BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
CONFERENCE ROOM, STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

May 23, 1973

EXAMINER HEARING

IN THE MATTER OF:

Application of Adobe Oil Company for a dual completion and non-standard gas well location, Eddy County, New Mexico.

Case No. 4978

BEFORE: Elvis A. Utz,
Examiner.

TRANSCRIPT OF HEARING

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CASE No.
4978

Application,

Transcripts,

Small Exhibits

ETC.

MR. UTZ: The hearing will come to order, please. Case 4978: Application of Adobe Oil Company for a dual completion and non-standard gas well location, Eddy County, New Mexico.

MR. KELLAHIN: Tom Kellahin, of Kellahin and Fox, Santa Fe, appearing on behalf of the Applicant.

MR. UTZ: How many witnesses do you have, Mr. Kellahin?

MR. KELLAHIN: We have one witness, Mr. Examiner.

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

MR. CARR: The Oil Commission is going to make an appearance.

MR. UTZ: You may proceed.

* * * *

DEAN E. ROWE,

was called as a witness, and after being duly sworn according to law, testified as follows:

MR. KELLAHIN: For the purpose of the record, we would like to note on the advertisement in Case 4978 that it is our desire that we be allowed a dual completion in our Smith Federal Well No. 2 in such a manner as to produce gas from an undesignated Atoka gas pool, and from the rock tank-- And here is the correction-- Lower Morrow as opposed to the Upper Morrow as is listed on the docket and

in the advertisement.

MR. UTZ: Very well. Have you figured out whether that was a typographical error or whether it was interpreted wrong?

MR. KELLAHIN: I am certain it was a typographical error. Order No. R-4456, the last line of the advertisement, also indicates the Upper Morrow formation. That order approved both the Upper and Lower Morrow formations.

MR. UTZ: Your amendment is so noted. Proceed.

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Please state your name, by whom you are employed, and in what capacity.

A Dean Rowe, chief geologist for Adobe Oil Company.

Q Have you previously testified before the Oil Conservation Commission or one of its hearing examiners and made your qualifications a matter of record?

A Yes, I have.

Q Have you made a study, and are you familiar with the facts surrounding this particular application?

A Yes, I am familiar with it.

MR. KELLAHIN: Mr. Examiner, are the witness' qualifications as an expert acceptable?

MR. UTZ: Yes, sir.

Q (By Mr. Kellahin) Mr. Rowe, will you please state

briefly what Adobe is seeking by this application?

A We are seeking approval for a dual completion of our No. 2 Smith Federal and discovery status for that well in the Atoka gas field.

MR. KELLAHIN: We are also requesting approval, Mr. Examiner, of an unorthodox location for an additional zone. The previous order approved the unorthodox location for the lower two zones.

Q (By Mr. Kellahin) Please refer to what has been marked as Applicant's Exhibit One, and identify it, please?

A Exhibit One is a map entitled "Accumulative production map". It shows-- The color codes show the zones which produce in the various wells in the field. It also shows accumulative production for those zones through 3/1/73, except for the Adobe No. 1 Smith Federal, and that production is through 4/1/73.

The map also shows the location of the No. 2 Smith Federal as an unorthodox location, and shows the non-standard 430-acre gas proration unit which has earlier been approved by the Commission.

Q The proration unit is outlined in yellow?

A Yes, sir, colored solidly in yellow.

Q Your exhibit also indicates accumulative production for each of these wells?

A That's right.

Q Will you please refer to what has been marked as Applicant's Exhibit Two and identify it and explain what information it contains?

A Exhibit Two is a structure map of the base of the Atoka gas zone. The map shows a southeast dip from the high point and a fault on the northwest side of the anticline, and shows the position of the No. 2 Smith Federal, and again the non-standard proration unit.

Q How was the information derived to draw these structure lines?

A The information was taken from the mechanical logs of the wells of the field. They include electric logs, gamma ray sonic logs, and that type of log.

This map also shows a cross section line going from the Gulf No. 1 in Section 11, Township 23 South, Range 34 East, and Township 23 South, Range 25 East going from that well to the No. 3 Monsanto Rock Tank Well.

The cross section is drawn to A A Prime.

Q The cross section information which is designated there appears in a later exhibit, is that right?

A That's right.

Q Please refer to what has been marked as Applicant's Exhibit Three and identify it.

A Exhibit Number Three is Atoka gas zone porosity. The

principal information on this map is that the Adobe No. 2 Smith Federal has approximately five feet of porosity in the Atoka gas zone, and no other wells in the field are indicated to have any porosity-- All the other wells have no porosity.

Q What is the significance of that fact, Mr. Rowe?

A That this is a new, unproduced reservoir in the field, and it has not been-- It was discovered in the No. 2 Smith Federal.

Q It's not present in any other well in the area, is that correct?

A That's right.

Q Will you please refer to Applicant's Exhibit Four, and identify it?

A Exhibit Four is the cross section A A Prime earlier referred to. The cross section shows the relationship of the Atoka gas zone to the Lower Morrow gas zone.

It shows structural configuration of the field. The Upper Atoka gas zone is colored in orange as it is indicated on the cross section in the earlier exhibit. Porosity appears only in the Adobe No. 2 Smith Federal, it not being present in any other wells in the cross section.

Also shown on this cross section is the calculated absolute openflow from the Atoka Zone in the No. 2

Smith Federal and completion in the Lower Morrow sand in the same well.

Q Will you please refer to Applicant's Exhibit Five, and identify it, please?

A Exhibit Five is a Xerox copy on the Monsanto No. 2 Rock Tank Well, and a Xerox copy on the Monsanto No.3 Rock Tank Well.

Q What information do these two exhibits tell us?

A The main information shown on these two exhibits is that at a point below the Atoka, the gas zone is indicated as the base of the Atoka. This data is derived from a report made by the Hollingworth Paleontoligology Laboratory in Midland, identifying the Atoka and fusul lines below the Atoka gas zone discovered in the No. 2 Smith Federal.

Q Those Paleontoligology exhibits are marked as Seven and Eight, are they not?

A That's right. Exhibit Seven is on the Monsanto No. 1 Rock-Tank at a depth of 9,720 to 9,880. Lower Atoka fusul lines have been found at a depth of 9,905 on down to 9,990. Morrow fusul lines were found, and that data is spotted on the corresponding electric log.

Q Was this information and the corresponding electric logs used in preparation for your cross section?

A Yes, they were. I have, on the cross sections for the

No. 1 and No. 3 Rock Tank Wells, I have indicated that, and indicated where this occurs on the logs of the section.

Q Please refer to what has been marked as Applicant's Exhibit Number Nine, and tell us what that is.

A Exhibit Number Nine is a log of the Adobe No. 2 Smith Federal. This log has been passed to the Commission as a gamma ray density log, and on that log I have indicated the zones which are perforated and the initial potentials of those zones. They are not on this one I have here.

Q Is the information contained on that log also available on this cross section?

A Yes. It is labeled as the Adobe No. 2 Smith Federal.

Q And referring to the log, Mr. Rowe, what, if anything, is indicated in the log which assisted you in reaching your opinion that this is an Atoka formation? Where on the log is this indicated?

A The perforated zone-- I think I need the log.

Q Here it is.

A It's perforated from 9,704 to 9,713, and on this log, we feel that we have determined that this zone is cavernous in that tract of the log. We have not reported the log instrument because the paths of the instrument were not touching this side of the hole

(indicating). This leads us to the conclusion that this is a limestone formation, and not sand, as is the Upper Morrow.

MR. UTZ: Is the Atoka commonly limestone in this area?

THE WITNESS: I think that perhaps you will more likely find limestone in the Atoka than you would in the Morrow section, but I would hesitate to say that's true.

Q (By Mr. Kellahin) Would you find limestone formation in the Upper Morrow?

A I think you would, but they would be fewer and perhaps thinner than they would in the Atoka. We feel this must have been a rather pure limestone to have cavernous porosity.

Q This was simply one of numerous factors that lead you to the conclusion that it is Atoka as opposed to Upper Morrow?

A Yes.

Q Please refer to Exhibit Number Ten, and identify it.

A Exhibit Ten is a well completion record, and this has been filed with the Commission. The upper one would be considered the Lower Morrow, and the bottom one is the Atoka Zone. On this report are indicated pertinent data insofar as pressure, perforations, and the amount of acid treatment for each zone is concerned.

You will also notice on what would normally be the reverse side of this form a separate Xerox copy, showing the Atoka limestone and drill stem tests of that zone.

I would like you to notice in particular the pressure, the final shut-in pressure, which was for three hours, and was 3,576 pounds.

Q This information is on the Atoka?

A Yes, sir.

Q What is the shut-in pressure for the Upper Morrow?

A The Upper Morrow shut-in pressure for a drill stem test taken in the No. 1 Smith Federal for three hours was 3,869 pounds. That's a differential in pressure between the two zones of 292, with the Upper Morrow Zone pressure being the highest.

Q What significance do you draw from that evidence?

A I feel that even though the differential may be relatively small, it indicates that the Upper Morrow sand, which is presently the producing reservoir within the field, has higher pressure than the Atoka gas zone which has not yet been produced in the field.

Therefore I feel this leads to the indication that they are separate reservoirs.

Q Please refer to what has been marked as Exhibit Eleven, and explain what that is.

A Exhibit Eleven is the application for multiple completion, and on this application request is made to complete the No. 2 Smith Federal in the Lower Morrow sand and the Atoka gas zone.

Q Would you please refer to what has been marked as Exhibit Twelve, and explain what that is.

A Exhibit Twelve is a schematic of the multiple completion program for the No. 2 Smith Federal showing perforations in the Lower Morrow sand and the Atoka zone.

Q Exhibit Eleven indicates the Upper Morrow Zone.

A There is a mix-up there.

Q It should be the Lower Morrow Zone?

A That's right.

MR. UTZ: That's why the advertisement was in error.

MR. KELLAHIN: Right, the Lower Zone should be the Rock Tank Lower Morrow.

MR. UTZ: Is this the proper depth for the Lower Morrow?

THE WITNESS: The Lower Morrow is 10,185 to 10,285.

MR. UTZ: So that was a typographic error?

THE WITNESS: Yes.

Q (By Mr. Kellahin) Will you continue to identify the information on the schematic?

A It shows the Lower Morrow Zone will be produced through tubing, and the Atoka Zone will be produced through

an annulus between the tubing and production casing, five and a half inch casing.

Q Will this type of completion be satisfactory in accordance with sound engineering practices to assure separation between the zones?

A Yes, it will. It's the type of completion that has been used in other fields heretofore.

Q There is nothing unusual about your completion?

A No, sir.

Q Please refer to what has been marked as Applicant's Exhibit Thirteen, and identify it, and explain what information it contains.

A Exhibit Thirteen lists pertinent data such as calculated openflow of the Atoka gas zone. Note on the bottom that the absolute openflow of that zone is 15,230,000 cubic feet of gas per day.

Attached to this exhibit is a pressure curve chart.

Q Please refer to Exhibit Number Fifteen, and explain what that is.

A Exhibit Fifteen is a Lower Morrow multi point pressure test. This form also contains pertinent data having to do with calculated openflow of the Lower Morrow sand.

Q What is that absolute openflow for the Morrow?

A Two million sixty-four thousand cubic feet of gas per day.

an annulus between the tubing and production casing, five and a half inch casing.

Q Will this type of completion be satisfactory in accordance with sound engineering practices to assure separation between the zones?

A Yes, it will. It's the type of completion that has been used in other fields heretofore.

Q There is nothing unusual about your completion?

A No, sir.

Q Please refer to what has been marked as Applicant's Exhibit Thirteen, and identify it, and explain what information it contains.

A Exhibit Thirteen lists pertinent data such as calculated openflow of the Atoka gas zone. Note on the bottom that the absolute openflow of that zone is 15,230,000 cubic feet of gas per day.

Attached to this exhibit is a pressure curve chart.

Q Please refer to Exhibit Number Fifteen, and explain what that is.

A Exhibit Fifteen is a Lower Morrow multi point pressure test. This form also contains pertinent data having to do with calculated openflow of the Lower Morrow sand.

Q What is that absolute openflow for the Morrow?

A Two million sixty-four thousand cubic feet of gas per day.

Q In summation, Mr. Rowe, I would like you to return to your cross section, and reiterate for us,if you would please, those factors that you used in reaching your conclusion that within this well, you have the Atoka as opposed to a pick of the Upper Morrow.

A The principal identification factor that we used in determining that this is a new zone, an Atoka Zone, is that the fusulines of the Atoka were found approximately thirty to sixty feet below that zone, and the discovery well of the field and subsequent wells.

By correlation and projecting that base of the Atoka identification to the Adobe No. 2 Smith Federal, we would find that the point would be from thirty to sixty feet below the gas zone in the No. 2 Smith Federal Well.

Q In addition to the fusulines, what other factors were used?

A We considered the pressure differential and the Atoka Zone indicates separate reservoir pressures.

Q What if any consideration was given to the porosity chart? Did you consider that a factor in determining whether this is the Atoka or the Upper Morrow Zone?

A The characteristics of the porosity indicate this is limestone as distinguished from sandstone that is

contained in both the Upper and Lower Morrow Zones--
or the Morrow field.

Q Do you have any other comments or testimony you would like to give, Mr. Rowe?

A I believe not, at this time.

Q In your opinion, will approval of this application prevent waste and protect the correlative rights of others?

A Yes.

Q Were Exhibits One through Fifteen prepared by you or under your direction and supervision?

A They were.

MR. KELLAHIN: We move for the introduction of Applicant's Exhibits One through Fifteen.

MR. UTZ: Without objection, Exhibits One through Fifteen will be entered into the record of this case.

(Whereupon Applicant's Exhibits One through Fifteen, respectively, were entered in evidence.)

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CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Rowe, did I understand you to say that you considered the Atoka a limestone?

A In the No. 2 Smith Federal?

Q Yes.

A Yes. I would like to explain why samples were not given. No samples of this particular zone were given, because the well blew out and caught fire and burned the rig and destroyed the samples.

However, we correlated this zone to our No. 1 Well on which we do have good sampling logs, and it's limestone in that well. On that basis, and also from the characteristics of the logs, we feel it is limestone.

Q How about the Upper and Lower Morrow? Is there limestone contained within those zones?

A Well, there is limestone within the Morrow section, but the two pay zones within the field which have been established as Upper and Lower Morrows are both sandstones. They may have limestone, but the two pay zones are sandstones.

Q I notice here on Order Number R-3555 that you acidized both zones, what you call the Atoka and Lower Morrow. Why did you acidize the Lower Morrow? Would that be normal practice?

A I would have to speak from memory, but insofar as I recall, no wells in the Rock Tank field have had fracture treatment of the sandstone. They have all been acidized. I don't have any reports with me, I am merely speaking from memory.

Q Would you say that acidizing the Atoka and Lower

Morrow make better wells?

A Yes, I would say so.

Q And you take considerable stock in Exhibits Seven and Eight as far as finding the Atoka Zones?

A Well, yes, I do. The reason I do is that the Hollingworth Paleontoligology Laboratory in Midland is a long-established firm, and Mr. Hollingworth is a palebntologist of substantial renown.

Q Are there any questions of the witness?

MR. STAMETS: Yes.

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CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Rowe, I am looking at the neutron formation density log of the Smith Federal No. 2, and the large scale section relative to the Upper perforations, and I believe that there is a caliper log shown with this. Is that not correct?

A Yes, I believe that's right.

Q And if I am reading this correctly, it looks like that in the area where you have perforated, say from about 9,694 down to 9,710, that the hole is rather uniform at about nine inches, is that right?

A That's right.

Q And then the Morrow, at least at the base of this

limestone section, is possibly opposite of what appears to be a shale or shaly section, and this does break to about fourteen and a half inches.

A That's right.

Q Now, that would indicate, wouldn't it, that the paths were touching the side of the hole at that time?

A Well, let me explain a little bit further as to why we feel this is cavernous.

These two logs, the dual lateral log and the compensated neutron log are suites of logs from which coravan computations can be made. Ccravan is a computerized log analysis, and we did have such a log made on this well, and that log described this limestone as having cavernous porosity. The expert who took these tests has said that he does not feel the cavernous zone is a shale zone, but rather he feels it is limestone.

Q The porosity that you showed on one of your exhibits, I believe indicates it was about five percent?

A The vertical thickness, yes.

Q The vertical thickness?

A Right.

Q The porosity is not five percent?

A Right, the porosity is an indeterminate.

Q The log itself does not appear to show a lot of porosity

in that zone, isn't that correct?

A Well, if we read it directly, it would indicate porosity, because it's completely off scale.

Q Looking up and down the log, Mr. Rowe, it would appear there are some other places where these very large hole sizes were encountered.

A Yes.

Q So the hole size itself is not unique, but the cavernous situation may be?

A Yes, I think that's true.

MR. STAMETS: That's all the questions I have.

MR. UTZ: Are there any other questions?

(No response)

MR. UTZ: If not, the witness may be excused.

(Witness excused.)

MR. UTZ: Do you have anything further to offer, Mr. Kellahin?

MR. KELLAHIN: Nothing further, Mr. Examiner.

MR. CARR: We have one witness, and the witness has not been sworn.

RICHARD STAMETS,

was called as a witness, and after being duly sworn according to law, testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

Q Will you state your name and occupation for the record, please?

A R. L. Stamets, and I am currently Technical Support Chief for the Oil Conservation Commission in Santa Fe. Until two years ago, I was geologist in the Artesia Distribution Office for the Commission.

Q And you have testified before the Commission previously?

A Yes, I have.

Q Are you familiar with the subject matter of this particular case?

A Yes, I am.

MR. CARR: Are the witness' qualifications acceptable?

MR. UTZ: I guess they have to be.

Q (By Mr. Carr) Are you familiar with the Morrow formation in the area involved in this case?

A Yes.

Q Have you made any correlations relative to the Morrow formation, and if so, would you explain them?

A Yes, sir. Perhaps I should give a little bit of history concerning the area. I moved through the Artesia office of the Commission in 1959, and was there during much of the development in the Pennsylvanian and Morrow fields.

During my some twelve years there, I made many

correlations of the Pennsylvanian formation from one area to another, and did quite a bit of work with the log which were given to the Commission as part of our records. We at one time acquired a Memoir 17 from the Bureau of Mines and Mineral Resources in Socorro.

This Memoir identifies the geology of Pennsylvanian rock in Southeastern New Mexico. This is a publication that I used as my Bible whenever I was investigating the Pennsylvanian formation. I would always refer back to this to determine the various thicknesses of the Pennsylvanian formation in this area trying to correlate those with the logs available to determine where the various Pennsylvanian tops should be.

We have an exhibit here which is taken from part of that Memoir 17. It's OCC Exhibit Number One, and consists of three parts.

The first page is simply a cover sheet for identification purposes, and is entitled "Geology of Pennsylvanian and Wolfcampian Rocks."

