Federal Agency, because it is a hazardous material and it is going across the state line?

MR. CALDWELL: It could well involve the Federal Agency if it is transported across state lines.

Q I understand that it will.

MR. CALDWELL: We have not quite gotten to the point

where we are sure that's going to take place, but if it does take place, I may say that our plans for transporting this are going to be plans that would satisfy the most rigid of demands of any regulatory agency.

MR. WHITE: I think that's all I have, Mr. Chairman.

CHMN. COOK: Mr. Eddins has a question of Mr. Caldwell.

(EXAMINATION OF TOM CALDWELL)
Questions by Mr. Eddins:

Q Mr. Caldwell, can you give any estimate of when you expect to start selling the products from the Flomaton Field?

A From the Flomaton Field?

Q Yes sir.

A Well, we have been negotiating in two directions in the Flomaton Field. One, laying plans to construct by the unit operators in Flomaton a cleaning and processing plant there capable of doing substantially the same thing that ultimately will be done here, but more involved because of the different character of the production. We have also had some negotiations looking toward the possible sale to a third party of the production as is so that that third party would undertake the cleaning and further handling of the production.

We have not yet finalized in either direction, but the negotiations in both directions have moved to such a point that they should be finalized within the very near future.

Q Well, even after they're finalized, how long do you estimate it will take to start selling this product, to build the plant and get it moving?

A I think it's going to be in the range of a year and a half. Either way you go, it's sort of like this, that there's got to be a plant built. The problem over there has been like it is here, the sizing of the plant, there are a whole lot of these things that you need to know this to make a decision here and you don't know it. You need to have this decision made for this. We do not know the full area that will be productive to define this Jay Field, for example.

Q Well, I'm talking about Flomaton now.

A I know it, but I was comparing the two in this respect. Now, at Flomaton, if you remember, there are nine wells drilled and producing in Flomaton, eight in one area and one off in another in the northwest part of the field, and the deliverability that that reservoir can make and maintain or sustain has great bearing on the size

of the facility that is installed and just how complete a facility it is, as to whether it processes to the Nth degree or whether it stops some place short of that. Now, those decisions, I think, have basically been made, that the most efficient and thorough treatment will be given to the production so that as in this field, we intend for everything that can be gotten out of it in value to be gotten, but the determination of those things and the efforts to determine the size of the plant that was needed and the size of the vessels and the flow lines and all of that sort of thing, and build and put together the specifications, has just been a real big job.

Q I understand it's been a big job, but the time has arrived when a lot of these people, especially folks my age, don't believe they're going to get any money out of it.

A Well, I'll say this. We've got 10 or 12 million dollars invested in there that we're not getting a dime out of, and if you know what effect that has on people responsible for the sensible use of money, they're tearing their hair to get some money out of it.

Q Yes, I understand that, but an individual compared with

Humble Oil Company and these other oil companies is a little bit different.

A Well, let me say this, that in respect to anxiety to begin to realize on that field, I don't think there is any difference. We're about as anxious as an individual, and I hope it won't be too long before we know in which direction we are going.

MR. MADDOX: Can I ask you a question?

MR. EDDINS: Mr. Caldwell, Mr. Maddox wants to ask you a question.

Questions by Mr. Maddox:

Q To put this plant you're talking about, is it finalized that you're going to put it in Florida? Why not Alabama or why...

A Well, the little plant is a 2,000-barrel a day cleaning plant. That is the only thing we've got now, and we know it's way inadequate.

Q I thought I understood you to say though that you intend to pipe the entire operation of the gas into Florida?

A No sir. I said that bridge has not been crossed. We don't know whether -- well, to just tell you something of where we are in our thinking and really indecision in trying to make some judgments, we know that the size of

the plant is very important in order that it not be too big or too little, because the extent of your investment in it is geared to propriety of size. If one installation is built, we need to know what size we should make it. If we're going to build more than one or units of less capacity than the total and, say, try three units, we don't know whether that's feasible, they should be in one place or should be spread about the field. Some of those decisions have to be made before flow lines are constructed from wells to the unit. We need to know more about the productivity of other portions of this potentially productive reservoir in order to calculate our total reserve in the field, how many wells it will take to produce it, what daily production can be expected to be supplied to the plant. There are a lot of things that it would be awfully good to know. We need to make decisions now that could best be made if we had a year's additional information to act on, but we don't have it. We've got to make some expectation bets, so to speak, some decisions that may turn out to be wrong, may turn out to be right, but in order to proceed to put some production on stream, some four months ago and before this well was drilled in Alabama, the Jay

