

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

March 20, 1963

REGULAR HEARING

IN THE MATTER OF:

Application of Marathon Oil Company
for a unit agreement, Eddy County,
New Mexico. Applicant, in the
above-styled cause, seeks approval
of the North Indian Basin Unit Area,
comprising 5786 acres, more or less,
of State and Federal Lands in Town-
ships 20 $\frac{1}{2}$ and 21 South, Range 23
East, Eddy County, New Mexico.

Case No. 2779

BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case No. 2779.

MR. DURRETT: Application of Marathon Oil Company
for a unit agreement, Eddy County, New Mexico.

MR. COUCH: Mr. Examiner, I am Terrell Couch from
Houston, Texas. I believe the files of the Commission will
show that Atwood & Malone of Roswell, New Mexico, have entered
their appearance in this case, with the statement that I and
Mr. John H. Bevan, Jr., all of Houston, Texas, are associated
with them and will present the case.

Mr. Bevan will attend to the actual presentation of the

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case.

MR. BEVAN: Mr. Examiner, I would like to make a brief statement prior to having our witness testify and that is to the effect that Marathon has filed this application on behalf of all the working interest owners' opening tracts in this proposed unit area, and it covers, as stated in the application, 5,785.69 acres more or less. However, since the filing of this application, we have been advised by the Washington office of the USGS that there was a discrepancy of .53 acres in one of the sections involved in the unit area. If the facts warrant it, we will necessitate revision of various exhibits to this unit agreement.

The lands involved are Federal lands, therefore, they would not affect the State lands which are as shown here, 1,305.40 acres more or less.

We have advised the Land Commissioner's Office, through Mr. Ray, the working interest owners and all overriding royalty owners which we have contacted of this discrepancy.

We have one witness to present testimony.

BILL J. McMICHAEL, a Witness, called by the Oil Conservation Commission, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. BEVAN:

Q Please state your name, address, by whom you are



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employed, and your position.

A My name is Bill J. McMichael. I am employed by Marathon Oil Company. My residence is Roswell, New Mexico. I am an Area Geologist in charge of the Roswell office and work this geology for the south and eastern two-thirds of the State of New Mexico, this also includes Eddy County, in the area in which the North Indian Basin Proposed Unit is located.

Q Have you previously testified before the New Mexico Oil Conservation Commission or any of the examiners?

A I have not.

Q Please state your qualifications?

A I received a Bachelor of Science degree from the University of Texas in 1949. I have been employed as Petroleum geologist for the past 10 $\frac{1}{2}$ years and have been in Southeastern New Mexico with Marathon five years in April of this year.

Q And you stated you are now an Area Geologist for Marathon at Roswell, is that correct?

A That is correct.

Q And, of course, in that capacity, and in your prior capacity as geologist in that office, you're generally acquainted with the geology of the unit area, are you not?

A I am.

MR. BEVAN: Are his qualifications accepted?

MR. UTZ: Yes, sir, they are.

Q Mr. McMichael, I hand you a conformed copy of the



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unit agreement which you previously examined and you have also seen a unit agreement executed by all of the working interest owners. Please state whether that is a true conformed copy?

A This is a conformed copy.

(Exhibit 1 marked by the reporter.)

Q To your knowledge, has Marathon investigated the status of the ownership of the lands in the unit area?

A Yes, that is my understanding.

Q Please state what lands are included in the unit area.

A The lands included in the North Indian Basin Unit are as follows: All in Eddy County, New Mexico, Township 20 $\frac{1}{2}$ South; Range 23 East; Section 36: All, which is a fractional Section. Township 21 South, Range 23 East; Section 1: All; Section 2: All; Section 3: South half; Section 4: South half; all of Sections 9, 10, 11 and 12; the north half of Section 15; and all of Section 16.

Q And those same lands are described on page 2 of the Unit Agreement, are they not?

A That is correct.

Q Exhibit A to the Unit Agreement is a plat of the Unit Area. Does this show the Federal and State acreage and the ownership as to the working interest of the tracts comprising the Unit Area?

A Yes, it does.

Q Exhibit B to the Unit Agreement is a schedule showing



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the percentage and kind of ownership of all the lands involved in the Unit Area. Please state whether or not, to your knowledge, all of these lands included in the Unit Area are listed on the exhibit and whether the ownership is correctly shown?