The second page is labeled "Morrowian Isopack Map". This is contoured to equal the thicknesses of the Morrow formation. There are two wells on this exhibit which I have circled. One has a small figure "28" written beside it, and that is the Gulf North Cavern Unit Well No. 1 located 980 feet from the

south and 660 feet from the west in Section 11, Township 23 South, Range 24 East, wherein the Applicant well is located.

The other well, which is circled, is the Gulf Oil Corporation Blackberry Hill Unit Well No. 1 located in Section 1, Township 22 South, Range 25 East. This--

MR. UTZ: What section was that?

THE WITNESS: Section 1, Township 22 South, Range 25 East.

A (Continuing) This well is found in a couple of cross sections that were prepared by the author of Memoir 17. A portion of one of the cross sections is attached on the third and final page of the exhibit, and you can see that the well is identified as Well No. 29 at the top.

I have used this log to mark logs which we had available to us in the Commission Office in Artesia. It has such striking features to it that I thought it was a very good one to mark and use when I correlated the Morrow formation into anything that was reasonably close.

I have used this same log to correlate the Adobe Oil Company Smith Federal No. 2. I have also taken the thickness of the Morrow formation, it's about 750 feet in this area, and have made a determination,

in my opinion, that the top of the Morrow formation in the Adobe Smith Federal No. 2 is about 9,485 feet, which is above the perforations which they have determined for the Morrow in this case.

Q Do you have anything further you would like to add to your testimony?

A I don't think so.

Q Was Exhibit Number One prepared by you or under your direction and supervision?

A Yes, such as it is, being a copy of a publication.

MR. CARR: Mr. Examiner, we move for the introduction of Oil Conservation Commission Exhibit One.

MR. UTZ: It will be accepted into the record, without objection.

(Whereupon OCC Exhibit Number One was admitted in evidence.)

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CROSS EXAMINATION

BY MR. UTZ:

Q What is this 9,485 feet?

A That would be my pick of the top of the Morrow formation in the Adobe Oil Company Smith Federal No. 2 which is the subject of this case based on the tops that I have correlated from logs which are the subject of Memoir 17.

Q I don't think I understand the last page of your exhibit here, Mr. Stamets. You referred to E-29, Is there a log of that on here?

A Yes. If you will look down from E-29, Mr. Utz.

Q The left-hand log?

A Yes, the third log from the right-hand margin of the page.

Q Then the point you are making is you are relating this information from Memoir 17 to the Applicant's log, Exhibit Number Nine?

A I think it was Exhibit Number Nine. The log of the Smith Federal No. 2.

MR. KELLAHIN: That's Exhibit Nine.

Q (By Mr. Utz) But you are relating your data from Memoir 17 to the log submitted by the Applicant, Exhibit Number Nine?

A Yes.

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

MR. KELLAHIN: Yes, Mr. Examiner.

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CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Stamets, I would like you to refer to the second page of your exhibit showing Morrow isopack number 24.

Is that the Adobe Well that you have circled?

A The number should be 28. I'm sorry, that's not very clear.

Q That is the Adobe Well?

A No, that's the Gulf North Cavern Unit Well, which is located in the same section with the Adobe Well.

Q And what is this one (indicating)?

A There is no number there, but that's the Gulf Blackberry Hill Well, and that is the log which is shown on the last page of the exhibit.

Q The conclusion you have reached is based on the premises of Richard F. Meyers' information; is that correct?

A Yes, it is, and my own findings over the years that the Morrow tops as described in this report are fairly close to what the industry has used as the Morrow top.

Q By fitting reasonably close, does that mean it would vary several hundred feet?

A One hundred feet either side of this point.

Q Would it vary as much as three hundred feet?

A There's some doubt in my mind that it would vary that much. I cannot recall an instance at this time where it has, at least where it has been significant, where it became a factor.

Q What is the date of Mr. Meyers' report?

A The report was prepared over a long period of time starting in the late Fifties. Let me refer to the report: "This report is primarily subsurface study for which sample work was done intermittently between 1953 and 1960".

Q How do you account for Mr. Rowe's exhibit in which he finds that there is a significant fact to be drawn from the location of these Atoka fusulines?

A That could have one of a number of answers. It could be that the Atoka bugs actually started in late Morrow time, and that what we have here is a bug which is really not definitive of the time line separations.

It could be that the report is in error, and if it's in error-- As I pointed out, the industry generally goes along with the top of the Morrow pretty close to the top as found in the report. So the industry's standards for the Morrow correlate with the report.

Q Don't you think there is significance in the variations between the pressures between the Atoka and the Upper Morrow as testified to by Mr. Rowe?

A I don't think that is significant in describing whether or not this is Morrow formation. It is not uncommon as wells are drilled to the older Morrow pool to find isolated stringers, isolated zones which have virgin

pressure.

Q Would virgin pressure be higher or lower than producing formation pressure? Wouldn't it be significant that a virgin zone had lower pressure than a zone being produced for a period of time? Do you want me to try again?

A I'm thinking about that, and trying to formulate a proper answer to your question.

It's more common to find greater pressure with depth. This is the shallower depth than the formation originally found in here, but it's not uncommon, no. Does that answer your question? We might expect lower pressure since this is at a lower depth. I wouldn't think there would be that much difference, though this is a unique situation.

Q You wouldn't put any significance on the fact that there is a difference in pressure?

A What is the difference?

Q The Upper Morrow is 3,869, and what we pick as the Atoka is 3,576. The pressure differential is 293.

A I really don't think that would be significant at this stage.

Q It's conceivable that you couldn't find that variance in pressure in the Upper Morrow itself, isn't that right?

A It's possible. I couldn't give you an example, but

I think it would be possible.

Q What significance do you attach to Mr. Rowe's testimony that he finds that the Atoka may be limestone as opposed to the sand formations you find in the Upper Morrow?

A I think as you progress upward toward the top of the Morrow formation, it becomes somewhat more likely that there might be a little bit more limestone.

Q What weight do you give to Mr. Rowe's testimony as to porosity-- As to the porosity he finds in this particular well and the lack of porosity in any other well in the area?

A I don't think this is a unique situation.

Q You wouldn't consider that a factor in determining whether it is Atoka as opposed to Upper Morrow?

A No, I wouldn't.

MR. KELLAHIN: I have no further questions.

* * * *

RE-CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Stamets, have you had an opportunity to inspect Exhibit Four, Mr. Rowe's cross section?

A Only briefly, Mr. Utz.

Q Well, could you state whether or not you agree with his pick of the Lower Morrow sand pay?

A Based on this exhibit, that certainly appears to be right. It looks like we find the Barnett shale below that point in most of these logs, and it looks like Barnett shale is below that point in all of the logs.

Q Judging from the Lower Morrow pick, does the Upper Morrow and Atoka look like they are pretty much in order as far as growth sectional thickness is concerned?

A I'm not sure that I understand your question.

Q Well, the depth-- The difference in depth from the Atoka to the Lower Morrow in all four of those wells appears to be relatively the same. Since this is Mr. Rowe's pick of the Atoka, I think we should try to explain why this is true.

A Okay. The thickness in the top of what he has described as the Atoka gas zone to the base of the Lower Morrow sand pay is very uniform between the Adobe No. 2 Smith Federal and the Gulf No. 1 and the Monsanto Rock Tank Unit No. 1.

There is some slight difference when you get to the No. 3 Monsanto Rock Tank Unit Well, but basically very little. What I am saying is the top of the Morrow formation would be above the Atoka gas zone in each of these wells.

Q You do not agree with the Atoka pick on any of these then?

A That's correct, sir.

Q Do you consider the Atoka in these as the top of the Morrow?

A The Atoka gas zone which is described here would be somewhat below the top of the Morrow. The top of the Morrow would be a couple of hundred feet above that point.

Q Mr. Stamets, do you attach any significance to whether or not a zone is limestone as far as determining whether it is Lower Morrow or Upper Morrow or Atoka?

A Not really, because all types of formations from sand to lime are found in the Morrow formation.

Q This may not be pertinent to this case, but I think it's relevant. Isn't the Strawn or Upper Morrow in the South Carlsbad area, don't they complete those by acidizing rather than fracking?

A Mr. Utz, I haven't checked the completion procedures for a while, and it rather slips my mind. They may well do that, though. What I do recall in looking at a number of sample reports in that area is that some of the producing zones are limey sandstones or sandy limestones, so that would sound like a reasonable way of completion.

Q There is one that they do acidize that is running through my mind, and that's in the Atoka, but I'm not

sure. I just thought maybe you might remember and might relate that to this zone.

A No.

MR. UTZ: Are there any other questions?

* * * *

CROSS EXAMINATION

BY MR. NUTTER:

Q In your closing sentence during your direct testimony, you stated that this top of the Morrow, which you pick at 9,485, was above the top of the zone which the Applicant has picked as his Morrow. I think you meant to say that the Applicant has picked as his Atoka.

A Yes, that's certainly what I meant.

Q With respect to a question Mr. Kellahin was asking you regarding the differences in pressure and the different producing characteristics of the Morrow, it's a basic, well-known fact, is it not, that the Morrow formation is composed of numerous stringers which are isolated from each other?

A Yes.

Q And in many instances, you do find difference in porosity and difference in permeability and maybe even difference in pressures, isn't that true?

A I think that's true, yes.

Q And the Commission over the years has adopted policy construing all of these individual stringers to be part and portions of one basic section which we call the Morrow formation?
A Yes, that's true.
Q So you would have differences in characteristics within the Morrow?
A Yes.
Q You would have difference in characteristic within the Morrow?
A Yes, sir.

MR. NUTTER: I have no further questions.

MR. UTZ: Are there any other questions?

(No response)

MR. UTZ: The witness may be excused.

(Witness excused.)

MR. UTZ: Are there closing statements?

MR. KELLAHIN: Yes, Mr. Examiner.

MR. UTZ: Proceed.

MR. KELLAHIN: Adobe Oil Company, the Applicant, desires a dual completion regardless of how the Commission determines-- regardless of whether the Commission determines this is Atoka or Upper Morrow. It is Adobe Oil Company's position that they desire to seek approval of the dual completion for the Lower Morrow formation, and this zone

that is in question.

It is still our contention that we have provided strong testimony that in fact this is the Atoka, but if the Examiner in his study of the evidence and review of the reports believes this is in fact Upper Morrow, then the Applicant still desires to have the dual completion approved.

Thank you.

MR. UTZ: Are there any other statements?

(No response)

MR. UTZ: If there are no other statements, Case 4978 will be taken under advisement.

* * * *

dearnley, meier & associates
209 SIMMS BLDG.• P.O. BOX 1092 •PHONE 243-6691 •ALBUQUERQUE, NEW MEXICO 87103
1216 FIRST NATIONAL BANK BLDG. EAST •ALBUQUERQUE, NEW MEXICO 87108

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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

Richard E McCormick
CERTIFIED SHORTHAND REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4978, heard by me on May 2, 1973.

Examiner
New Mexico Oil Conservation Commission

dearnley, meier & associates
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1216 FIRST NATIONAL BANK BLDG. EAST•ALBUQUERQUE, NEW MEXICO 87108

I N D E X

E X H I B I T S

EXHIBIT		ADMITTED	OFFERED
Applicant's #1	Map	15	5
Applicant's #2	Structure map	15	6
Applicant's #3	Atoka gas zone porosity	15	6
Applicant's #4	Cross section	15	7
Applicant's #5	Report	15	8
Applicant's #6	Report	15	8
Applicant's #7	Report	15	8
Applicant's #8	Report	15	8
Applicant's #9	Log	15	9
Applicant's #10	Well completion record	15	10

EXHIBITS (Continued)

Applicant's #11	Application	15	12
Applicant's #12	Schematic	15	12
Applicant's #13	Pertinent data	15	13
Applicant's #14	Pressure curve chart	15	13
Applicant's #15	Pressure test	15	13
OCC #1	Copy of publication	22	20

dearnley, meier & associates
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1216 FIRST NATIONAL BANK BLDG. EAST •ALBUQUERQUE, NEW MEXICO 87108

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

July 3, 1973

Mr. Tom Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: Case No. 4978
Order No. R-4582
Applicant:
Adobe Oil Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

Other

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 4978
Order No. R-4582

APPLICATION OF ADOBE OIL COMPANY
FOR A DUAL COMPLETION AND NON-
STANDARD GAS WELL LOCATION,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on May 23, 1973, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 29th day of June, 1973, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Adobe Oil Company, seeks authority to complete its Smith Federal Well No. 2 at a non-standard location at a point 660 feet from the South line and 330 feet from the East line of Section 11, Township 23 South, Range 24 East, NMPM, Rock Tank Gas Field, Eddy County, New Mexico, as a dual completion (conventional) to produce gas from an undesignated Atoka gas pool through the casing-tubing annulus and from the Rock Tank-Upper Morrow gas pool through a string of 2 7/8-inch tubing with separation of the zones by a packer set at approximately 10,100 feet.

(3) That the evidence introduced at the hearing establishes that the proposed dual completion would be in the Rock Tank-Upper Morrow Gas Pool and the Rock Tank-Lower Morrow Gas Pool and not in an undesignated Atoka gas pool.

(4) That Order No. R-4456 approved an application by Adobe Oil Company for an unorthodox location in the Rock Tank-Upper Morrow and the Rock Tank-Lower Morrow Gas Pools 660 feet from the South line and 330 feet from the East line of Section 11, Township 23 South, Range 24 East, NMPM, Eddy County, New Mexico.

(5) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

(6) That approval of the subject dual completion will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Adobe Oil Company, is hereby authorized to complete its Smith Federal Well No. 2 at a non-standard location at a point 660 feet from the South line and 330 feet from the East line of Section 11, Township 23 South, Range 24 East, NMPM, Rock Tank Gas Field, Eddy County, New Mexico, said location having previously been approved by Order No. R-4456, as a dual completion (conventional) to produce gas from the Rock Tank-Upper Morrow Gas Pool through the casing-tubing annulus and the Rock Tank-Lower Morrow Gas Pool through 2 7/8-inch tubing with separation of the zones by a packer set at approximately 10,100 feet.

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order;

PROVIDED FURTHER, that the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Shut-in Pressure Test Period for the Rock Tank-Lower Morrow Gas Pool.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

A. L. PORTER, Jr., Member & Secretary

S E A L

dr/

Docket No. 14-73

DOCKET: EXAMINER HEARING - WEDNESDAY - MAY 23, 1973

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or Richard L. Stamets, Alternate Examiner:

CASE 4683: (Reopened) (Continued from the April 11, 1973 Examiner Hearing)

In the matter of Case 4683 being reopened pursuant to the provisions of Order No. R-4286, which order established special rules and regulations for the West Tres Papalotes-Pennsylvanian Pool, Lea County, New Mexico, including a provision for 160-acre proration units. All interested parties may appear and show cause why said pool should not be developed on less than 160-acre units.

CASE 4946: (Continued from the May 9, 1973 Examiner Hearing)

Application of Union Texas Petroleum for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Crosby-Fusselman Pool, Lea County, New Mexico, including a provision for classification of oil wells and gas wells, 320-acre spacing for all wells, and a limiting gas-oil ratio of 5000 to one.

CASE 4966: (Continued from the May 9, 1973 Examiner Hearing)

Application of Read & Stevens, Inc. for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the N/2 of Section 36, Township 12 South, Range 30 East, Chaves County, New Mexico, to be dedicated to a well to be drilled to the Queen formation in Unit B of said Section 36, in the Southeast Chaves Queen Gas Area. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and a 200 percent charge for risk involved in drilling said well.

CASE 4969: Application of Amoco Production Company for a special depth bracket allowable, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the assignment of a special depth bracket allowable of 764 barrels of oil per day for the Tocito Dome Pennsylvanian "D" Oil Pool, San Juan County, New Mexico, to replace the current regular depth bracket allowable for said pool of 382 barrels per day.

CASE 4970: Application of Robert G. Cox for directional drilling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to re-enter his Federal "EA" Well No. 1, a crooked hole the surface location of which is 330 feet from the North and West lines of

(Case 4970 continued from page 1)

Section 12, Township 18 South, Range 27 East, Empire-Abo Pool, Eddy County, New Mexico, to set a whipstock at a depth of 4,200 feet and to drill in such a manner as to return the hole to the vertical, and to bottom said well at a depth of 6,200 feet approximately beneath the surface location.

CASE 4971: Application of Tesoro Petroleum Corporation for a secondary recovery project, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a secondary recovery project by injection of water and/or gas into the Hospah sand in its Santa Fe RR "A" Well No. 84 to be located five feet from the South line and 2,950 feet from the East line of Section 1, Township 17 North, Range 9 West, South Hospah-Lower Sand Oil Pool, McKinley County, New Mexico.

CASE 4972: Application of Skelly Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Forty-Niner Ridge Unit Area comprising 7,679 acres, more or less, of State, Federal, and Fee lands in Township 23 South, Range 30 East, Eddy County, New Mexico.

CASE 4973: Application of Clayton W. Williams, Jr. for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Badger Unit Area comprising 10,158 acres, more or less, of State and Federal lands in Township 22 South, Range 31 East, Eddy County, New Mexico.

CASE 4974: Application of Atlantic Richfield Company for a non-standard gas proration unit and simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the approval of a non-standard 160-acre unit comprising the W/2 NE/4 and E/2 NW/4 of Section 12, Township 24 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be simultaneously dedicated to its Cooper Wells Nos. 1, 2, and 3 located in Units G, F, and B, respectively, of said Section 12.

CASE 4975: Application of Atlantic Richfield Company for a non-standard proration unit, simultaneous dedication, and an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a non-standard 320-acre gas proration unit comprising the NW/4, N/2 SW/4, and W/2 NE/4 of Section 11, Township 20 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to be simultaneously dedicated to its W. P. Byrd Wells Nos. 5, a non-standard location 1650 feet from the North line and 330 feet from the West line, and No. 7, located 990 feet from the North line and 1980 feet from the West line of said Section 11.

CASE 4951: (Continued from the April 25, 1973 Examiner Hearing)

Application of Atlantic Richfield Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the N/2 of Section 15, Township 21 South, Range 26 East, Eddy County, New Mexico, to be dedicated to a well to be drilled by the applicant at a standard location to test the Morrow formation. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator and the risk involved in drilling said well.

CASE 4976: Application of The Petroleum Corporation for a dual completion, creation of two gas pools and special rules therefor, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Parkway West Unit Well No. 1 located in Unit C of Section 28, Township 19 South, Range 29 East, Eddy County, New Mexico, to produce gas and associated liquid hydrocarbons from the Strawn and Atoka formations through parallel strings of tubing. Applicant further seeks the designation of a Strawn pool and an Atoka pool for said well and the promulgation of special pool rules for each, including classification of oil wells and gas wells and special gas-oil ratio limitations.