discovery well was drilled, and we knew we had this cleaning problem at that time, so we purchased a second-hand cleansing facility from somewhere around Shreveport or Texarkana and moved it down and it is being set up in the immediate vicinity of this Jay discovery well, realizing that we could put that well on stream without regard to whether another productive well had been drilled at the time and that we wanted to and that we wanted the gas handled, we have made an arrangement for the handling of that gas produced by that well, and that's why I said we have made partial arrangements and intend further arrangements, but that is the only thing that is available right now, and it was picked up and placed down there at the time we had the one well, and that's why it's located where it is in Florida. It is going to be wholly inadequate. We know we've got to do something else. We're trying our best to determine what course that further action should be directed in because we're anxious here as in Flomaton to get this production to market and begin realizing on it just as soon as it's feasible, sir. Does that pretty well answer your question?

Q Yes sir, but I still think you were leaning towards

Florida, but that's all right -- not you, but your company. I'll put it that way.

A Well, I would expect from the posture of this field that it may ultimately be the feasible thing to do, to transport from Alabama to a cleaning facility in Florida, because it just looks like that's where the Lord put this field and not us.

CHMN. COOK: The Board is in no position to take any position against that.

(Laughter)

CHMN. COOK: Any further questions of Mr. Caldwell or Mr. Taylor?

(No response)

MR. CALDWELL: I do have and would like to offer for such value as it may be to the body the proposed order containing the rules that we wish to recommend for adoption based on the testimony of these witnesses.

That concludes our presentation.

I would like also to offer in evidence the exhibits of this witness, Mr. Taylor, 1 through 3.

CHMN. COOK: Did you submit certain data or...

MR. LaMOREAUX: Yes, he did, he submitted...

MR. CALDWELL: I've introduced my exhibits into

evidence or offered them in evidence, and ask that they be received at this time.

CHMN. COOK: The Board will receive them for that purpose.

(Whereupon, documents identified as Production Tests, Core Analysis, and Separator Gas Analysis were received in evidence as Exhibits 1, 2 and 3, respectively, to the testimony of Roland D. Taylor.)

CHMN. COOK: Thank you, Mr. Caldwell. Thank you, Mr. Taylor.

(Witness was excused)

CHMN. COOK: There's a further question. Hold it, gentlemen.

MR. WHITE: Mr. Caldwell, we haven't had the benefit of seeing or reading these field rules or the order. I would like to ask you, does your company anticipate the naming of this field and is your company particularly wedded to the naming of the field one way or the other?

MR. CALDWELL: In my petition, I refer to it as the unnamed oil field in the Southeast Flomaton area. In my field rules, I have gone ahead and called it the Southeast Flomaton Oil Field. We have no disposition to choose that name over any other. It was just a convenient name, and

we really have no particular interest in what name the Board should select for this field.

MR. WHITE: Mr. Chairman, if it please the Board, I might explain to these people here who might not be knowledgeable as to how fields are ordinarily named, that a geographic location near the discovery well is usually chosen as the name for the field.

I would like to further explain that we already have a Flomaton Field which is a gas reservoir and the Board, the Staff, has some question as to whether or not the naming of this the Southeast Flomaton Field might not be confusing to some of the people in the area and to the Staff at some point or the other.

Don Moore, geologist with our Staff, and I have looked the area over, and from the topo (phon.) sheet, it appears that Little Escambia Creek runs almost right through the center of this section. So if the petitioner has no objections, we would like for the field to be named the Little Escambia Creek Field.

CHMN. COOK: Does the petitioner have any objections?

MR. CALDWELL: Well, I -- that's a question that I really didn't anticipate. I'd say this, insofar as I know, we have no objection, and insofar as I believe, we will

have none.

CHMN. COOK: Could you hold it in abeyance until such time as he can check?

MR. CALDWELL: I'd like to check that out with somebody else.

MR. WHITE: We're trying to avoid some confusion of understanding between a gas reservoir and an oil reservoir with different spacing of 640 acres and 160-acre spacing, and by naming one the Flomaton and one the Southeast Flomaton, I'm afraid there would be some tendency to confuse which one was which.

MR. CALDWELL: It makes good sense, and I'm sure we're not going to object to anything in that direction.