A I believe that it is, with the discrepancy that was previously mentioned.

Q And with the exception, I believe, of certain ownership of overriding royalty interests, which we have recently been advised of, which has been assigned by Ray Hobbs and wife, is that correct?

A That is correct, that would be the recent development change that we were not aware of at the time.

Q To your knowledge, we have not been furnished with copies of those assignments, have we?

A We have not been furnished with assignments.

Q And to your knowledge, those assignments have not been recorded in the Federal Land Office, have they?

A That is my understanding.

Q State whether or not all of the working interest owners, lessees of record, shown in Exhibit B, have executed a Unit Agreement.

A All working interest owners have executed an agreement.

Q And those working interest owners, in addition to Marathon Oil Company, would be?



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A Sinclair Oil and Gas Company, Phillips Petroleum Company and Monsanto are the working interests.

Q Monsanto Chemical Company?

A Yes.

Q Please refer to the first signature page of the Unit Agreement, showing the space executed by Sinclair Oil and Gas Company. At that space provided for the signature of Sinclair Oil and Gas Company, there is a qualification as to the commitment of Tract No. 4. Will you please state what that qualification is?

A The qualification reads as follows: "Notwithstanding anything above to the contrary, Sinclair Oil and Gas Company hereby commits, at this time, only Tracts Nos. 2, 7, and 10 and withholds commitment of Tract No. 4."

Q Can you state the reason for Sinclair's qualification of its execution in this manner?

A Well, perhaps not fully. It is my understanding that this concerns Federal lease which is held by production on a portion of that lease outside the Unit Area and they prefer to await expiration of the primary term before committing this, which will be a date of June 1.

Q In other words, as of the date of June 1, Sinclair has agreed to commit, without qualification, the Tract No. 4.

A I have seen a letter, a copy of a letter, so stating that they will commit this without reservation, as of June 1.



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1963, that is correct.

Q Now, will you state briefly the status of the various overriding royalty interests as to their commitments of their respective interests at this date?

A We have ratifications from half or more of the actual number of people who hold overriding royalty interest and a large portion of this Unit, approximately 60 per cent, have no overrides. We have secured ratification of overrides on all state acreage. I have before me a list of the latest information of those overrides on Federal leases that we have not heard from or we have new addresses, assignments that have been made that we have no address for in time to send and get a return, and I can review those if you so desire.

Q Would you say that we have contacted all overriding royalty interest owners or are now in the process of contacting such owners at this time?

A We have sent letters or contacted all overriding royalty interest owners that were on record at the time we drew up the unit agreement. We have not heard from some of these and others have given indication that they are waiting on information to ratify.

Q State, if in your knowledge, the State land which is shown within the proposed unit area on Exhibit A is common school land?

A That is correct, that is common school land.



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Q Is there any other beneficiary institution involved?

A Not to my knowledge.

Q What is the percentage of State land proposed to be placed in the Unit Area, as reflected by Exhibits A and B?

A As reflected by Exhibit A, this will be the total of 1,305.4 acres and that will be 22.5626 indicated percentage; however, with the revision that will raise the State acreage percentage to 22.5646 per cent.

Q What was the number of acres you gave for the State land again?

A 1,305.40.

Q I hand you a plat showing the various geological data and a unit area we would like to have designated as Marathon's Exhibit No. 2. (Exhibit marked.) Will you please state what this plat, designated Exhibit No. 2, shows?

A This is a reflection seismograph map that includes the North Indian Basin Prospect. These reflections are believed to give us an indication of the structural attitude of the Devonian formations. It is contoured on subsea data and the contour interval is 50 feet. State lands and Federal lands are indicated.

Q State lands are indicated by what color?

A State lands are indicated by brown color; the Federal lands are indicated by yellow; the proposed unit outline is in blue pencil.

Q The unit area is outlined in blue pencil, is that correct?



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A That is correct.

Q Was this map prepared under your direction and supervision?

A It was prepared under my direction, yes.

Q Does the plat show the test well location proposed?

A The test well location is shown in the Southwest of the Southwest of Section 10, Township 21 South, Range 23 East. It is designated by double blue circle and labeled "Proposed Location."

Q What is the objective depth proposed in the initial test?

A The proposed total depth is 10,200 feet.

Q And in your opinion that will adequately test the Devonian formations in this area?