CASE 4977: Application of Michael P. Grace II for compulsory pooling and an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the N/2 of Section 12, Township 22 South, Range 26 East, South Carlsbad Gas Field, Eddy County, New Mexico, to be dedicated to a well to be drilled to the Morrow formation at an unorthodox location 1440 feet from the North line and 1880 feet from the East line of said Section 12. Also to be considered will be the cost of drilling and completing said well and the allocation of the costs thereof as well as actual operating costs and charges for supervision, designation of the applicant as operator of the well, and the establishment of a 200 percent risk factor for the well.

CASE 4978: Application of Adobe Oil Company for a dual completion and non-standard gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Smith Federal Well No. 2 in such a manner as to produce gas from an undesignated Atoka gas pool and from the Rock Tank-Upper Morrow gas pool through parallel strings of tubing. Applicant further seeks approval for the non-standard location of said well for the Atoka formation at a point 660 feet from the South line and 330 feet from the East line of Section 11, Township 23 South, Range 24 East, Rock Tank Gas Field, Eddy County, New Mexico, said location having previously been approved for the Upper Morrow formation by Order No. R-4456.

CASE 4979: Application of Michael P. Grace II for directional drilling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to set a whip-stock in his Airport Grace Well No. 1, the surface location of which is 1980 feet from the South line and 2164 feet from the West line of Section 36, Township 22 South, Range 26 East, South Carlsbad Gas Field, Eddy County, New Mexico, and to directionally drill said well in such a manner as to bottom the well in the Morrow formation at a point approximately 500 feet Northeast of the surface location.

CASE 4980: Application of Pubco Petroleum Corporation for pool creation, an oil discovery allowable, and surface commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of the Humble City-Wolfcamp Pool and the assignment of approximately 47,970 barrels of oil discovery allowable to the discovery well for said pool, applicant's Shipp Well No. 4 located in Unit L of Section 11, Township 17 South, Range 37 East, Lea County, New Mexico. Applicant further seeks authority to commingle production from said pool with production from the Humble City-Strawn Pool underlying applicant's Shipp lease after separately metering the Wolfcamp production.

CASE 4981: Southeastern nomenclature case calling for an order for the creation and extension of certain pools in Eddy, Lea, and Chaves Counties, New Mexico:

(a) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Cisco production and designated as the West Atoka-Cisco Gas Pool. The discovery well is the Coquina Oil Corporation Five Mile No. 1 located in Unit H of Section 14, Township 18 South, Range 25 East, NMPM. Said pool would comprise:

TOWNSHIP 18 SOUTH, RANGE 25 EAST, NMPM
Section 14: E/2

(b) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Cabin Lake-Morrow Gas Pool. The discovery well is the Phillips Petroleum Company James A Com No. 1 located in Unit O of Section 2, Township 22 South, Range 30 East, NMPM. Said pool would comprise:

TOWNSHIP 22 SOUTH, RANGE 30 EAST, NMPM
Section 2: S/2

(c) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the West Sand Dunes-Morrow Gas Pool. The discovery well is the El Paso Natural Gas Company Mobil Federal No. 1 located in Unit J of Section 29, Township 23 South, Range 31 East, NMPM. Said pool would comprise:

TOWNSHIP 23 SOUTH, RANGE 31 EAST, NMPM
Section 29: E/2

(d) Create a new pool in Lea County, New Mexico, classified as an oil pool for Wolfcamp production and designated as the North Shoe Bar-Wolfcamp Pool. The discovery well is the Pubco Petroleum Corporation Skelly State No. 1 located in Unit I of Section 14, Township 16 South, Range 35 East, NMPM. Said pool would comprise:

TOWNSHIP 16 SOUTH, RANGE 35 EAST, NMPM
Section 14: SE/4

(e) Extend the West Atoka-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM
Section 18: S/2

(f) Extend the Blinebry Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 36 EAST, NMPM
Section 1: NE/4

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
Section 6: N/2

(g) Extend the East Brunson-McKee Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
Section 24: SW/4

(h) Extend the Buffalo Valley-Pennsylvanian Gas Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 15 SOUTH, RANGE 27 EAST, NMPM
Section 11: E/2

(i) Extend the Burton Flat-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 27 EAST, NMPM
Section 2: Lots 1 through 8
Section 3: Lots 1 through 8

(j) Extend the East Caprock-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 12 SOUTH, RANGE 32 EAST, NMPM
Section 10: SE/4

(k) Extend the Catclaw Draw-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM
Section 30: All

(l) Extend the Cedar Canyon-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 29 EAST, NMPM
Section 10: All

(m) Extend the Double L-Queen Associated Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 29 EAST, NMPM
Section 35: All

TOWNSHIP 15 SOUTH, RANGE 30 EAST, NMPM
Section 5: NE/4

(n) Extend the East EK-Queen Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM
Section 21: S/2 SE/4

(o) Extend the Golden Lane-Strawn Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 29 EAST, NMPM
Section 5: Lots 1, 2, 7, 8, 9, 10, 15 and 16

(p) Extend the Grayburg-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM
Section 28: N/2

(q) Extend the Justis-Montoya Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM
Section 13: SE/4

(r) Extend the Sand Dunes-Cherry Canyon Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 31 EAST, NMPM
Section 23: SW/4 SE/4

(s) Extend the West Sawyer-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 37 EAST, NMPM
Section 22: SE/4
Section 23: E/2 SW/4

(t) Extend the West Tres Papaloteu-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 34 EAST, NMPM
Section 29: NW/4

(u) Extend the Twin Lakes-San Andres Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 28 EAST, NMPM
Section 1: SE/4 NW/4 and NE/4 SW/4

CASE 4943: (Continued from the May 9, 1973 Examiner Hearing)

Application of M. W. Staples for an unorthodox oil well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to produce oil from his Vanderventer Well No. 2 located 1310 feet from the North line and 1330 feet from the East line of Section 20, Township 18 South, Range 28 East, Artesia Pool, Eddy County, New Mexico. Said well was drilled as an injection well at said location pursuant to authority granted by Order No. R-3341.

Memo

From

W. A. GRESSETT
Supervisor

To Dan Mutter

Case 4978
5-23-73

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

APPLICATION FOR MULTIPLE COMPLETION

RECEIVED
MAY 1973
O. C. C.
ARTESIA, OFFICE

Form C-107
5-1-61

Operator	County	Date
Adobe Oil Company	Eddy	4/23/73
Address	**Lease**	**Well No.**
601 Gihls Tower East, Midland, TX 79701	Smith Federal	2

Location of Well	Unit	Section	Township	Range
	P	11	23-S	24-E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES_____ NO X

2. If answer is yes, identify one such instance: Order No._____ ; Operator Lease, and Well No.: _____

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Wildcat (Atoka)		Rock Tank (U. Morrow)
b. Top and Bottom of Pay Section (Perforations)	9704-9713		10,185-10,225
c. Type of production (Oil or Gas)	Gas		Gas
d. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing

4. The following are attached. (Please check YES or NO)

Yes	No	
X		a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
X		b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
X		c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
X		d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Jake L. Hamon, 908 Vaughn Bldg., Midland, Texas 79701

ARCO, Box 1610, Midland, Texas 79701

Monsanto Co., 101 N. Marienfeld, Midland, Texas 79701

Gulf Oil Corp., Box 1150, Midland, Texas 79701

RECEIVED
MAY 8 1973
OIL CONSERVATION COMM.
Santa Fe

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO_____. If answer is yes, give date of such notification 4/23/73.

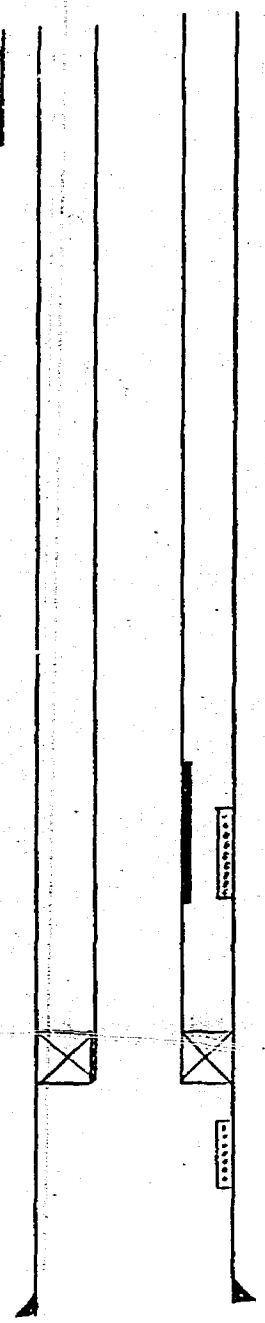
CERTIFICATE: I, the undersigned, state that I am the Vice President of the Adobe Oil Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

M. L. Royse
Signature

*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

DIAGRAMMATIC SKETCH OF MULTIPLE COMPLETION
ADOBE OIL COMPANY - SMITH FEDERAL NO. 2



2600' 8-5/8" 24 & 28# casing. Cemented w/1050 sxs. Cement circulated. Ran 3 centralizers on bottom 3 jts.

2-7/8" 6.4# tubing

Top of cement at 8900' temperature survey.

Blast nipples 9625-9725'.

9704'

10 holes - Atoka perf.

9713'

Otis sliding sleeve
Otis on-off tool 10,097'

10,100'

Otis permanent type packer

10,106'

10,185'

23 holes - lower Morrow perf.

10,225'

10,300' TD, 5-1/2" 17# casing cemented w/150 sxs. Centralizers on every other collar. Used 16.

ROCK TANK UNIT
MONSANTO
(OPER)

ROCK TANK

DARK CANYON

Case 4978
Heard 5-23-73
Rec. 6-4-73

Grant Adobe permission to Dually complete their Smith-Fed #2 660/S, 330/E line sec. 11-23-24, Eddy, in the Upper & Lower Morrow of the Rock Tank-pools. ~~Also grant, an NSL for these completions~~ NSL has been granted in both fms. in R-4456.

[illegible]

MEMOIR 17

Geology of Pennsylvanian and Wolfcampian Rocks in Southeast New Mexico

by RICHARD F. MEYER

United States Geological Survey

STATE BUREAU OF MINES AND MINERAL RESOURCES
NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY
CAMPUS STATION SOCORRO, NEW MEXICO

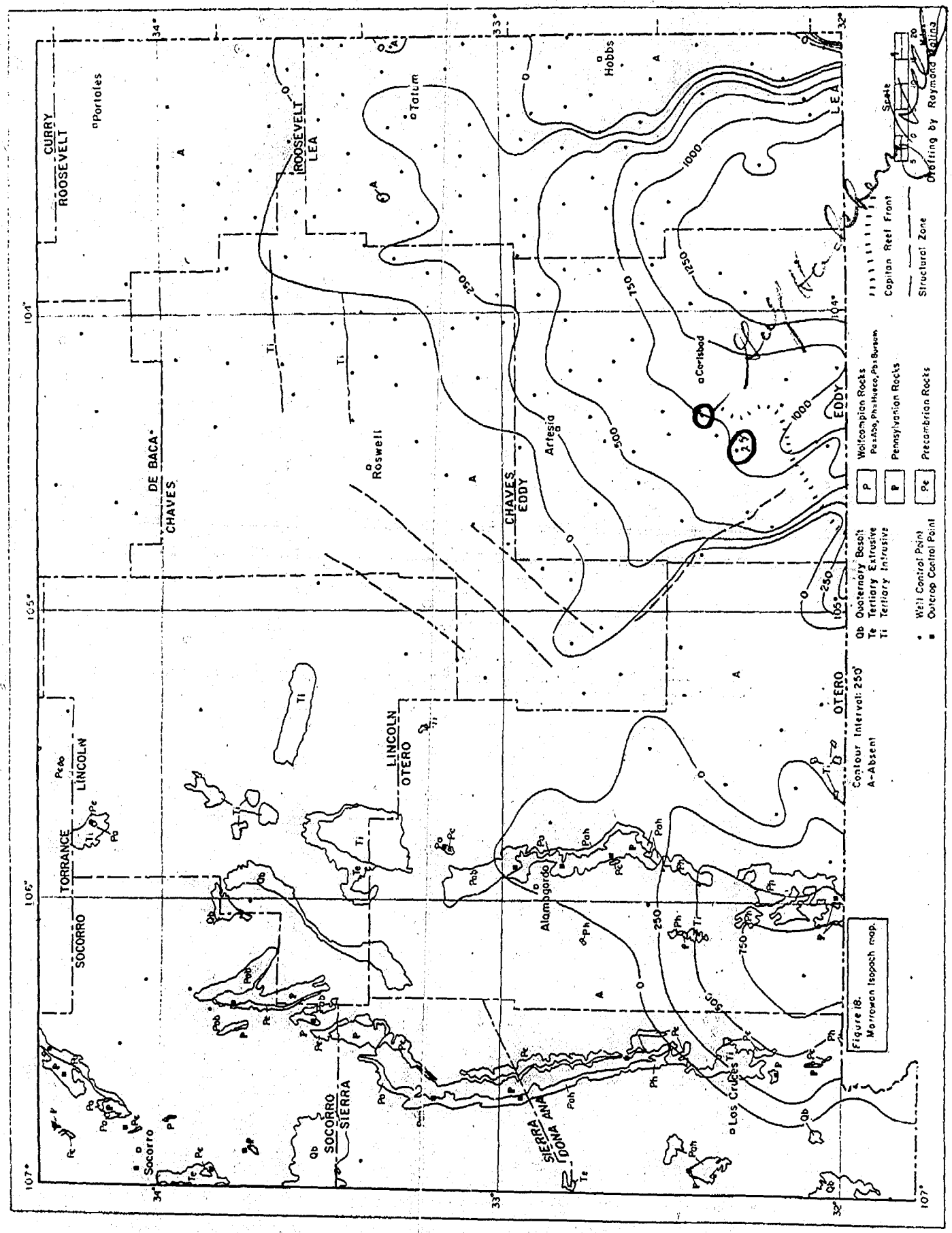


Figure 18. Morrowan isopach map.

D'
South

(E-12)
ly No. 1
Mc Millan Unit
S-T20S-R26E

(E-29)
Gulf No. 1
Hackberry Hills Unit
Sec. 1 - T22S - R25E

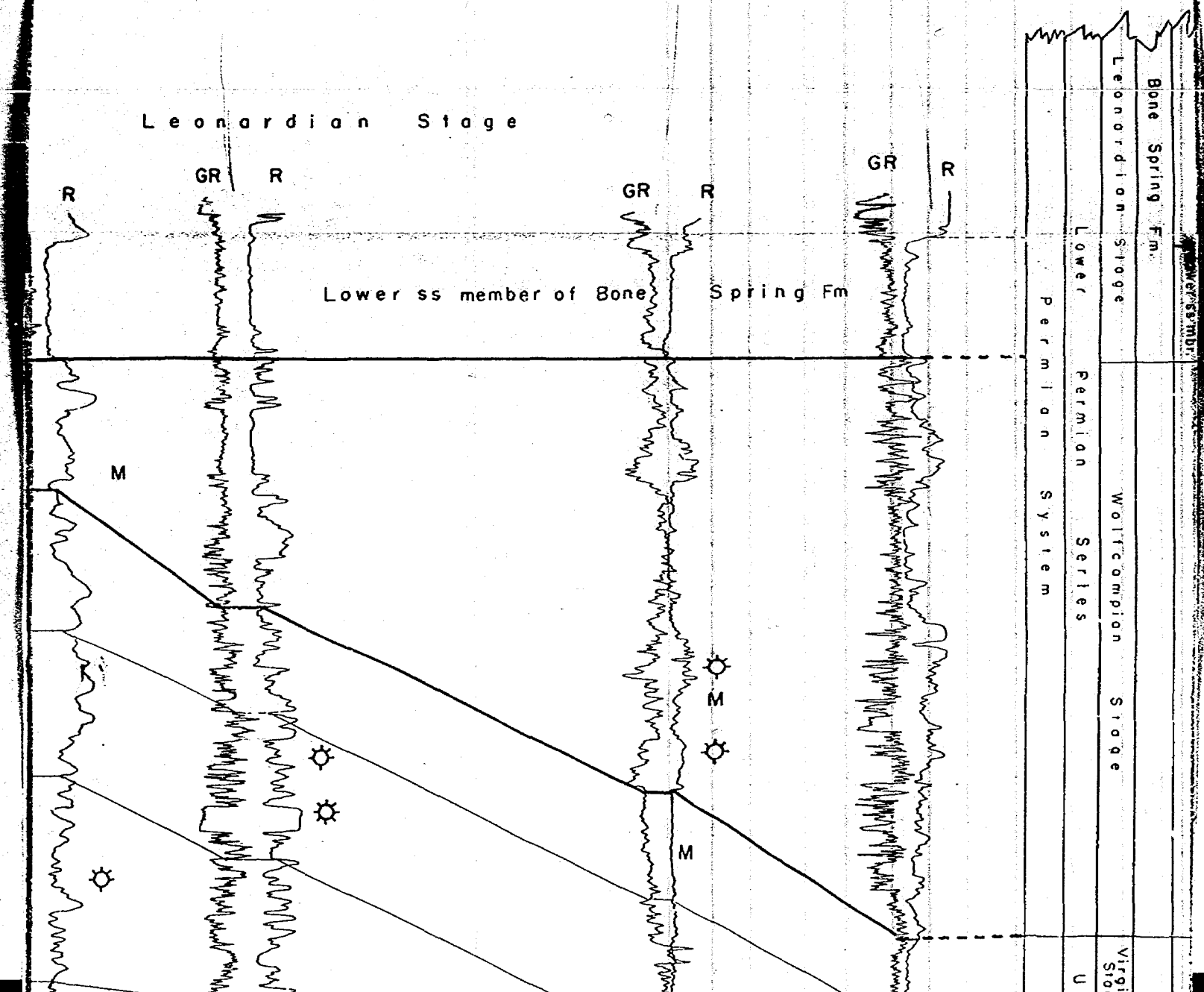
(E-21)
Union of California
No. 1 Federal - Wiggs
Sec. 31 - T24S - R27E