CHMN. COOK: And I'm sure you'll be good enough to advise Mr. White?

MR. CALDWELL: I surely will.

CHMN. COOK: Any further questions now, gentlemen, of either Mr. Taylor or Mr. Caldwell?

(No response)

CHMN. COOK: Now, anyone here interested in this petition is free at this time to cross examine the witnesses. Does anyone choose to do so?

(No response)

CHMN. COOK: Hearing none, we thank you very much, gentlemen.

MR. CALDWELL: Thank you, gentlemen.

CHMN. COOK: There were those who wanted to make statements concerning this petition. Did you have any order of appearance? Come up and identify yourself, sir.

MR. LURRY: My name is John Lurry, gentlemen, and I'm an attorney for Chevron Oil Company in New Orleans.

Chevron appears at this hearing in support of the petition, the Humble petition. We have -- the recommendations on spacing that are involved in that petition have been analyzed by our technical experts and their opinions are completely in accordance with those recommendations.

For this reason, I urge you to favorably consider them.

CHMN. COOK: Thank you, Mr. Lurry. Anyone else?

MR. MITCHELL: My name is Donald P. Mitchell. I'm Vice President of the Louisiana Land & Exploration Company in charge of the company's drilling and producing activities.

L & E has a substantial interest in this area. In fact, we own the operating interest in approximately one-third of the area which is under consideration by the Board today, in six sections.

We participated in the discovery well and subsequent drilling with Humble within the Jay area and are a partner with these folks. We are also a part owner of the facility which will be constructed in Florida on these wells. We supported the test well that was drilled, the Miller Mill well, which was drilled in the Southeast Flomaton area here in Escambia County, Alabama.

At this point, we feel that an orderly plan of development should be implemented in order to provide for an orderly development in the future of this area.

We have made our own independent study of the available data as regards the geology and economics of drilling in this area. We interpret this data in essentially the same manner as does Humble and reach basically the same conclusions as Humble.

We therefore concur with Humble in their recommendations and urge the adoption of an appropriate order implementing the recommendations.

CHMN. COOK: Thank you, Mr. Mitchell. All right. Is there anyone else present that has any questions or statements to make at this time concerning this Item 3 on our agenda?

(No response)

CHMN. COOK: Let me state to those who appear in behalf of Humble Oil Company. It is the unanimous decision of the Board to take your petition and the proposals contained therein under advisement. We will, of course, ask the Staff to research these proposals and have you a decision ~~hearing~~ at the earliest possible time. Mr. LaMoreaux?

MR. LaMOREAUX: Mr. Chairman, we have two additional items, 4 and 5, on our agenda, related to:

"Salt water disposal, Gilbertown Field, Choctaw County, Alabama."

and

"Salt water disposal, South Carlton Field, Clarke and Baldwin Counties, Alabama."

Over the past several years, the Staff has been making a series of studies and also supporting cooperative ~~applica-~~ Studies by ~~tion of~~ the Water Resource Division of the U. S. Geological Survey who has been working with us on the problems related to oil field waste in Gilbertown and South Carlton Fields, and on the basis of these studies, on the basis of recent evaluation of each of these fields, the Staff would submit this report to the Board at this time:

"Reoccurring and frequent oil spills in the Gilbertown area within the past few

months prompted the Oil and Gas Supervisor to order a thorough investigation of the Gilbertown Field by the senior Staff of the Oil and Gas Board, Thomas Joiner, Assistant Supervisor, and H. Gene White, Chief Engineer. This last inspection was made on September 14 and 15.

"Based on earlier studies in this evaluation, it was concluded that the antiquated or older equipment being used in the production process in the Gilbertown Field, coupled with the use of surface pits for the reception of brine, dilution of brine in the nearby streams, and the increased amount of salt water produced in the production of oil /in other words, there's an increased amount of salt water being produced over the time/, presents a potential threat to the environment of the Gilbertown area.

"It is therefore recommended that surface

pits and dilution of salt water in streams be eliminated."

To this end, in the executive session of the State Oil and Gas Board of Alabama this morning on September 25, 1970 at Mobile, Alabama, the following executive order is hereby promulgated:

"To all Operators in the Gilbertown Field:

Studies in the Gilbertown Field have proven conclusively that the use of earthen pits for the reception of salt water in this field is a major contributing factor to the pollution of fresh water aquifers and ~~aquifers in~~ streams in this area, the method of separating oil and water in the Gilbertown Field has resulted in oil on the surface of the pits in the field, and has further resulted in periodic oil spills from these pits onto the land surface and into the streams of the area. Antiquated equipment being used in the production process in the Gilbertown Field,

coupled with the use of surface pits for the reception of brine, presents a threat to the environment of the Gilbertown area.