A Yes, that will give approximately 200 feet of penetration into the Devonian and the best control we have on wells in this area indicates that permeability will be encountered near the top.

Q Is there a probability that on the shallower formations possibly productive of oil or gas will be encountered?

A Yes, this is a possibility, very definitely. However, I would like to say that at the time the shallower formations are usually more dependent upon the stratigraphic traps, or to put it another way, permeability of porosity conditions in the formation.



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Q Now, as a result of additional drilling or development in this area, would you say that the data shown by this map may necessarily be revised by such additional data being acquired?

A Yes, it has been our experience in other areas-- sometimes happily, sometimes sadly.

Q In your opinion, will the unit agreement tend to promote conservation of oil and gas and promote better utilization of reservoir energy in the unit area?

A It is my opinion that it would do both of these things, and that being a unit, in a unit, the operator can avoid duplication and deversity of purpose in maximum efficient recovery of the reservoir.

Q Is it your opinion that an area then can be best developed on a unit basis rather than through uncontrolled development by the respective operators?

A Yes, it is. This has quite a risk factor involved even though this is the best information that we can provide and it is a simple matter of sharing the risk of the wildcat location.

Q What is your estimate of the cost of the dry hole, such as this proposed initial test?

A Well, I would like for this to be an estimate, but presuming no trouble, which is a rare instance in itself, in excess of \$250,000.00.



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Q Is it your opinion that sharing of costs, such as proposed under the unit agreement would encourage additional development than otherwise would have been of the unit area?

A Yes. The proposed location will test out a Devonian seismic anomaly and will encourage additional development in this area.

Q State whether it is your opinion that the State of New Mexico and the beneficiary institution involved will receive its fair share of the recoverable oil and gas under the lands included within this unit area, under this unit agreement?

A Very definitely. I think that they will see exploration by some of the near--some of the recent leases that have been purchased in the area and there is nothing to indicate that they would not receive a fair share as the acreage came into participating area.

Q Now, as a geologist, would you say that the unit agreement would generally promote oil and gas and tend to prevent the possibility of underground waste?

A I believe that to be true both in preventing waste of unitized substances and the fact that perhaps undiscovered reserves may be left unfound.

Q This is your opinion?

A This is my opinion.

Q Do you have any other statements relative to geology or the unit agreement involved here?



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A Yes, I would like to say that this is a multiple pay area. It does have trend subsurface, not proof but relatively strong support as to regional geology. The sedimentary section is quite favorable, and being a multiple pay prospect I have high hopes for production at this location.

Q Now, to your knowledge, has the USGS given preliminary approval of the unit agreement and stated that the unit area is designated as a logical unit area, as proposed?

A Yes, there was expressed in a letter from the USGS to Mr. Dave Sorenson, our land man at Roswell.

MR. BEVAN: I would like to offer Marathon Exhibits 1 and 2 into evidence at this time. Exhibit 1 being the unit agreement for the development operation of the North Indian Basin Area, dated March 11, 1963, and Exhibit 2 being the plat showing the geological data.

MR. UTZ: Without objection, Exhibits 1 and 2 will be entered into the record of this case. Does that conclude your direct examination?

MR. BEVAN: Yes.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. McMichael, why was the Northwest quarter of 14 and the North half of the South half of 15 left out of the unit area?

A Well, we have tried to come up with a workable unit. There is no proof that this will be exactly as is, but we are



hopeful of that. In order to make the unit more workable, we have left out that portion that you indicated there. In 15-- let's see, the other way the--

Q Northwest of 14?

A The Northwest of 14. Well, there is a well drilling in Section 14 which indicates that there may be a low in that particular area that comes up in, that is related to the low in 13. We feel that this division on the Devonian of the Indian Basin structure, the working interest to the South and the North Indian Basin Unit to the Northwest, has got to come through there somewhere. This is based on subsurface information, not the seismic data here.

Q Well, of course, the unit was formed based on this seismic structure map, was it not?

A Yes, sir, that is correct.

Q So it would appear that the contour you show here to be a minus 6,000 contour goes well down into Section 15, particularly the Southwest quarter. I am wondering whether you attempted to make that a part?

A See, I don't know whether 14, I am sure that 15-- would you repeat that question. I am sorry, I was confused on the tract.

Q Since the unit is based on and gotten together on the basis of this structure map, I am wondering whether--and further, since this minus 6,000 contour goes well down to the

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southwest part of 15--whether you tried to make any attempt to get that part of the section in the unit?