(E-23)
El Paso No. 1-X
Welch Unit
Sec. 21 - T26S - R27E

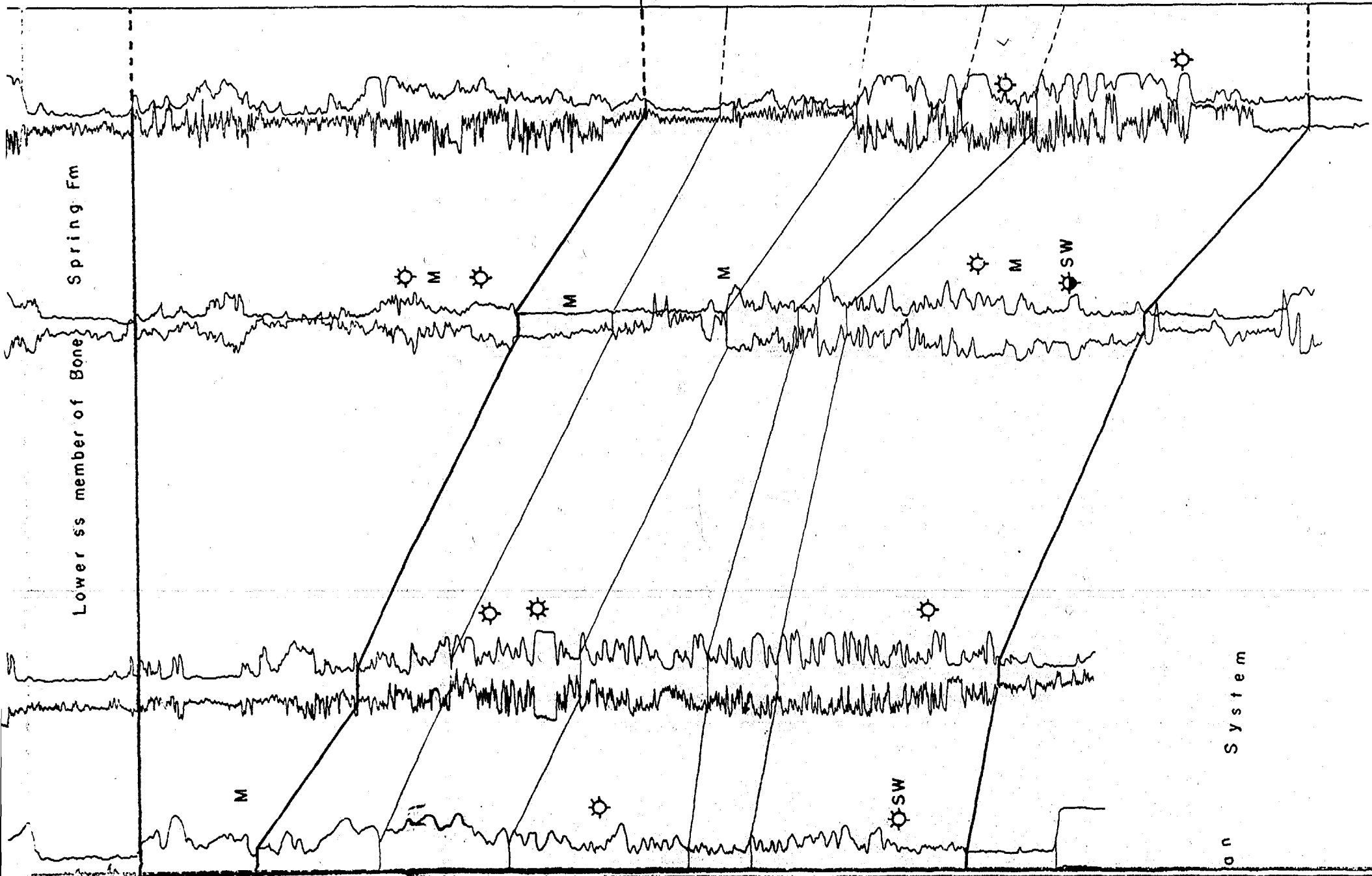
Welch Field

Intersection With
Cross Section A-A'

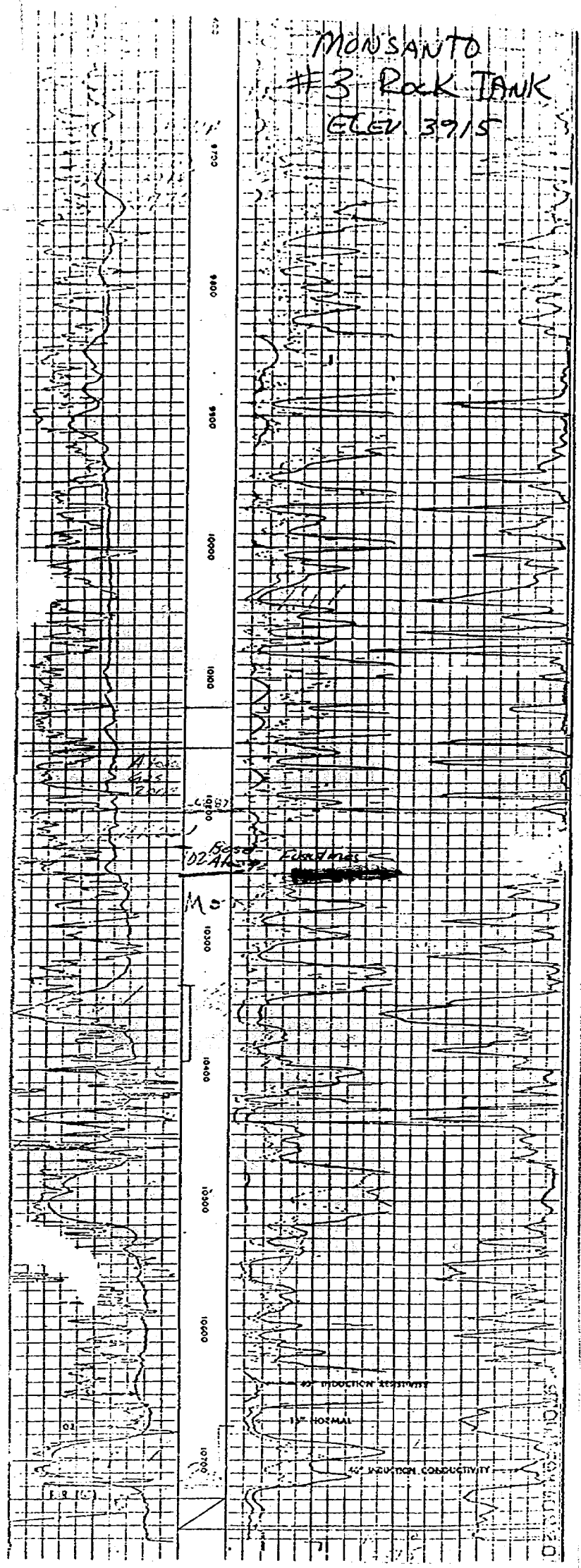
DELAWARE BASIN



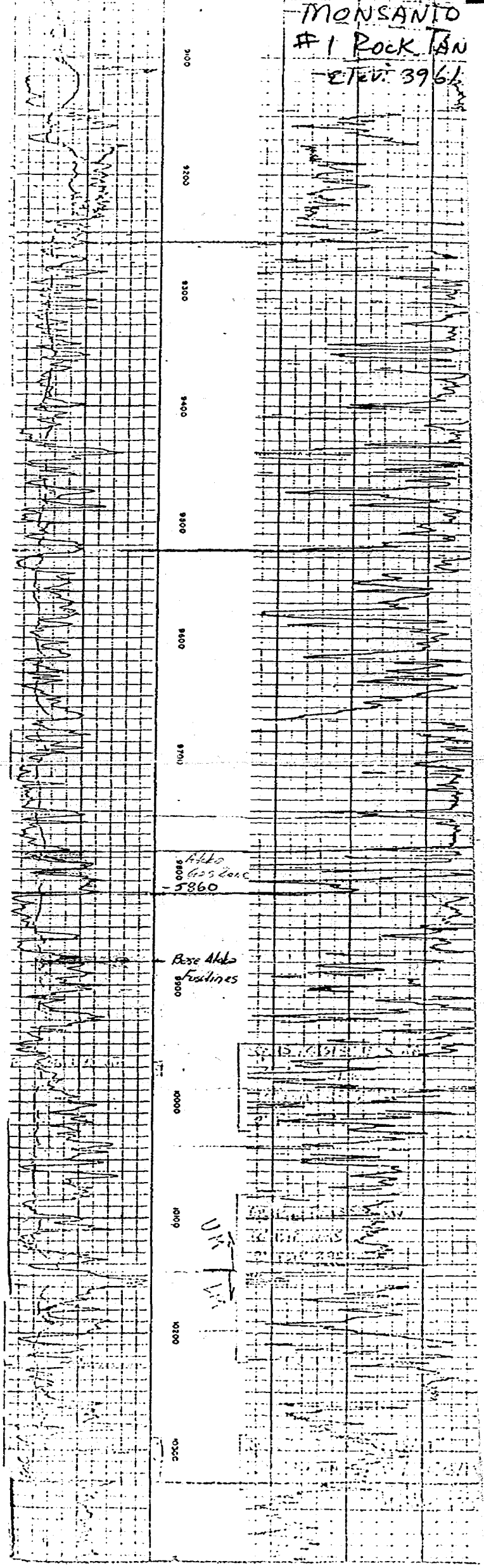
Lower ss mbr.							
Fm.							
Stage	Wolfcampian Stage		Virgilian Stage	Missourian Stage	Desmoinesian Stage	Derryan Stage	Morrowan Stage
Lower	Permian Series		Upper Series		Middle Series		Lower Series
Permian System			Pennsylvanian System				Pre – Pennsylvanian Systems



MONSANTO
#3 ROCK TANK
ELEV. 3915



BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Adobe EXHIBIT NO. 6
CASE NO. 4778
Submitted by Rowe
Hearing Date 23 May 23


MONSANTO
#1 ROCK TAN
ELEV. 3961
9400
9500
9600
9700
9800
9900
10000
10100
10200
10300
Atoka Gas Zone
-5860
Base Atoka Fossiles

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Adobe Exhibit No. 5
CASE NO. 4978
Submitted by Rowe
Hearing Date 23 May 73

R. V. HOLLINGSWORTH

HAROLD L WILLIAMS

PALEONTOLOGICAL LABORATORY
INCORPORATED
P. O. BOX 51 915 MU 2-4521
MIDLAND, TEXAS 79701

REPORT
March 1, 1968

EDDY COUNTY, NEW MEXICO

Monsanto Company
Rock Tank Unit No. 1 Elev: 3943 GL
Sec. 7, T 23 S, R 25 E
660 FSL & 920 FWL of sec.
(11 miles NW of White City)
Comp: 2-2-68 TD: 11,026 PB: 10,385 Dual gas discovery

Summary and Suggested "Markers"

8340: Base Wolfcamp series, by lithology
8340: Top Canyon series, by lithology
8420-8470: Canyon fusulines
8420-8430: Nondescript Canyon types
8430-8470: Lowermost Canyon types
8490: Top Strawn series, by lithology & correlations
8670-9420: Lower Strawn (Cherokee) fusulines
9440: Top middle Atoka limestone, by lithology
9470-9880: Atoka fusulines
9470-9570: Middle Atoka types
9720-9880: Lower Atoka types
9905: Top Morrow series, by lithology
9905-9990: Morrow fusulines
Based primarily on lithology:
10,330: Base Morrow series
10,330: Top "Barnett" (Chester) shale
10,630: Top "Meramec-Osage" limestone
10,930: Top Woodford shale
11,000: Top Fusselman dolomite
11,020 LSA: In Fusselman dolomite

Samples examined from 8000 to 11,020 feet, TD: 11,026 feet.

Detailed Report

8000-8420: No fossils found

8340: Suggested base Wolfcamp series, by lithology
8340: Suggested top Canyon series, by lithology

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Adobe EXHIBIT NO. 7
CASE NO. 4978
Submitted by Rowe
Hearing Date 23 May 73

R. V. HOLLINGSWORTH

HAROLD L WILLIAMS

PALEONTOLOGICAL LABORATORY
INCORPORATED
P. O. BOX 51 915 682-4521
MIDLAND, TEXAS 79701

REPORT

December 15, 1969

EDDY COUNTY, NEW MEXICO

Monsanto Company
Rock Tank Unit No. 3 Elev: 3915 DF
Sec. 5, T 23 S, R 25 E
1650 FS&W lines of sec.
(11 miles SW of Carlsbad)
Comp: 9-3-69 TD: 10,755 P&A

Summary and Suggested "Markers"

7590-7720: Lower Leonard fusulines
7720: Top Wolfcamp series, by lithology
8070-8710: Wolfcamp fusulines, Hueco types
8780: Base Wolfcamp series, by lithology
8780: Top Canyon series, by lithology
8790-8820: Canyon fusulines
8890: Top lower Strawn limestone, by lithology
8900-8950: Lower Strawn (Cherokee) fusulines
9790: Top middle Atoka limestone, by lithology & correlations
9820-10,230: Atoka fusulines
9820-9880: Middle Atoka types
10,180-10,230: Lower Atoka types
10,270: Top Morrow series, by lithology
10,290-10,300: Morrow fusulines
10,755 TD: In Morrow series, by lithology

Samples examined from 7500 to 10,755 feet, total depth.

Detailed Report

7500-7590: No fossils found

7590-7720: Lower Leonard fusulines
7590-7600: Parafusulina - lower Leonard types
7620-7630: Parafusulina; Schubertella; Schwagerina
7710-7720: Parafusulina - lower Leonard types

7720: Suggested top Wolfcamp series, by lithology

7720-8070: No usable fossils found

8070-8710: Wolfcamp fusulines, Hueco types
8070-8110: Schwagerina - nondescript Hueco types
8110-8680: No fossils found
8680-8710: Schwagerina - nondescript Hueco types

BEFORE EXAMINER UTZ
OIL CONSERVATION COMM'N
EXHIBIT NO. 8
CASE NO. 4978
Submitted by Rowe
Hearing Date 23 May 73

Form 9-330
(Rev. 5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: NM-0303836

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Smith Federal

2. NAME OF OPERATOR: Adobe Oil Company

9. WELL NO.: 2

3. ADDRESS OF OPERATOR: 601 Gihls Tower East, Midland, Texas 79701

10. FIELD AND POOL, OR WILDCAT: Wildcat - upper zone Rock Tank (Lower Morrow)

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface: 330' FEL & 660' FSL of section
At top prod. interval reported below
At total depth

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Unit P, Section 11, T-23-S, R-24-E

14. PERMIT NO. | DATE ISSUED

12. COUNTY OR PARISH: Eddy | 13. STATE: N. M.

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
1/28/73	3/17/73	4/16/73	3873.1 Gr.	3873.7

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
10,300	10,246	two	→	0-10,300	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
9704-9713 Atoka (wildcat)
10,185-10,225' Lower Morrow

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN
Compensated Neutron-Formation Density & Dual Laterlog

27. WAS WELL CORED: No

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8-5/8"	24 - 28#	2600'	12-1/4& 11"	1050 sxs	None
5-1/2"	17#	10,300'	7-7/8"	150 sxs	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
	None			

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-7/8"	10,097	10,100

31. PERFORATION RECORD (*Interval, size and number*)
9704-9713 1shot/ft — Atoka
10,185-10,188 1 shot/ft
10,196-10,200 1 shot/ft
10,203-10,209 1 shot/ft
10,219-10,225 1 shot/ft — Lower Morrow

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
9704-9713	3000 gal MAS acid 15%
10,185-10,225	3000 gal MAS acid 7-1/2%

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)
Est. within 30 days	Flowing (lower Morrow)	Shut-in

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
4/15/73	24	32/64		-0-	1,600	3	1600-1

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
975	packer		-0-	1,600	3	----

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*)
Transwestern should be taking gas within 30 days

TEST WITNESSED BY: Jim Payne

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED _____ TITLE Vice President DATE 4/18/73

*(See Instructions and Spaces for Additional Data on Reverse Side)

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Adobe EXHIBIT NO. 10
CASE NO. 4978
Submitted by Rowe
Hearing Date 23 May 73

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: *"Sacks Cement":* Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:
SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Strawn sand	8,390	8,410	No cores or tests
Atoka Limestone	9,694	9,715	No cores (blow out zone). DST 9661-9751 open 100 min., GTS 3", flowed 15,000,000 c.f.p.d. 1/2" ck, FP 2549-3131, 60" ISIP 3621. 180" FSIP 3576, rec 695' drilling fluid.
Upper Morrow Sd	9,902	9,918	No cores or tests.
Lower Morrow	10,192	10,224	No cores or tests

38. GEOLOGIC MARKERS

NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
Third Bone Spring Sand	7302	7302
Canyon lime	8206	8206
Upper Morrow formation	9880	9880

U.S. GOVERNMENT PRINTING OFFICE: 1963—O-683636

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Form C-107
5-1-61

APPLICATION FOR MULTIPLE COMPLETION

Operator		County	Date
Adobe Oil Company		Eddy	4/23/73
Address		**Lease**	**Well No.**
601 Gihls Tower East, Midland, TX 79701		Smith Federal	2
Location of Well — **Unit**	**Section**	**Township**	**Range**
P	11	23-S	24-E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES_____ NO X

2. If answer is yes, identify one such instance: Order No._____; Operator Lease, and Well No.: _____

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Wildcat (Atoka)		Rock Tank (Lower Morrow)
b. Top and Bottom of Pay Section (Perforations)	9704-9713		10,185-10,225
c. Type of production (Oil or Gas)	Gas		Gas
d. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing

4. The following are attached. (Please check YES or NO)

Yes	No	
X	☐	a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
X	☐	b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
X	☐	c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
X	☐	d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Jake L. Hamon, 908 Vaughn Bldg., Midland, Texas 79701

ARCO, Box 1610, Midland, Texas 79701

Monsanto Co., 101 N. Marienfeld, Midland, Texas 79701

Gulf Oil Corp., Box 1150, Midland, Texas 79701

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO_____. If answer is yes, give date of such notification 4/23/73.

CERTIFICATE: I, the undersigned, state that I am the Vice President of the Adobe Oil Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

_____
Signature

*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Adobe EXHIBIT NO. 11
CASE NO. 4978
Submitted by Rowe
Hearing Date 23 May 73

NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION FOR DISCOVERY ALLOWABLE AND CREATION OF A NEW POOL

Form C-101
Adopted 2-1-66

NOTE: This form is to be filed and attachments made in accordance with the provisions of Rule 509. If discovery is claimed for more than one zone, separate forms must be filed for each.

Operator	Address
Adobe Oil Company	601 Gihls Tower East, Midland, Texas 79701

Lease Name	Well No.	County
Smith Federal	2	Eddy

Well Location

Unit Letter P : 330 Feet from The east Line and 660 Feet

From the south Line of Section 11, Township 23S, Range 24-E, NMPM

Suggested Pool Names *(List in order of preference)*

1. Rock Tank (Atoka) 2. makes no difference 3.

Name of Producing Formation	Perforations	Date of Filing Form C-104
Atoka	9704-9713	not filed at present

Was "Affidavit of Discovery" Previously Filed For This Well in this Pool?	If Yes, Give Date of Filing	Date Well was Spudded	Date Compl. Ready to Prod.
No		1/28/73	4/19/73

Total Depth	Plugged Back Depth	Depth Casing Shoe	Tubing Depth	Elevation *(Gr., DF, RKB, RT, etc.)*
10,300	10,246	10,300	10,097	3873.7 Gr.