"The Board has recognized the marginal economics of the operation of the Gilbertown Field and has permitted its continued production on a month-by-month basis over the past approximately two years. On the basis of present conditions in the field, the Board is of the opinion that the present mode of production operations and salt water disposal can no longer be allowed without jeopardizing the environment.

"The State Oil and Gas Board therefore hereby orders you or your company to present a plan for the disposal of salt water into an approved sub-surface ~~aquifer~~ and to cease the use of surface pits in the Gilbertown Field. This plan must be submitted to the Oil and Gas Board on or before November 1, 1970. We realize that a single-operator approach to the solution to

this problem isn't practical, nor can be, and we would encourage a joint effort by operators in the field. We would further encourage all operators to study the feasibility of re-injecting salt water produced from the Gilbertown Field back into its native formations thereby hopefully increasing the amount of oil produced. This will, of course, require a unit operation with at least 75% of working interest owners and royalty interest owners agreeing to this operation.

"The State Oil and Gas Board and its Staff stand ready to render you every possible assistance in this endeavor, and will be most happy to meet with you at anytime to discuss the solution to this problem.

"Ordered this 25th day of September, 1970.

(Signed) Chairman, Drexel Cook

(Signed) Member, E. O. Eddins

(Signed) Member, Julian Maddox

Attested: Philip E. LaMoreaux, Secretary"

Now, in addition to these studies, we have been also working on an evaluation of the South Carlton Field, and as a result of these studies, the results of which were presented at the executive session of the Oil and Gas Board this morning, pursuant to a decision rendered during an executive session of the State Oil and Gas Board of Alabama on September 25, 1970 at Mobile, Alabama, the following executive order is hereby promulgated:

"To all Operators in the South Carlton Field: The State Oil and Gas Board would like to express its appreciation for your cooperative attitude at the June 19, 1970 meeting with regard to the problem of salt water disposal in the South Carlton Field. Tremendous progress has been made in this field in the separation of oil and salt water and this Board is most appreciative of this progress.

"In recent months, there has been an increased public awareness of pollution of our environment's effect on the quality of our lives. Demands for action on judicial or quasi-judicial regulatory agencies has been very

great, and recognition of this public concern has been transferred into action.

"The State Oil and Gas Board of Alabama is charged with the protection of our fresh water supplies and prevention of pollution of these supplies with deleterious oil field substances, and to this end, this agency intends to discharge the duties delegated by the Legislature of the State.

"Recent studies in South Carlton Field have proven conclusively that the use of unlined earthen pits for the reception of salt water in this field has caused an increase in chlorides in the shallow fresh water ~~aquifers~~ aquifers in the area. While it is generally agreed that the Alabama River is not being seriously affected by this source alone, nonetheless there is some contributing salt water going into the Alabama River.

"Based on facts as outlined herein, the State

Oil and Gas Board hereby orders all operators in the South Carlton Field to present a plan for the total sub-surface disposal of salt water being produced from this field. These plans must be submitted to the Oil and Gas Board on or before November 1, 1970.

"The State Oil and Gas Board and its Staff stand ready to render you every possible assistance in this endeavor, and will be most happy to meet with you at anytime to discuss the solution to this problem.

"Ordered this 25th day of September, 1970.

(Signed) Chairman, Drexel Cook

(Signed) Member, E. O. Eddins

(Signed) Member, Julian Maddox

Attested: Philip E. LaMoreaux, Secretary"

MR. HERBERT: Mr. Chairman, may I now make a statement?

CHMN. COOK: Sir?

MR. HERBERT: May I make a statement? I would like to ask Mr. LaMoreaux a question.

CHMN. COOK: Is it in this connection, with the order

he just read?

MR. HERBERT: Yes sir.

CHMN. COOK: Yes sir. Will you come around front?

MR. HERBERT: Mr. LaMoreaux...

CHMN. COOK: Mr. Herbert, let me say something before we get started. As you know, the Board normally functions from an agenda.

MR. HERBERT: Yes sir.

CHMN. COOK: Of course, we're pleased to hear you now because the Board wants to extend you its courtesy. I would, however, suggest that you petition us normally, if you will, in the future, because we're interested in hearing about this.