A Could I see that? That was suggested by the USGS. I believe I need some clarification.

MR. COUCH: I think I can give some clarification on that point. It is, of course, Federal acreage--North half of the South half of 15 and Northwest quarter of 14--that you are referring to, as I understand the inquiry. The USGS office in Roswell, of course, was consulted in the outlining of this area and considered some of the problems or points that you have raised. They forwarded it to Washington and the Washington office, Mr. Pilkington there also asked the same question. I discussed it with Mr. Pilkington by telephone. It was after that discussion that he concluded to go ahead and approve the area as outlined on Marathon's Exhibit 2 as a logical area for the boundary for the unit. Of course, seismic data, as the witness has testified, we think it is good, but there are others who have different ideas as to where some of those contours might be. And those things work out to some extent with the USGS as to the execution and the fixing of the boundary and they, as I have indicated, have gone on and approved it as a logical area.

Perhaps the witness would have additional geological information to furnish you on the question, but I did want you to have the benefit of my discussion with Mr. Pilkington on



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the matter.

MR. UTZ: Thank you.

MR. McMICHAEL: In reply to what Mr. Couch has said, I cannot come through there with the low subsurface map or on the seismic map in the area you have indicated, but related work to the south leads us to believe that this is a separate Devonian structure to the north.

(By Mr. Utz) Mr. McMichael, it is true, is it not, that unit agreement provides for expansion or contraction of the unit area, as circumstances may warrant it in the future?

A Yes, it does.

Q In other words, that area, if it should subsequently prove to be productive and the facts warrant its inclusion in this unit, it could be so unincorporated?

A It would be possible to unincorporate it, that is correct, by unit agreement, with the people in this area given an opportunity to join the unit.

Q Yes, sir. Did Sinclair Oil and Gas Company decline to join or didn't you want them to?

A Sinclair, they didn't want to join that.

MR. UTZ: Any other questions?

MR. DURRETT: Yes, sir. I have a question or two.

BY MR. DURRETT:

Q I am not exactly straight on this five-acre discrepancy that may exist?



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A .53. It is in regard to Section 1, Township 21, South Range 23 East. It is something of a special nature. The Lots 1, 2, 3 and 4 cross to the north as usual. However, in this particular section, there are three other lots--5, 6 and 7--down the east side and that was not taken into consideration and when we totalled all of the discrepancy in Section 1--

Q At any rate, there will be not more than $\frac{1}{2}$ acre difference?

A .53, I believe it is exactly.

Q Now, one other thing I would like to clear up. I believe on direct examination when you were testifying as to the Unit Area, unless I misunderstood, when you were speaking about Township 20 $\frac{1}{2}$ South, Range 23 East, you stated that would take all of Section 36?

A That is the short section I mentioned at the first of the testimony that was the fractional section and that will include the entire 36, however, a fractional section, not 640 acres.

Q The unit agreement says "Section 36, Lots 1, 2, 3, 4 and South half, South half"?

A That is correct.

Q Now, is that the description of this acreage? Would it be described as Section 36 all?

A There would be the same in total. They are both incorrect.



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Q Go with me right on down to Township 21 South, you made the same statement on Section 2. That would take in all of Section 2?

A That is correct.

Q And that Section does have lots that also have been described as Lots 1, 2, 3 and 4 and South half of the North half, South half. Did you follow me on that? Check your Exhibit 1 there, if you would please.

A The reason I choose to do that was to avoid getting into Section 1, the fractional difference had already been brought up prior.

Q But your unit agreement, as submitted to the Commission, is correct in describing the acreage?

A Yes, both are correct.

Q The three discrepancies that you have given me are all correct. There are really no discrepancies, just a matter of terminology?

A Right.

MR. UTZ: You might just as well have had all of the partial sections?

A Yes, sir, I should have. I apologize.

MR. UTZ: Any other questions? Witness may be excused.

Any statements? The case will be taken under advisement.

Hearing is adjourned.



STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss

I, ELAINE J. BUCHANAN, Court Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 30th day of April, 1963.

Elaine J. Buchanan
Notary Public

My Commission Expires:

October 14, 1966.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner's Case No. 2778 heard by me on Sept. 20 19 63.

Shirley D. [Signature], Examiner
New Mexico Oil Conservation Commission

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