Oil Well Potential *(Test to be taken only after all load oil has been recovered)*

Gas Well

____ Bbls. Oil Per Day Based On ____ Bbls In ____ Hours; ____ Bbls Water Per Day Based On ____ Bbls

In Hours; Gas Production During Test: MCF; Gas-Oil Ratio: Method Of Producing: Chk. Size

NEAREST PRODUCTION TO THIS DISCOVERY *(Includes past and present oil or gas producing areas and zones whether this discovery is based on horizontal or vertical separation):*

Pool Name	Name of Producing Formation	Top of Pay	Bottom of Pay	Currently Producing?
Rock Tank (U & L Morrow)	U & L Morrow	9874 & 10,182	9898 & 10,210	Yes

Horizontal Distance and Direction from Subject Discovery Well to the Nearest Well in this Pool	Vertical Distance from Subject Discovery Zone to Producing Interval this Pool

NEAREST COMPARABLE PRODUCTION *(Includes past and present oil or gas production from this pay or formation only):*

Pool Name	Top of Pay	Bottom of Pay	Currently Producing?
Carlsbad Atoka South	10,830	10,880	Yes

Horizontal Distance and Direction from Subject Discovery Well to the Nearest Well in this Comparable Pool: 13 miles east

Is "County Deep" Discovery Allowable Requested for Subject Discovery Well?	If Yes, Give Name, Location, and Depth of Next Deepest Oil Production in this County

Is the Subject Well Multiple Completion?	Is Discovery Allowable Requested for other Zone(s)?	If Yes, Name all Such Formations
Yes	No	

LIST ALL OPERATORS OWNING LEASES WITHIN ONE MILE OF THIS WELL *(Attach additional sheet if necessary)*

NAME	ADDRESS

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Adobe EXHIBIT NO. 12
CASE NO. 4978
Submitted by Rowe
Hearing Date 23 May 73

Attach evidence that all of the above operators have been furnished a copy of this application. Any of said operators who intends to object to the designation of the subject well as a discovery well, eligible to receive a discovery allowable, must notify the appropriate District Office and the Santa Fe Office of the Commission of such intent in writing within ten days after receiving a copy of this application.

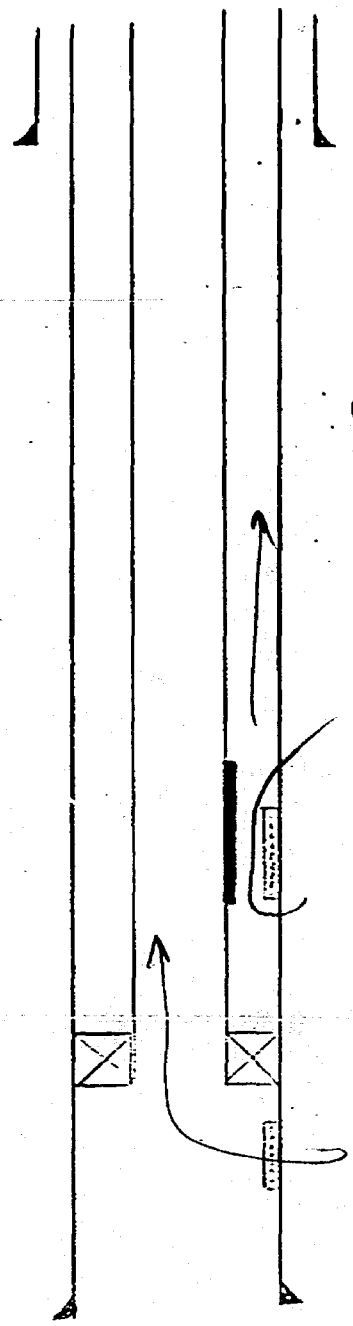
Remarks:

CERTIFICATION

I hereby certify that all rules and regulations of the New Mexico Oil Conservation Commission have been complied with, with respect to the subject well, and that it is my opinion that a bona fide discovery of a hitherto unknown common source of oil supply has been made in said well. I further certify that the discovery allowable for the subject well, if authorized, will be produced from the subject zone in this well only. Further, that the information given herein and attached hereto is true and complete to the best of my knowledge and belief.

Signature — Vice President (Position) — 4/25/73 (Date)

DIAGRAMMATIC SKETCH OF MULTIPLE COMPLETION
ADOBE OIL COMPANY - SMITH FEDERAL NO. 2



2600' 8-5/8" 24 & 28# casing. Cemented w/1050 sxs. Cement circulated. Ran 3 centralizers on bottom 3 jts.

2-7/8" 6.4# tubing

Top of cement at 8900' temperature survey.

Blast nipples 9625-9725'.

9704'

10 holes - Atoka perf.

9713'

Otis sliding sleeve

Otis on-off tool 10,097'

10,100'

Otis permanent type packer

10,106'

10,185'

23 holes - lower Morrow perf.

10,225'

10,300' TD, 5-1/2" 17# casing cemented w/150 sxs. Centralizers on every other collar. Used 16.

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Adobe EXHIBIT NO. 13
CASE NO. 4978
Submitted by Rowe
Hearing Date 23 May 73

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Adobe EXHIBIT NO. 14
CASE NO. 4978
Submitted by Rowe
Hearing Date 23 may 73

NEW MEXICO OIL CONSERVATION COMMSSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

Type Test: [X] Initial [ ] Annual [ ] Special			Test Date: 4-19-73		
Company: ADOBE OIL COMPANY		Connection: TO AIR			
Pool: ROCK TANK		Formation: ATOKA		Unit	
Completion Date: 4-10-73	Total Depth: 10,300	Plug Back TD: 10,250	Elevation: 3874 GR.	Farm or Lease Name: SMITH FEDERAL	
Csg. Size: 5½	Wt.: 17.0	d: 4.892	Set At: 10,[illegible]	Perforations: From 9704 To 9713	Well No.: 2
Tbg. Size: 2½	Wt.: 6.5	d: 2.441	Set At: 10,0[illegible]	Perforations: From To	Unit P Sec. 11 Twp. 23S Rge. 24E
Type Well — Single — Bradenhead — G.G. or G.O. Multiple: G.G. MULTIPLE			Packer Set At: 10,091	County: EDDY	
Producing Thru: CASING	Reservoir Temp. °F: 175 @ 10,200	Mean Annual Temp. °F: 60	Baro. Press. — P_a: 13.2	State: NEW MEXICO	

L	H	G_g	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
9709	9709	.5819	.62	.7[illegible]	TRACE		6"	FLANGE

NO.	FLOW DATA: Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	Temp. °F	CASING DATA: Press. p.s.i.g.	Temp. °F	Duration of Flow
SI							CHOKE		2885.0		96 HRS
1.	6"	X	2.00"	[illegible]	[illegible]	[illegible]	8/64		2832.0	64	60 MIN
2.	6"	X	2.00"	660.0	15.0	70	14/64		2705.0	68	90 MIN
3.	6"	X	2.00"	740.0	49.0	78	18/64		2510.0	69	60 MIN
4.	6"	X	2.00"	900.0	70.0	48	22/64		2252.0	70	60 MIN
5.											

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor F_t	Gravity Factor F_g	Super Compress. Factor, F_{pv}	Rate of Flow Q, Mcfd
1	19.16	40.39	313.2	0.[illegible]	1.311	1.051	1029
2.	19.16	100.[illegible]	673.2	0.9905	1.311	1.0[illegible]	2630
3.	19.16	192.[illegible]	753.2	0.9831	1.311	1.0[illegible]	5000
4.	19.16	251.[illegible]	913.2	1.012	1.311	1.0[illegible]	6925
5.							

NO.	P_r	Temp. °R	T_r	Z
1.	1.21	556	1.59	.9[illegible]
2.	1.00	530	1.51	.902
3.	1.12	538	1.54	.931
4.	1.35	50[illegible]	1.[illegible]	.[illegible]
5.				

Gas Liquid Hydrocarbon Ratio TRACE Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons ______ Deg.
Specific Gravity Separator Gas .5819 XXXXXXXXXX
Specific Gravity Flowing Fluid XXXXX
Critical Pressure 672 P.S.I.A. ______ P.S.I.A.
Critical Temperature 350 R ______ R

P_c 2898.2 P_c^2 8400

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	8095	2845.0	8100	300
2	7330	2718.2	7395	1005
3	[illegible]	[illegible]	[illegible]	[illegible]
4	5131	2283.2	5213	3187
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2}$ = 2.6357

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$ = 2.1990

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$ = 15,230

Absolute Open Flow 15,2[illegible] Mcfd @ 15.025 Angle of Slope θ 51.02 Slope, n 0.313

Remarks ______

Approved By Commission: Conducted By: Checked By:

PC&M 5907

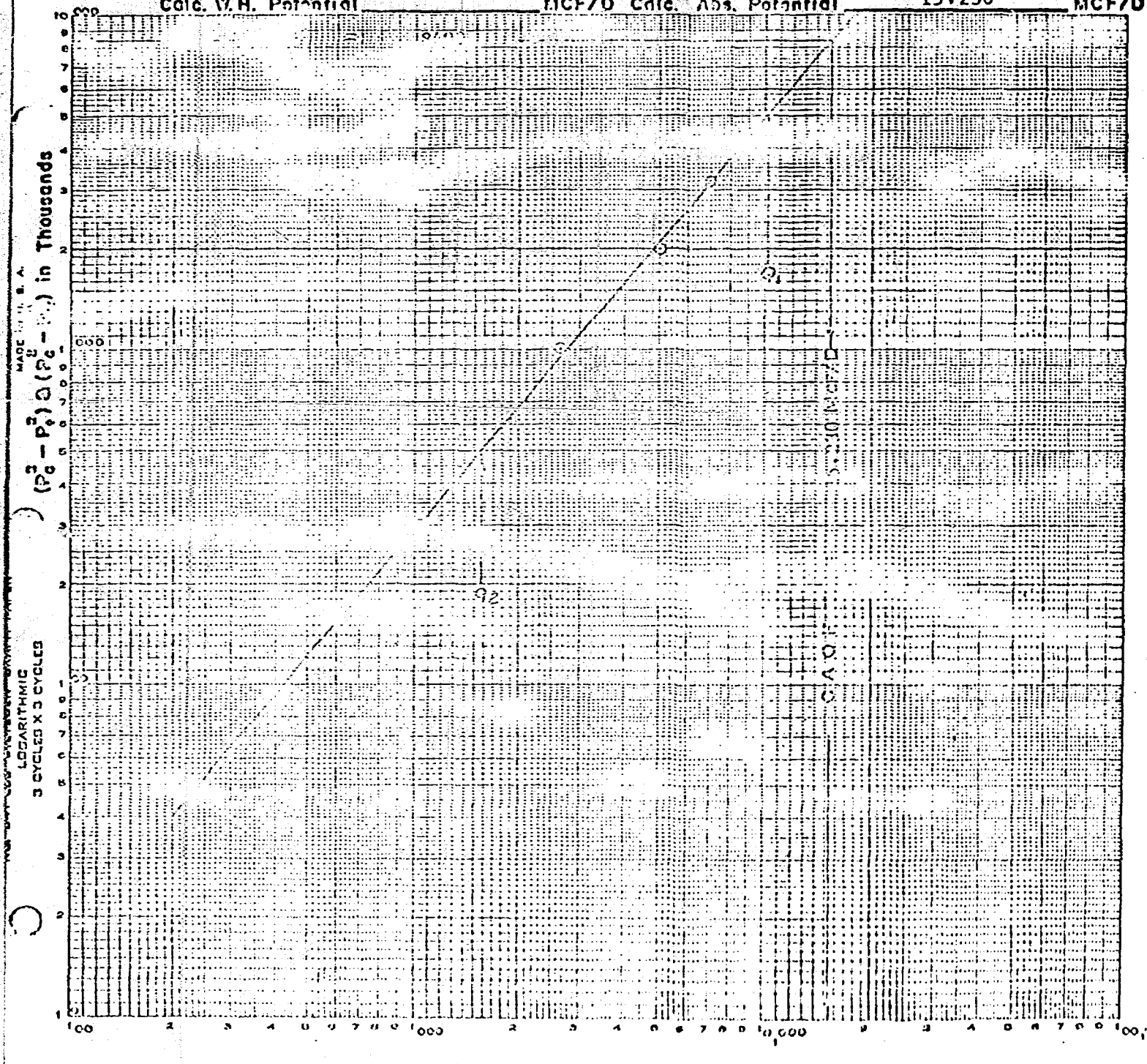
BACK PRESSURE CURVE

Operator ADOBE OIL COMPANY Lease SMITH FEDERAL Well No. 2

County EDDY Field ROCK TANK (ATOKA) Location P-SEC. 11, T23S, R24E

Date of Test 4-19-73 Slope "n" 0.813 W.H. _____ Abs.

Calc. W.H. Potential _____ MCF/D Calc. Abs. Potential 15,230 MCF/D



SLOPE (n) = Q1 = 10150 = 8.0064660

Q2 = 1560 = 7.1

CAOF = 6926 $\frac{8400}{3187}$ $^{0.813}$ = 15,230 MCF/D

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISS.
Adobe EXHIBIT NO. 15
CASE NO. 4978
Submitted by: Rowe
Hearing Date 23 May 73

NEW MEXICO OIL CONSERVATION COMMSSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

Type Test: ☒ Initial ☐ Annual ☐ Special				Test Date: 4-19-73	
Company: ADOBE OIL COMPANY			Connection: TO AIR		
Pool: ROCK TANK			Formation: LOWER MORROW		Unit
Completion Date: 4-10-73	Total Depth: 10,300		Plug Back TD: 10,250	Elevation: 3874 GR.	Farm or Lease Name: SMITH FEDERAL
Csg. Size: 5½ / Wt.: 17 / d: / Set At: 10,300			Perforations: From 10,185 To 10,225		Well No.: 2
Tbg. Size: 2⅜ / Wt.: 6.5 / d: / Set At: 10,091			Perforations: From OPEN To ENDED		Unit: P / Sec.: 11 / Twp.: 23S / Rge.: 24E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: G.G. MULTIPLE			Packer Set At: 10,091		County: EDDY
Producing Thru: TUBING	Reservoir Temp. °F: 175 @ 10,200		Mean Annual Temp. °F: 60	Baro. Press. – P_a: 13.2	State: NEW MEXICO

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
10091	10091	.5834	.76	.75	TRACE		6"	FLANGE

	FLOW DATA					TUBING DATA		CASING DATA		
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI							1619.0		CHOKE		72.0
1.	6"	X	1.50"	510.0	2.0	84	1380.0	73	8/64		1.0
2.	6"	X	1.50"	560.0	9.0	82	1035.0	74	12/64		1.0
3.	6"	X	1.50"	520.0	18.0	80	823.0	74	16/64		1.0
4.	6"	X	1.50"	580.0	22.0	78	686.0	72	22/64		1.0
5.											

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1.	10.70	32.34	523.3	0.9777	1.310	1.036	459
2.	10.70	71.88	573.2	0.9736	1.310	1.039	1025
3.	10.70	97.97	533.2	0.9813	1.310	1.038	1399
4.	10.70	114.24	593.2	0.9831	1.310	1.042	1640
5.							

NO.	P_t	Temp. °R	T_t	Z
1.	.78	544	1.55	.931
2.	.85	542	1.55	.926
3.	.79	540	1.54	.928
4.	.88	538	1.54	.921
5.				

Gas Liquid Hydrocarbon Ratio: DRY GAS Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: Deg.
Specific Gravity Separator Gas: .5834 XXXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX
Critical Pressure: 672 P.S.I.A. P.S.I.A.
Critical Temperature: 350 R R

P_c P_c^2

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		1747.2	3052.7	1278.7
2		1324.2	1753.5	2577.9
3		1072.2	1149.6	3181.8
4				
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.2584$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.2584$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2064$

Absolute Open Flow: 2064 Mcfd @ 15.025 Angle of Slope θ: 45.0° Slope, n: 1.0 LIMITED

Remarks: SHUT-IN WELLHEAD PRESSURE MEASURED WITH MERIDIAN GAUGE AT 10,200'

Approved by Commission	Calculated By	Submitted By	Checked By
	D.T.	R.L.W.	J.W.W.

FORM 2007

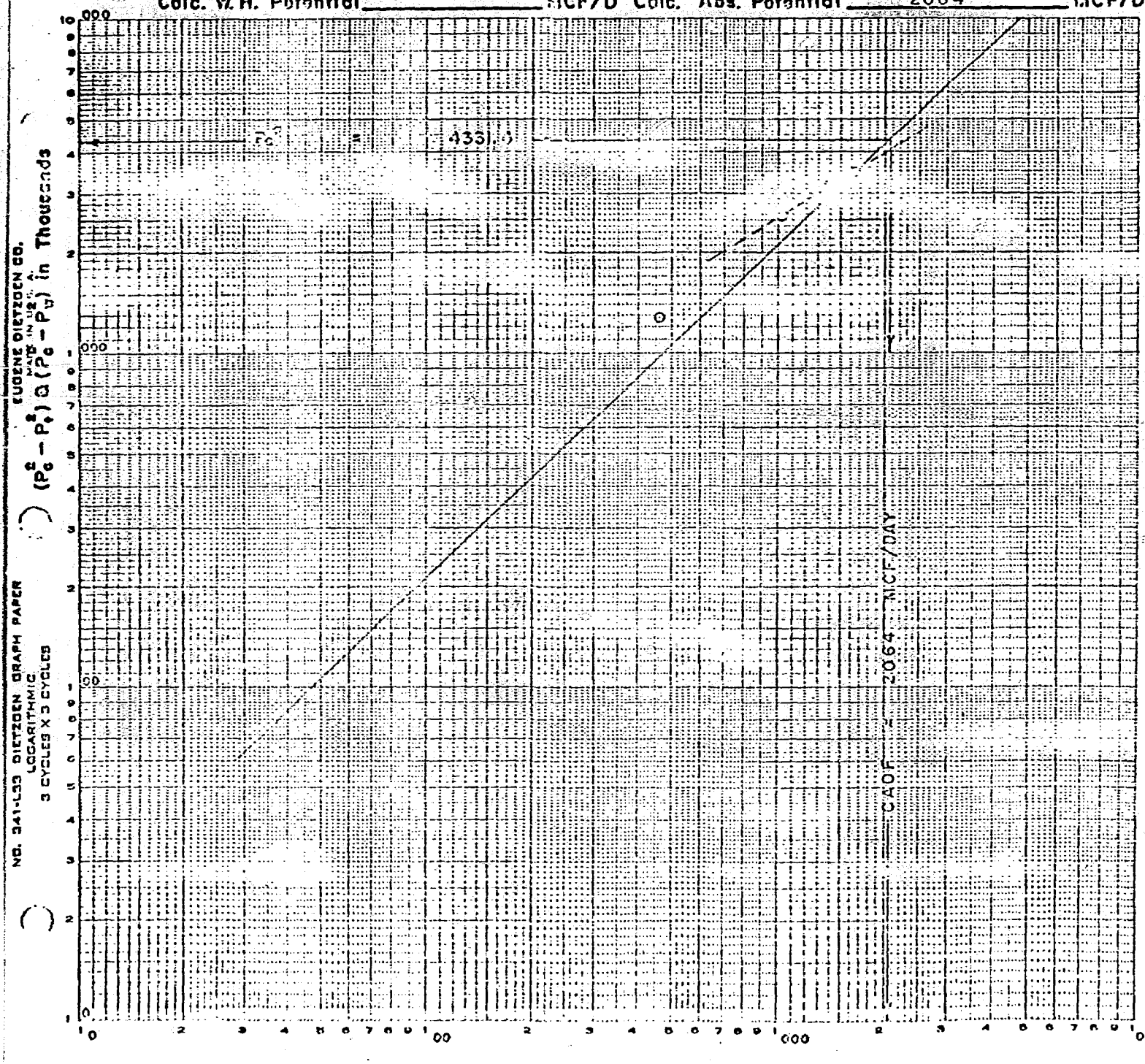
BACK PRESSURE CURVE

Operator ADOBE OIL COMPANY Lease SMITH FEDERAL Well No. 2

County EDDY Field ROCK TANK Location Unit P, Sec. 11, T 23S, R 24E

Date of Test 4-19-73 Slope "n" 1.00 Limited W. H. _____ Abs.