MR. HERBERT: Since I had no way of knowing...

MR. LaMOREAUX: This is an executive order. It's not open for testimony.

MRS. HERBERT: Is this discrimination again, Mr. LaMoreaux?

MR. HERBERT: I would simply like to ask one question. It would take very little time. I had no copies of the agenda and did not know...

CHMN. COOK: No, I'm saying that anytime you wish to appear, we would be glad to have you petition us.

MR. HERBERT: Yes sir.

CHMN. COOK: That's what I'm saying. Now, the orders you've just read or heard are executive orders.

MR. HERBERT: Yes sir. I understand that.

CHMN. COOK: And they are issued at this time.

MR. HERBERT: Yes sir. Do I now construe what you have just said, Mr. LaMoreaux, as a clear admission of the fact that you now admit to salt water pollution, particularly in Gilbertown, which you have previously and on many occasions denied, and I have here one article from the Alabama Journal dated Thursday, April 16, in which you are quoted as saying:

> "There is no such thing as pit disposal of salt water in Alabama oil fields anymore..." LaMoreaux said.

Now, Mr. Sellers, here, I understand, is a reporter for the Mobile Press. If I recall, in July of 1969, you were also quoted in an article by Mr. Sellers as stating that same thing, except you went a bit further and said "There are no open pits in Alabama's oil fields," and I assure you that at this time, I can take you to at least 200 such pits. So you now admit that that article, too, by Mr. William O'Bryant of the Alabama Journal dated March 15, 1968 is also true?

MR. LaMOREAUX: Mr. Herbert, if I did say that, it's an incomplete statement.

MR. HERBERT: Well, I think it's self evident what you said. I just wanted to know what your...

MR. LaMOREAUX: May I continue, please?

MR. HERBERT: Yes sir.

MR. LaMOREAUX: What the statement should have been, if it was not, it was discontinued in some of the oil fields, but I don't think that this statement is germane to this executive order, and I would again suggest that if you would like to appear before the Board, then I think you should petition it.

MR. HERBERT: I think, on this order, I think you were the State Geologist in 1960 and '61, and it's very peculiar as to why you have waited 10 years to act on it.

CHMN. COOK: Mr. Herbert, let me suggest to you that you put the Board on notice if you want to appear, and we'll be glad to have you appear and make your statement.

MR. HERBERT: I'm sorry, since I did not know this particular matter was going to be brought up...

CHMN. COOK: Understand, you're free to...

MR. HERBERT: I'm glad he brought it up because I think it is self evident that he clearly admits now what he has

previously denied, in fact, for some 10 years. As a matter of fact, I first reported it to him in 1962, and he's well aware of that, and in his letter to Mr. Fite dated February 29, 1968, he states:

> "Owing to existing management conditions, these were problems that were difficult to eliminate until a few months ago."

It seems he waited until Mobil took over and he's put all the monkey on their back in Citronelle, what has been done. I just wanted to...

CHMN. COOK: Thank you, sir.

MR. EDDINS: I move we adjourn.

MRS. HERBERT: Could I be heard, please?

MR. MADDOX: I second it.

CHMN. COOK: It's been moved and seconded that this Board adjourn.

MRS. HERBERT: May I be heard, please? Have you adjourned?

CHMN. COOK: Yes m'am, we're adjourned.

MRS. HERBERT: Hurriedly, Mr. Cook.

CHMN. COOK: Those in favor, let it be known by saying "aye" -- opposed, "no."

(All Board Members voted "aye")

(Whereupon, at 12:45 P.M., September 25, 1970, the Regular Session of the hearing was adjourned.)

REPORTER'S CERTIFICATE

STATE OF ALABAMA)
)
COUNTY OF MOBILE)

I, Lou M. Chambers, Hearings Reporter for the State of Alabama, do hereby certify that on Friday, September 25, 1970, in the Conference Room of the First National Bank Building, Mobile, Alabama, I reported the proceedings before the State Oil and Gas Board of Alabama in Regular Session; that the foregoing 96 typewritten pages contain a true and accurate verbatim transcription of said proceedings to the best of my ability, skill, knowledge and belief.

I further certify that I am neither of kin nor of counsel to the parties to said cause, nor in any manner interested in the results thereof.

Lou M. Chambers
LOU M. CHAMBERS
Hearings Reporter
State of Alabama