Calc. W. H. Potential _____ MCF/D Calc. Abs. Potential 2064 MCF/D



$$CAOF = 1640 \left(\frac{4331.4}{3441.8}\right)^{1.00} = 2064 \text{ Mcf/Day}$$

ROCK TANK UNIT
MONSANTO
(OPER)
ROCK TANK

DARK CANYON

Case 4978

ADOBE OIL COMPANY

601 GIHLS TOWER EAST
MIDLAND, TEXAS 79701
915 683-4701

Case 4978

May 2, 1973

United States Department of the Interior
Geological Survey
Artesia, New Mexico 88210

Re: Adobe Oil Company
Smith Federal No. 2
Eddy County, NM

Gentlemen:

Enclosed for your files are the papers listed below filed in connection with the drilling and completion of the above well:

1. Two copies each of Schlumberger's Compensated Neutron-Formation Density log, and Dual Latereleg.
2. Two copies of NMOCC Form C-122.
3. Two copies of NMOCC "Application for Multiple Completion".
4. Two copies of Form C-102.
5. Five copies of deviation report.
6. One copy of NMOCC Order R-4456.
7. Two copies of area plat.
8. Two copies of USGS Form 9-331.

If you need any additional information, please do not hesitate to call or write.

Yours very truly,

M. D. Rogers

M. D. Rogers
Vice President

MDR:js
Enclosures
cc: NMOCC at Artesia w/attachments
NMOCC at Santa Fe w/attachments

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: Adobe Oil Company

3. ADDRESS OF OPERATOR: 601 Gihls Tower East, Midland, Texas 79701

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 330' FEL & 660' FSL of section

MAY - 3 1973
OIL CONSERVATION COM.
Santa Fe

5. LEASE DESIGNATION AND SERIAL NO.: NM 0303836

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Smith Federal

9. WELL NO.: 2

10. FIELD AND POOL, OR WILDCAT: Rock Tank U&L Morrow

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Section 11, Unit P, T-23-S R-24-E

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 3873.7' Gr.

12. COUNTY OR PARISH: Eddy

13. STATE: NM

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Final report.			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

On 3/20/73 ran temperature survey and found top of cement at 8900'. On 3/24/73 rigged up pulling unit and ran tubing with bit and scrapper. Cleaned hole out to 10,246'. Perforated 10 holes from 9704-13', 4 holes 10,185-188', 5 holes 10,196-200', 7 holes 10,203-209', and 7 holes 10,219-25'. Set Otis packer 10,100'. Ran 2-7/8" tubing and latched onto packer. Swabbed upper zone and made a small amount of gas. Acidized with 3000 gallons 15% MSAS acid. Well started flowing from upper performations which is the Atoka formation. This zone will be a wildcat. Flowed well until clean. Closed sliding sleeve and pulled plug to open lower Morrow perforations. Well flowed small amount of gas and was treated with 3000 gal MS acid. Well started flowing and was flowed until clean. On 4/23/73 the four-point test was taken on both zones. the CAOF on the Atoka section (upper perf.) was 15,230 Mcf while flowed through the annulus. The CAOF on the lower perforations (lower Morrow) was 2074 Mcf while flowing through the tubing. Final report.

18. I hereby certify that the foregoing is true and correct

SIGNED M. M. Hogue TITLE Vice President DATE 5/2/73

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Case 4978

Case 4978

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Form C-107
5-1-61

APPLICATION FOR MULTIPLE COMPLETION

Operator		County	Date
Adobe Oil Company		Eddy	4/23/73
Address		Lease	Well No.
601 Gihls Tower East, Midland, TX 79701		Smith Federal	2
Location of Well: Unit	P	Section 11	Township 23-S	Range 24-E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES_____ NO X

2. If answer is yes, identify one such instance: Order No._____; Operator Lease, and Well No.:_____

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Wildcat (Atoka)		Rock Tank (U. Morrow)
b. Top and Bottom of Pay Section (Perforations)	9704-9713		10,185-10,225
c. Type of production (Oil or Gas)	Gas		Gas
d. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing

RECEIVED
MAY - 3 1973
OIL CONSERVATION COMM.
Santa Fe

4. The following are attached. (Please check YES or NO)

Yes	No	
X		a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
X		b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
X		c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
X		d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Jake L. Hamon, 908 Vaughn Bldg., Midland, Texas 79701

ARCO, Box 1610, Midland, Texas 79701

Monsanto Co., 101 N. Marienfeld, Midland, Texas 79701

Gulf Oil Corp., Box 1150, Midland, Texas 79701

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO_____. If answer is yes, give date of such notification 4/23/73.

CERTIFICATE: I, the undersigned, state that I am the Vice President of the Adobe Oil Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

M. D. Boyce
Signature

*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

ADOBE OIL COMPANY

601 GIHLS TOWER EAST
MIDLAND, TEXAS 79701
915 683-4701

Set for hearing

May 2, 1973

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Adobe Oil Company
Smith Federal No. 2
Eddy County, NM

Gentlemen:

Enclosed for your files are the papers listed below filed in connection with the drilling and completion of the above well:

1. Three copies of form C-107.
2. One copy of form C-122.
3. One copy of "Packer Setting Affidavit".
4. One copy of Schlumberger's "Dual Laterolog" and "Compensated Neutron-Formation Density" log.
5. One copy of NMOCC Order R-4456.
6. One copy of area plat.
7. One copy of USGA form 9-331.

If you need any additional information, please do not hesitate to call or write.

Yours very truly,

M. D. Rogers
Vice President

MDR:js
Enclosures
cc: USGS at Artesia w/attachments
NMOCC at Artesia w/attachments

Case 4978

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

APPLICATION FOR MULTIPLE COMPLETION

Core 4978

Form C-107
5-1-61

Operator			County	Date
Adobe Oil Company			Eddy	4/23/73
Address			Lease	Well No.
601 Gihls Tower East, Midland, TX 79701			Smith Federal	2
Location of Well	Unit	Section	Township	Range
	P	11	23-S	24-E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES_____ NO X
2. If answer is yes, identify one such instance: Order No._____ ; Operator Lease, and Well No.: _____

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Wildcat (Atoka)		Rock Tank (U. Morrow)
b. Top and Bottom of Pay Section (Perforations)	9704-9713		10,185-10,225
c. Type of production (Oil or Gas)	Gas		Gas
d. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing

RECEIVED
MAY - 3 1973
OIL CONSERVATION COMM.
Santa Fe

4. The following are attached. (Please check YES or NO)

Yes	No	
X		a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
X		b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
X		c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
X		d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Jake L. Hamon, 908 Vaughn Bldg., Midland, Texas 79701

ARCO, Box 1610, Midland, Texas 79701

Monsanto Co., 101 N. Marienfeld, Midland, Texas 79701

Gulf Oil Corp., Box 1150, Midland, Texas 79701

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO_____. If answer is yes, give date of such notification 4/23/73.

CERTIFICATE: I, the undersigned, state that I am the Vice President of the Adobe Oil Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

M. A. Boyle
Signature

*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.: NM 0303836

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

7. UNIT AGREEMENT NAME:

2. NAME OF OPERATOR: Adobe Oil Company

8. FARM OR LEASE NAME: Smith Federal

3. ADDRESS OF OPERATOR: 601 Gihls Tower East, Midland, Texas 79701

9. WELL NO.: 2

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 330' FEL & 660' FSL of section

10. FIELD AND POOL, OR WILDCAT: Rock Tank U&L Morrow

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Section 11, Unit P, T-23-S R-24-E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 3873.7' Gr.

12. COUNTY OR PARISH: Eddy

13. STATE: NM

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Final report.			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

On 3/20/73 ran temperature survey and found top of cement at 8900'. On 3/24/73 rigged up pulling unit and ran tubing with bit and scrapper. Cleaned hole out to 10,246'. Perforated 10 holes from 9704-13', 4 holes 10,185-188', 5 holes 10,196-200', 7 holes 10,203-209', and 7 holes 10,219-25'. Set Otis packer 10,100'. Ran 2-7/8" tubing and latched onto packer. Swabbed upper zone and made a small amount of gas. Acidized with 3000 gallons 15% MSAS acid. Well started flowing from upper performations which is the Atoka formation. This zone will be a wildcat. Flowed well until clean. Closed sliding sleeve and pulled plug to open lower Morrow perforations. Well flowed small amount of gas and was treated with 3000 gal MS acid. Well started flowing and was flowed until clean. On 4/23/73 the four-point test was taken on both zones. the CAOF on the Atoka section (upper perf.) was 15,230 Mcf while flowed through the annulus. The CAOF on the lower perforations (lower Morrow) was 2074 Mcf while flowing through the tubing. Final report.

18. I hereby certify that the foregoing is true and correct

SIGNED M. W. Hogue TITLE Vice President DATE 5/2/73

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

SANTA FE, NEW MEXICO

6-1-56

PACKER-SETTING AFFIDAVIT
(Dual Completions)

STATE OF TEXAS)
)ss
County of MIDLAND)

M. D. ROGERS, being first duly sworn according to law, upon his oath deposes and says:

That he is of lawful age and has full knowledge of the facts herein below set out.

That he is employed by Adobe Oil Company in the capacity of Vice President and as such is its authorized agent.

That on March 25, 19 73, he personally supervised the setting of a Otis 13-17 packer (Make and Type of Packer) in Adobe Oil Company (Operator)'s Smith Federal (lease) Well No. 2, located in Unit Letter P, Section 11, Township 23-S, Range 24-E, NMPM, Eddy County, New Mexico.

That said packer was set at a subsurface depth of 10,100 feet, said depth measurement having been furnished by tubing talley.

That the purpose of setting this packer was to effect a seal in the annular space between the two strings of pipe where the packer was set so as to prevent the commingling, within the well-bore, of fluids produced from a stratum below the packer with fluids produced from a stratum above the packer. That this packer was properly set and that it did, when set, effectively and absolutely seal off the annular space between the two strings of pipe where it was set in such manner as that it prevented any movement of fluids across the packer.

ADOBE OIL COMPANY
(Company)

M. D. Rogers
(Its Agent)

Subscribed and sworn to before me this the 24th day of April, AD, 19 73.

Notary Public in and for the County of Midland, State of Texas.

My commission expires 6/1/73

NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

Type Test: ☒ Initial ☐ Annual ☐ Special			Test Date: 4-19-73	
Company: ADOBE OIL COMPANY	Connection: TO AIR			Unit:
Pool: ROCK TANK	Formation: ATOKA			
Completion Date: 4-10-73	Total Depth: 10,300	Plug Back TD: 10,250	Elevation: 3874 GR.	Farm or Lease Name: SMITH FEDERAL
Csg. Size: 5½ / Wt.: 17.0 / d: 4.892 / Set At: 10,300		Perforations: From 9704 To 9713		Well No.: 2
Tbg. Size: 2½ / Wt.: 6.5 / d: 2.441 / Set At: 10,091		Perforations: From To		Unit: P / Sec.: 11 / Twp.: 23S / Rge.: 24E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: G.G. MULTIPLE		Packer Set At: 10,091		County: EDDY
Producing Thru: CASING	Reservoir Temp. °F: 175 @ 10,200	Mean Annual Temp. °F: 60	Baro. Press. – P_a: 13.2	State: NEW MEXICO
L: 9709 / H: 9709	Gg: .5819	% CO_2: .62	% N_2: .71	% H_2S: TRACE
Prover:	Meter Run: 6"	Taps: FLANGE		

NO.	FLOW DATA: Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	Temp. °F	CASING DATA: Press. p.s.i.g.	Temp. °F	Duration of Flow
SI							CHOKE		2885.0		96 HRS
1.	6"	X	2.00"	800.0	2.0	96	8/64		2832.0	64	60 MIN
2.	6"	X	2.00"	660.0	15.0	70	14/64		2705.0	68	80 MIN
3.	6"	X	2.00"	740.0	49.0	78	18/64		2510.0	69	60 MIN
4.	6"	X	2.00"	900.0	70.0	48	22/64		2252.0	70	60 MIN
5.											

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor F_t	Gravity Factor F_g	Super Compress. Factor, F_{pv}	Rate of Flow Q, Mcfd
1	19.16	40.32	813.2	0.9671	1.311	1.051	1029
2.	19.16	100.49	673.2	0.9905	1.311	1.052	2630
3.	19.16	192.11	753.2	0.9831	1.311	1.054	5000
4.	19.16	251.83	913.2	1.012	1.311	1.082	6926
5.							

NO.	P_r	Temp. °R	T_r	Z
1.	1.21	556	1.59	.906
2.	1.00	530	1.51	.903
3.	1.12	538	1.54	.901
4.	1.36	508	1.45	.854
5.				

Gas Liquid Hydrocarbon Ratio: TRACE Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: Deg.
Specific Gravity Separator Gas: .5819 XXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX
Critical Pressure: 672 P.S.I.A. P.S.I.A.
Critical Temperature: 350 R R

P_c 2898.2 P_c^2 8400

NO	P_t^2	P_w	R_w^2	$P_c^2 - R_w^2$
1	8095	2846.0	8100	300
2	7389	2719.2	7394	1006
3	6367	2531.2	6407	1993
4	5131	2283.2	5213	3187
5				

(1) $\frac{P_c^2}{P_c^2 - R_w^2} = 2.6357$ (2) $\left[\frac{P_c^2}{P_c^2 - R_w^2}\right]^n = 2.1990$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - R_w^2}\right]^n = 15,230$

Absolute Open Flow: 15,230 Mcfd @ 15.025 Angle of Slope θ: 51.0° Slope, n: 0.813

Remarks:

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	D.T.	R.L.W.	J.W.W.

FORM 2987

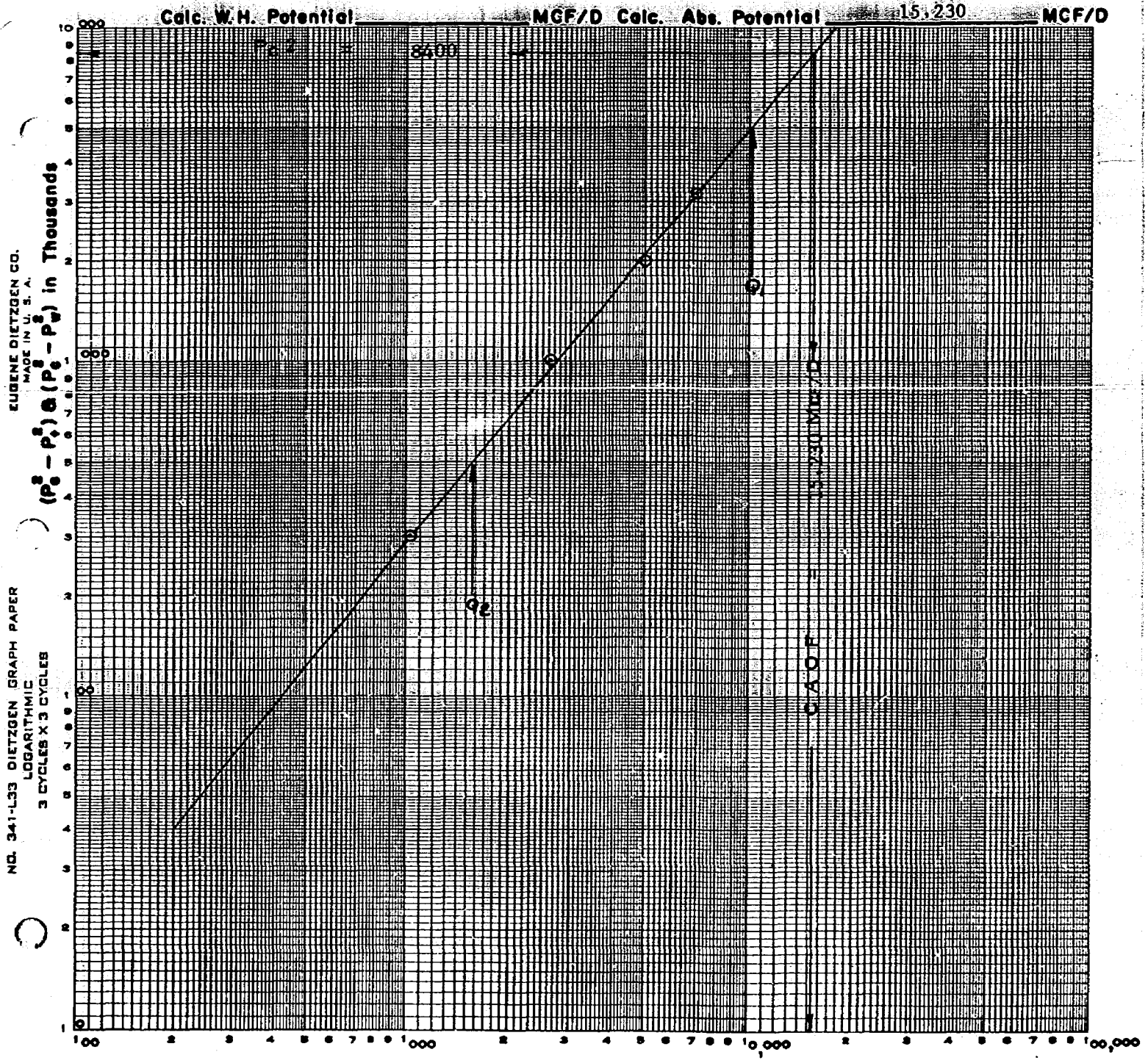
BACK PRESSURE CURVE

Operator ADOBE OIL COMPANY Lease SMITH FEDERAL Well No. 2

County EDDY Field ROCK TANK (ATOKA) Location P-SEC. 11, T23S, R24E

Date of Test 4-19-73 Slope "n" 0.813 W. H. _____ Abs.

Calc. W.H. Potential _____ MCF/D Calc. Abs. Potential 15,230 MCF/D



SLOPE (N) = Q_1 = 10150 = 8.0064660

Q_2 = 1560 = 7.1931246

(N) = 0.813341

CAOF = 6926 $\frac{8400}{3187}^{0.813}$ = 15,230 MCF/D

Surface Temp = 524° mid Point = 576.5° BH Temp = 629° } 1ST RATE

First RATE Page 1

OK

Form C-122-E
Adopted 9-1-65

WORK SHEET FOR STEPWISE CALCULATION (SUBSURFACE) ~~(SURFACE)~~ PRESSURE (P_f & P_s) ~~TP & P~~

COMPANY Adobe Oil Co LEASE Smith Federal WELL NO. 2 DATE 4-19-73

LOCATION: Unit P Section 11 Township 23-S Range 24-E

L 9709 H 9709 L/H 1.000 G 0.5819 % CO_2 0.62 % N_2 0.71 % H_2S Trace

d 4.892 / 2.875 F_r .0046007 Q_m 1.029 M^2cfd (L/H) $(F_rQ_m)^2$ .00002242 P_{cr} 672 (TABLE 1X & X) T_{cr} 350 (TABLE 1X & X)

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		0	4854.5		9709						
2	GH		0	2824.8		5649.7						
3	37.5GH		0	105,931		211864						
4	P_c or P_n		2845.2	3213.2	3201.2	3557.2	3536.2	3535.2				
5	P_r		4.23	4.78	4.76	5.29	5.26	5.26				
6	T		524	576.5	576.5	629	629	629				
7	T_r		1.50	1.65	1.65	1.80	1.80	1.80				
8	Z		.782	.854	.853	.921	.920	.920				
9	P/Z P/Z	$\bar{4}\div\bar{8}$	3638.4	3762.5	3752.9	3862.3	3843.7	3842.6				
10	P/TZ	$\bar{9}\div\bar{6}$	6.9435	6.5265	6.5098	6.1404	6.1108	6.1091				
11	$(P/TZ)^2/1000$	$(\bar{10})^2/1000$	.0482	.0426	.0424	.0377	.0373	.0373				
12	$L/H(F_rQ_m)^2$		.00002242	.00002242	.00002242	.00002242	.00002242	.00002242				
13		$\bar{11} + \bar{12}$	.0482	.0426	.0424	.0377	.0373	.0373				
14	I_n	$\bar{10}\div\bar{13}$	144.056	153.204	153.533	162.875	163.828	163.783				
15	$M=P_n-P_{n-1}$			368	356	356	335	334				
16	$N=I_n+I_{n-1}$			297.260	297.589	316.408	317.361	317.316				
17	M x N	$\bar{15}\times\bar{16}$			105942			105984				
18	Σ(M x N)	$\Sigma\bar{17}$			105942			211926				

One copy to be filed in District Office (Work copy acceptable)

288.112

WORK SHEET FOR STEPWISE CALCULATION ~~(SUBSURFACE)~~ (SURFACE) PRESSURE ~~(P_t & P_{wf})~~ (P_c & P_w)

Form C-122-E
Adopted 9-1-65

COMPANY Adobe Oil Co. LEASE Smith Federal WELL NO. 1 DATE 4-19-73

LOCATION: Unit P Section 11 Township 23-S Range 24-E

L 9709 H 9709 L/H 1.000 G 0.5819 % CO_2 0.62 % N_2 0.71 % H_2S Trace

d 4.892 F_r .0017585 Q_m 0 M^2cfd $(L/H)(F_rQ_m)^2$ 0 P_{CT} 672 (TABLE IX & X) T_{CT} 350 (TABLE IX & X)

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		9709	4854.5			0					
2	GH		5649.7	2824.8			0					
3	37.5GH		211864	105931			0					
4	P_c or P_n		3535.2	2888.0	3216.2	3201.2	2867.2	2844.1	2845.2			
5	P_r		5.26	4.30	4.79	4.76	4.27	4.23	4.23			
6	T		629	576.5	576.5	576.5	524	524	524			
7	T_r		1.80	1.65	1.65	1.65	1.50	1.50	1.50			
8	Z		.920	.843	.855	.853	.783	.782	.782			
9	P/Z P/Z	$\bar{4}\div\bar{8}$	3842.6	3425.9	3761.6	3752.9	3661.8	3637.0	3638.4			
10	P/TZ	$\bar{9}\div\bar{6}$	6.1091	5.9426	6.5250	6.5098	6.9882	6.9408	6.9434			
11	$(P/TZ)^2/1000$	$(\bar{10})^2/1000$	—	—	—							
12	$L/H(F_rQ_m)^2$		—	—	—							
13		$\bar{11}+\bar{12}$	—	—	—							
14	I_n	$\bar{10}\div\bar{13}$	163.690	168.277	153.257	153.618	143.098	144.076	144.022			
15	$M=P_n-P_{n-1}$			319	319	334	334	357	356			
16	$N=I_n+I_{n-1}$			331.967	316.947	317.305	296.713	297.691	297.637			
17	M x N	$\bar{15}\times\bar{16}$				105980			105959			
18	Σ(M x N)	$\Sigma\bar{17}$	211863	647.2		105883						

One copy to be filed in District Office (Work copy acceptable)

Sur Temp = 528°
Temp @ 4854.5' = 578.5°
BH Temp = 629°

Page 1 2nd Rate

WORK SHEET FOR STEPWISE CALCULATION (SUBSURFACE) ~~(SURFACE)~~ PRESSURE (P_f & P_s) ~~(P_c & P_w)~~

OK Check

Form C-122-E
Adopted 9-1-65

COMPANY Adobe Oil Co. LEASE Smith Federal WELL NO. 2 DATE 4-19-73

LOCATION: Unit P Section 11 Township 23-S Range 24-E

L 9709 H 9709 L/H 1.000 G 0.5819 % CO_2 0.62 % N_2 0.71 % H_2S Trace

d 4.892 / 2.875 F_r .0046007 Q_m 2.630 M^2cfd (L/H) $(F_rQ_m)^2$ .00014641 P_{cr} 672 (TABLE IX & X) T_{cr} 350 (TABLE IX & X)

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		0	4854.5			9709					
2	GH		0	2824.8			5649.7					
3	37.5GH		0	105930			211864					
4	P_c or P_n		2718.2	3066.2	3058.2		3397.2	3380.2	3379.2			
5	P_r		4.04	4.56	4.55		5.06	5.03	5.03			
6	T		528	578.5	578.5		629	629	629			
7	T_r		1.51	1.65	1.65		1.80	1.80	1.80			
8	Z		.785	.848	.848		.914	.913	.913			
9	P/Z P/Z	4÷8	3462.7	3615.8	3606.4		3716.8	3702.3	3701.2			
10	P/TZ	9÷6	6.5581	6.2503	6.2341		5.9091	5.8860	5.8843			
11	$(P/TZ)^2/1000$	$(10)^2/1000$	.0430	.0391	.0389		.0349	.0346	.0346			
12	$L/H(F_rQ_m)^2$		.00014641	.00014641	.00014641		.00014641	.00014641	.00014641			
13		11 + 12	.0431	.0392	.0390		.0350	.0347	.0347			
14	I_n	10÷13	152.160	159.446	159.849		168.831	169.625	169.576			
15	$M=P_n-P_{n-1}$			348	340		339	322	321			
16	$N=I_n+I_{n-1}$			311.606	312.009		328.680	329.474	329.425			
17	M x N	15x16			106083				105745			
18	Σ(MxN)	Σ17			106083				211828			

One copy to be filed in District Office (Work copy acceptable)

Sur Temp = 528°
Datum = 4854.5' = 578.5°
BH Temp = 629°

Page 2 2nd Rate

WORK SHEET FOR STEPWISE CALCULATION (SUBSURFACE) (SURFACE) PRESSURE (P_f & P_s) (P_c & P_w)

Form C-122-E
Adopted 9-1-65

COMPANY Globe Oil Co. LEASE Smith Federal WELL NO. 2 DATE 4-19-73

LOCATION: Unit P Section 11 Township 23-S Range 24-E

L 9709 H 9709 L/H 1.000 G 0.581 % CO_2 0.62 % N_2 0.71 % H_2S trace

d 4.892 F_f .0017585 Q_m 0 M^2cfd $(L/H)(F_fQ_m)^2$ 0 P_{cr} 672 (TABLE IX & X) T_{cr} 350 (TABLE IX & X)

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		9709	4854.5				0				
2	GH		5649.7	2824.8				0				
3	37.5GH		211864	105930				0				
4	P_c or P_n		3379.2	3067.2	3058.2			2738.2	2718.2	2719.2		
5	P_t		5.03	4.56	4.55			4.07	4.04	4.05		
6	T		629	578.5	578.5			528	528	528		
7	T_r		1.80	1.65	1.65			1.51	1.51	1.51		
8	Z		.913	.848	.848			.782	.781	.781		
9	P/Z P/Z	$\bar{4}\div\bar{8}$	3701.2	3617.0	3606.4			3501.5	3480.4	3481.7		
10	P/TZ	$\bar{9}\div\bar{6}$	5.8843	6.2524	6.2341			6.6316	6.5917	6.5941		
11	$(P/TZ)^2/1000$	$(\bar{10})^2/1000$	—	—	—	—	—	—	—			
12	$L/H(F_fQ_m)^2$		—	—	—	—		—	—			
13		$\bar{11}+\bar{12}$	—	—	—	—		—	—			
14	I_n	$\bar{10}\div\bar{13}$	169.944	159.939	160.408			150.793	151.706	151.651		
15	$M=P_n-P_{n-1}$			308	321			320	340	339		
16	$N=I_n+I_{n-1}$			329.883	330.352			311.201	312.114	312.059		
17	M x N	$\bar{15}\times\bar{16}$			106043					105788		
18	Σ(M x N)	$\Sigma\bar{17}$	211864	312	105821							

One copy to be filed in District Office (Work copy acceptable)

Surface Temp = 529
Temp @ midpoint = 579
BH Temp = 629

Page 1 3rd Rate

WORK SHEET FOR STEPWISE CALCULATION (SUBSURFACE) PRESSURE (P_f & P_s)
~~(SURFACE)~~ ~~(P_c & P_n)~~

Form C-122-B
Revised 9-1-65

COMPANY Adobe Oil Co. LEASE Smith Federal WELL NO. 2 DATE 4-19-73

LOCATION: Unit P Section 11 Township 23-S Range 24-E

L 9709 H 9709 L/H 1.000 G 0.5819 % CO_2 0.62 % N_2 0.71 % H_2S Trace

d 1.892 F_r .0046007 Q_m 5.000 M^2cfd (L/H) $(F_rQ_m)^2$ .00052917 P_{cr} 672 (TABLE IX & X) T_{cr} 350 (TABLE IX & X)

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		0	4854.5			9709					
2	GH		0	2824.8			5649.7					
3	37.5GH		0	105931			211863					
4	P_c or P_n		2523.2	2853.2	2845.2		3166.2	3151.2	3150.2			
5	P_f		3.75	4.25	4.23		4.71	4.69	4.69			
6	T		529	579	579		629	629	629			
7	T_r		1.51	1.65	1.65		1.80	1.80	1.80			
8	Z		.776	.841	.841		.904	.904	.904			
9	P/Z P/Z	4÷8	3251.5	3392.6	3383.1		3502.4	3485.8	3484.7			
10	P/TZ	9÷6	6.1465	5.8595	5.8430		5.5683	5.5419	5.5401			
11	$(P/TZ)^2/1000$	$(10)^2/1000$	.0378	.0343	.0341		.0310	.0307	.0307			
12	$L/H(F_rQ_m)^2$		.00052917	.00052917	.00052917		.00052917	.00052917	.00052917			
13		11 + 12	.0383	.0348	.0346		.0315	.0312	.0312			
14	I_n	10÷13	160.483	168.376	168.873		176.771	177.625	177.567			
15	$M=P_n-P_{n-1}$			330	322		321	306	305			
16	$N=I_n+I_{n-1}$			328.859	329.356		345.644	346.498	346.440			
17	M x N	15 x 16			106053				105564			
18	Σ(M x N)	Σ17			106053			212039	211717			

One copy to be filed in District Office (Work copy acceptable)

Surface Temp = 529
Mid Point Temp = 579
BH. Temp = 629

3rd Rate Page 2

WORK SHEET FOR STEPWISE CALCULATION ~~(SUBSURFACE)~~ (SURFACE) PRESSURE ~~(P_f & P_s)~~ (P_c & P_w)

OK

COMPANY Adobe Oil Co. LEASE Smith Federal WELL NO. 2 DATE 4-19-73

LOCATION: Unit P Section 11 Township 23-S Range 24-E

L 9709 H 9709 L/H 1.000 G 0.5819 % CO_2 0.62 % N_2 0.71 % H_2S Trace

d 4.892 F_r .0017585 Q_m 0 M^2cfd (L/H) $(F_rQ_m)^2$ 0 P_{cr} 672 (TABLE IX & X) T_{cr} 350 (TABLE IX & X)

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		9709	4854.5			0					
2	GH		5649.7	2824.8			0					
3	37.5GH		211863	105931			0					
4	P_c or P_n		3150.2	2857.2	2848.2	2849.2	2547.2	2530.2	2531.2			
5	$\overline{P_f}$		4.69	4.25	4.24	4.24	3.79	3.77	3.77			
6	T		629	579	579	579	529	529	529			
7	T_r		1.80	1.65	1.65	1.65	1.51	1.51	1.51			
8	Z		.904	.841	.841	.841	.777	.776	.776			
9	P/Z P/Z	$\overline{4}\div\overline{8}$	3484.7	3397.4	3386.7	3382.9	3278.2	3260.6	3261.9			
10	P/TZ	$\overline{9}\div\overline{6}$	5.5401	5.8677	5.8492	5.8512	6.1971	6.1636	6.1661			
11	$(P/TZ)^2/1000$	$(\overline{10})^2/1000$	—	—	—	—	—	—	—			
12	$L/H(F_rQ_m)^2$		—	—	—	—	—	—	—			
13		$\overline{11}+\overline{12}$	—	—	—	=	=	—	—			
14	I_n	$\overline{10}\div\overline{13}$	180.502	170.425	170.964	170.905	161.366	162.243	162.177			
15	$M=P_n-P_{n-1}$				302	301	302	319	318			
16	$N=I_n+I_{n-1}$			350.927	351.466	351.407	332.271	333.148	333.082			
17	M x N	$\overline{15}\times\overline{16}$			106022	105774			105920			
18	Σ(M x N)	$\Sigma\overline{17}$	211863	293	105842	106089						

One copy to be filed in District Office (Work copy acceptable)

Surface Temp = 530
Mid Point Temp = 579.5
B.H. Temp = 629

4TH RATE Page 1

WORK SHEET FOR STEPWISE CALCULATION (SUBSURFACE) (SURFACE) PRESSURE (P_f & P_s) (P_c & P_w)

Form C-122-E
Adopted 9-1-65

COMPANY Adobe Oil Co. LEASE Smith Federal WELL NO. 2 DATE 4-19-73

LOCATION: Unit P Section 11 Township 23-S Range 24-E

L 9709 H 9709 L/H 1.000 G 0.5819 % CO_2 0.62 % N_2 0.71 % H_2S trace

d 4.892 F_r .004600 Q_m 6.926 M^2cfd $(L/H)(F_rQ_m)^2$ .00101535 P_{CT} 672 (TABLE IX & X) T_{CT} 350 (TABLE IX & X)

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		0	4854.5			9709					
2	GH		0	2824.8			5649.7					
3	37.5GH		0	105931			211863					
4	P_c or P_n		2265.2	2566.2	2561.2	2560.2	2855.2	2844.2	2843.2			
5	P_r		3.37	3.82	3.81	3.81	4.25	4.23	4.23			
6	T		530	579.5	579.5	579.5	629	629	629			
7	T_r		1.51	1.66	1.66	1.66	1.80	1.80	1.80			
8	Z		.777	.839	.839	.839	.896	.896	.896			
9	P/Z P/Z	$\overline{4 \div 8}$	2915.3	3058.6	3052.7	3051.5	3186.6	3174.3	3173.2			
10	P/TZ	$\overline{9 \div 6}$	5.5006	5.2781	5.2678	5.2657	5.0661	5.0466	5.0449			
11	$(P/TZ)^2/1000$	$(\overline{10})^2/1000$	.0303	.0279	.0277	.0277	.0257	.0255	.0255			
12	$L/H(F_rQ_m)^2$		.00101535	.00101535	.00101535	.00101535	.00101535	.00101535	.00101535			
13		$\overline{11} + \overline{12}$	.0313	.0289	.0287	.0287	.0267	.0265	.0265			
14	I_n	$\overline{10} \div \overline{13}$	175.738	182.633	183.547	183.474	189.742	190.438	190.374			
15	$M = P_n - P_{n-1}$			301	296	295	295	284	283			
16	$N = I_n + I_{n-1}$			358.371	359.285	359.212	373.216	373.912	373.848			
17	M x N	$\overline{15} \times \overline{16}$				105968			105799			
18	$\Sigma(M \times N)$	$\Sigma\overline{17}$				105968			211767			

One copy to be filed in District Office (Work copy acceptable)

Surface Temp = 530
Mid Point Temp = 579.5
BH Temp = 629

4TH RATE Page 2

WORK SHEET FOR STEPWISE CALCULATION (SUBSURFACE) (SURFACE) PRESSURE (P_f & P_s) (P_c & P_w)

Form C-122-E
Adopted 9-1-65

COMPANY Alaska Oil Co. LEASE Smith Federal WELL NO. 2 DATE 4-19-73

LOCATION: Unit P Section 11 Township 23-S Range 24-E

L 9709 H 9709 L/H 1.000 G 0.5819 % CO_2 0.62 % N_2 0.71 % H_2S Trace

d 6.892 F_r .0017525 Q_m 0 M^2cfd $(L/H)(F_rQ_m)^2$ 0 P_{cr} 672 (TABLE IX & X) T_{cr} 350 (TABLE IX & X)

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		9709	4854.5				0				
2	GH		5649.7	2824.8				0				
3	37.5GH		211863	105931				0				
4	P_c or P_n		2843.2	2576.2	2569.2	2570.2		2296.2	2282.2	2283.2		
5	P_r		4.23	3.83	3.82	3.82		3.42	3.40	3.40		
6	T		629	579.5	579.5	579.5		530	530	530		
7	T_r		1.80	1.66	1.66	1.66		1.51	1.51	1.51		
8	Z		.896	.839	.839	.839		.776	.776	.776		
9	P/Z P/Z	$\overline{4 \div 8}$	3173.2	3070.6	3062.2	3063.4		2959.0	2941.0	2942.3		
10	P/TZ	$\overline{9 \div 6}$	5.0449	5.2986	5.2842	5.2863		5.5831	5.5490	5.5514		
11	$(P/TZ)^2/1000$	$(\overline{10})^2/1000$	—	—	—	—		—	—	—		
12	$L/H(F_rQ_m)^2$		—	—	—	—		—	—	—		
13		$\overline{11} + \overline{12}$	—	—	—	—		—	—	—		
14	I_n	$\overline{10} \div \overline{13}$	198.220	188.729	189.243	189.168		179.112	180.213	180.135		
15	$M=P_n-P_{n-1}$				274	273		274	288	287		
16	$N=I_n+I_{n-1}$			386.949	387.463	387.388		368.280	369.381	369.303		
17	M x N	$\overline{15} \times \overline{16}$				105757				105990		
18	Σ(M x N)	$\Sigma\overline{17}$	211863	267		106106						

One copy to be filed in District Office (Work copy acceptable)

TW

GAS QUALITY TEST REPORT

COMPANY SELLER: Adobe Oil Co.
FIELD OR LOCATION: Rock Tank
SOURCE OR RESERVOIR: Atoka
WELL OR STATION NAME: Smith Federal #2
STA. NO.:
CONTRACT NO.:
TEST DATE: 1 17 73
LAB: 4

COMPOUND COMPONENTS	COMPONENT SPECIFIC GRAVITY	COMPONENT MOL FRACTION
NITROGEN	.9672	.0071
CARBON DIOXIDE	1.5194	.0062
HELIUM	.1382	.0001
OXYGEN	1.1048	. -
HYDROGEN SULFIDE	1.1766	. -
WATER VAPOR	.6220	. -
HYDROCARBON DILUENTS		(.0134)
METHANE	.5539	.7582
ETHANE	1.0382	.0219
PROPANE	1.5225	.0039
ISO-BUTANE	2.0067	.0006
N-BUTANE	2.0067	.0007
ISO-PENTANE	2.4910	.0005
N-PENTANE	2.4910	.0002
HEXANES	2.9753	.0004
HEPTANES +	3.4596	.0002
COMPOSITION		1.0000

LIQUEFIABLE HYDROCARBONS	COMPONENT G.P.M.	MOL FRACTION	G.P.M. CONTENT
PROPANE	27.514	.	.1073
ISO-BUTANE	32.698	.	.0196
N-BUTANE	31.510	.	.0221
LPG			.1490
ISO-PENTANE	36.582	.	.0183
N-PENTANE	36.213	.	.0072
HEXANES	41.111	.	.0164
HEPTANES +	46.126	.	.0092
NATURAL GASOLINE			.0511
TOTAL LIQUEFIABLE GPM			.2001

WATER VAPOR CONTENT:

Gas Mixture Static Pressure PSI
Hydrocarbon Dew Point °F
Water Vapor Dew Point °F
Lbs Water Vapor per MMCF
Conversion Constant X 0.002095
Water Vapor Volume fraction

Moisture recorder reading
Make or type

MIXTURE SPECIFIC GRAVITY:

Calculated From Analysis .5819
Determined by Test Instrument .580
Instrument Make or Type Ranarex

MIXTURE HEATING VALUE:
(Btu/cf at 14.73 Psia, 60°F, Sat.)

Calculated From Analysis 1012.7
Determined by Calorimeter
Calorimeter Verified (_____)

SULFUR CONTENT:

H_2S – Hydrogen Sulfide, Gr./100 cf .01
RSH – Mercaptans " .01
RSR – Sulfides " .02
RSSR – Residuals " .03
Total Sulfur, Gr./100 cf .07
H_2S Grains to fraction conversion X .001572
H_2S Volume Fraction

Critical Pressure 671.3 Critical Temperature 351.3

REMARKS: 4 Point Well Test

MEASUREMENT AREA: Roswell
GAS ANALYST: Hixon

TW-232-A (REV. 1-68)

NEW MEXICO OIL CONSERVATION COMMSSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

Type Test: [X] Initial [ ] Annual [ ] Special				Test Date: 4-19-73	
Company: ADOBE OIL COMPANY			Connection: TO AIR		
Pool: ROCK TANK			Formation: LOWER MORROW		Unit
Completion Date: 4-10-73	Total Depth: 10,300		Plug Back TD: 10,250	Elevation: 3874 GR.	Farm or Lease Name: SMITH FEDERAL
Csg. Size: 5½ / Wt.: 17 / d: / Set At: 10,300			Perforations: From 10,185 To 10,225		Well No.: 2
Tbg. Size: 2½ / Wt.: 6.5 / d: / Set At: 10,091			Perforations: From OPEN To ENDED		Unit: P / Sec.: 11 / Twp.: 23S / Rge.: 24E
Type Well - Single - Bradenhead - G.G. or G.O. Multiple: G.G. MULTIPLE			Packer Set At: 10,091		County: EDDY
Producing Thru: TUBING	Reservoir Temp. °F: 175 @ 10,200	Mean Annual Temp. °F: 60	Baro. Press. - P_a: 13.2		State: NEW MEXICO

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
10091	10091	.5834	.76	.75	TRACE		6"	FLANGE

	FLOW DATA						TUBING DATA		CASING DATA		
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI							1619.0		CHOKE		72.0
1.	6"	X	1.50"	510.0	2.0	84	1380.0	73	8/64		1.0
2.	6"	X	1.50"	560.0	9.0	82	1035.0	74	12/64		1.0
3.	6"	X	1.50"	520.0	18.0	80	823.0	74	16/64		1.0
4.	6"	X	1.50"	580.0	22.0	78	686.0	72	22/64		1.0
5.											

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	10.70	32.34	523.3	0.9777	1.310	1.036	459
2.	10.70	71.83	573.2	0.9795	1.310	1.039	1025
3.	10.70	97.97	533.2	0.9813	1.310	1.038	1399
4.	10.70	114.24	593.2	0.9831	1.310	1.042	1640
5.							

NO.	P_t	Temp. °R	T_t	Z
1.	.78	544	1.55	.931
2.	.85	542	1.55	.926
3.	.79	540	1.54	.928
4.	.88	538	1.54	.921
5.				

Gas Liquid Hydrocarbon Ratio: DRY GAS Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: ____ Deg.
Specific Gravity Separator Gas: .5834 XXXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX
Critical Pressure: 672 P.S.I.A. ____ P.S.I.A.
Critical Temperature: 350 R ____ R

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		1747.2	3052.7	1278.7
2		1324.2	1753.5	2577.9
3		1072.2	1149.6	3181.8
4		943.2	889.6	3441.8
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.2584$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.2584$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2064$

Absolute Open Flow: 2064 Mcfd @ 15.025 | Angle of Slope θ: 45.0° | Slope, n: 1.0 LIMITED

Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA GAUGE AT 10,200'

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	D.T.	R.L.W.	J.W.W.

FORM 2067

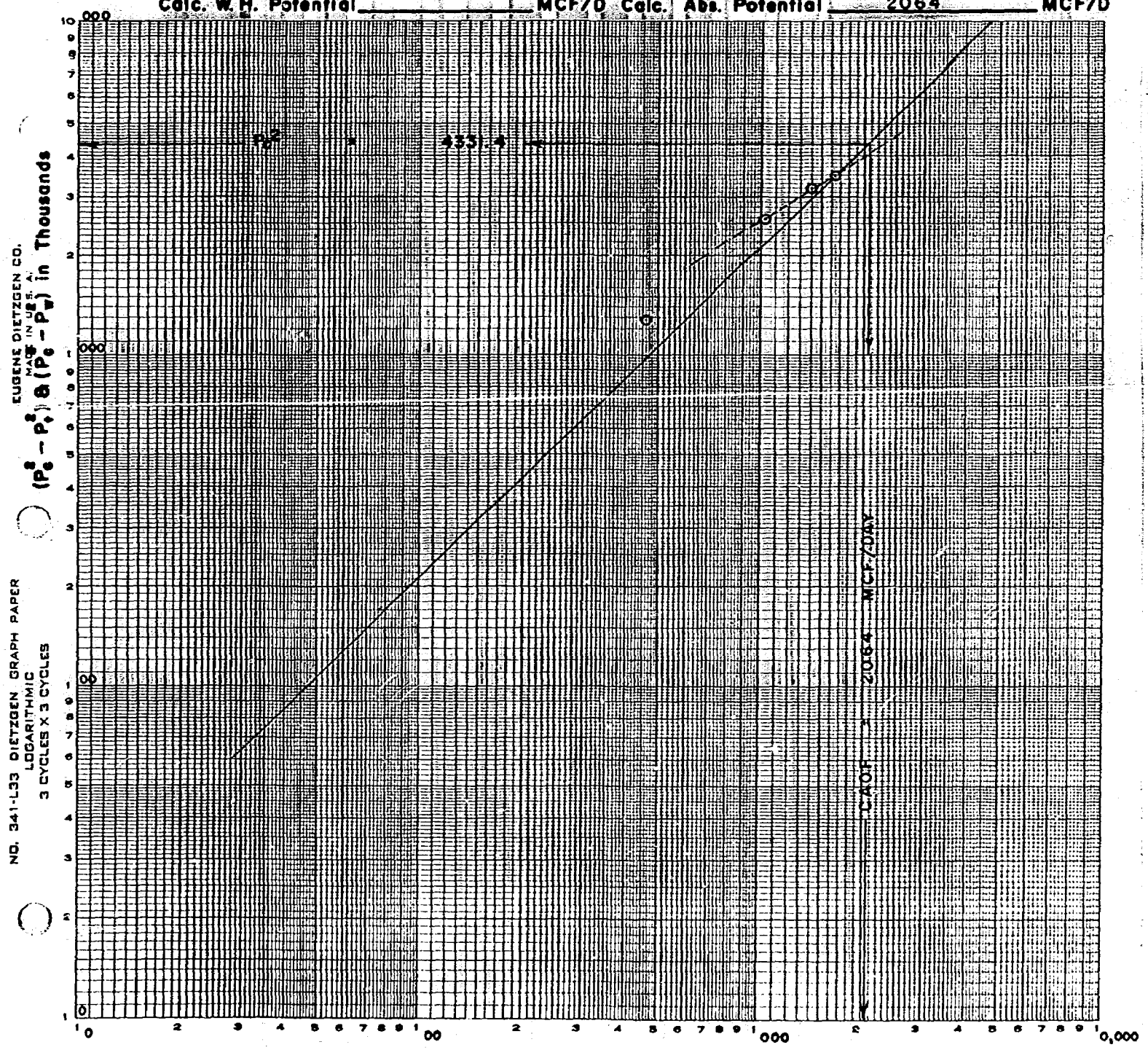
BACK PRESSURE CURVE

Operator ADOBE OIL COMPANY Lease SMITH FEDERAL Well No. 2

County EDDY Field ROCK TANK Location Unit P, Sec. 11, T 23S, R 24E

Date of Test 4-19-73 Slope "n" 1.00 Limited W. H. _____ Abs.

Calc. W. H. Potential _____ MCF/D Calc. Abs. Potential 2064 MCF/D



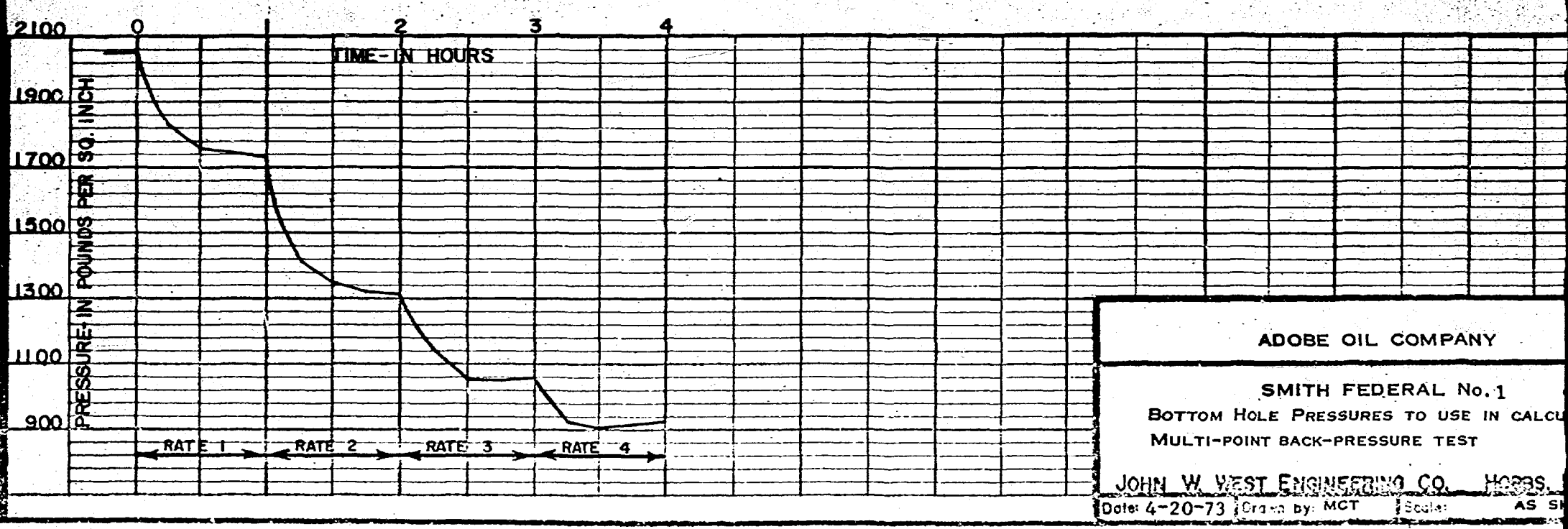
$$CAOF = 1640 \left(\frac{4331.4}{3441.8}\right)^{1.00} = 2064 \text{ Mcf/Day}$$

TIME	P S I G @ 10,200 FEET
1:10 PM	2051 GAUGE REACHED 10,200'
1:30 PM	2051 OPEN CHOKE 8/64
1:45	1831
2:00	1760
2:15	1746
2:30 PM	1734 END RATE 1
2:30 PM	1734 CHANGE CHOKE 12/64
2:45	1418
3:00	1350
3:15	1322
3:30 PM	1311 END RATE 2
3:30 PM	1311 CHANGE CHOKE 16/64
3:45	1144
4:00	1057
4:15	1054
4:30 PM	1059 END RATE 3

TIME	P S I G @ 10,200 FEET
4:30 P.M.	1059 CHANGE CHOKE 22/64
4:45	927
5:00	904
5:15	921
5:30 P.M.	930 END RATE 4, END TEST

TEST DATE: APRIL 19, 1973
TEST DEPTH: 10,200 FEET

ELEMENT NO.: 8534
RANGE: 0-5600 P S I
CLOCK NO.: 11682
RANGE: 0-24 HOUR



ADOBE OIL COMPANY

SMITH FEDERAL No. 1

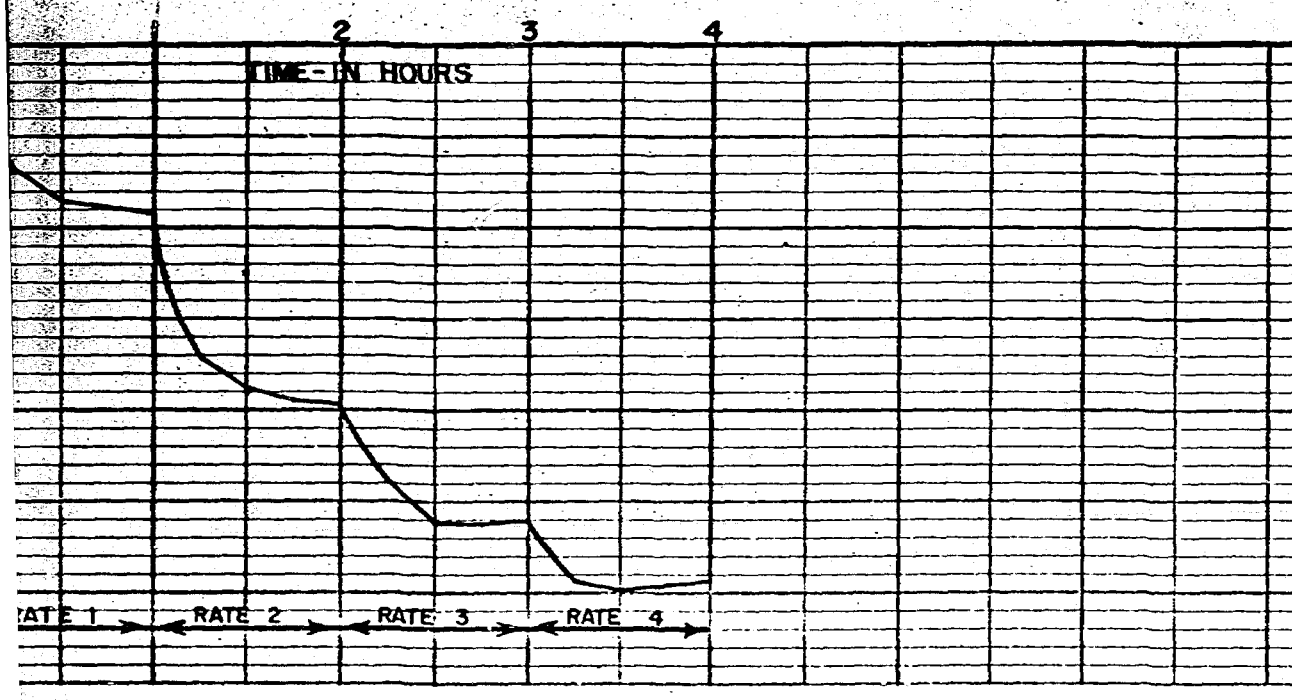
BOTTOM HOLE PRESSURES TO USE IN CALCU

MULTI-POINT BACK-PRESSURE TEST

JOHN W. WEST ENGINEERING CO. HOBBS,

Date: 4-20-73 | Drawn by: MCT | Scale: AS SH

PSIG @ 10,200 FEET		TIME		PSIG @ 10,200 FEET	
2051	GAUGE REACHED 10,200'	4:30 P.M.		1059	CHANGE CHOKE 22/64
2051	OPEN CHOKE 8/64	4:45		927	
1831		5:00		904	
1760		5:15		921	
1746		5:30 P.M.		930	END RATE 4, END TEST
1734	END RATE 1				
1734	CHANGE CHOKE 12/64				
1418		TEST DATE:		APRIL 19, 1973	
1350		TEST DEPTH:		10,200 FEET	
1322					
1311	END RATE 2	ELEMENT NO.:		8534	
		RANGE:		0-5600 P S I	
1311	CHANGE CHOKE 16/64	CLOCK NO.:		11682	
1144		RANGE:		0-24 HOUR	
1057					
1054					
1059	END RATE 3				



ADOBE OIL COMPANY

SMITH FEDERAL No. 1

BOTTOM HOLE PRESSURES TO USE IN CALCULATING MULTI-POINT BACK-PRESSURE TEST

JOHN W. WEST ENGINEERING CO. HOBBS, NEW MEXICO

Date: 4-20-73 | Drawn by: MCT | Scale: AS SHOWN

TW

GAS QUALITY TEST REPORT

COMPANY SELLER: Hondo Oil Co.
FIELD OR LOCATION: Rock Tank
SOURCE OR RESERVOIR: Morrow
WELL OR STATION NAME: Smith Federal #2

STA. NO.:
CONTRACT NO.:
TEST DATE: 1, 19 77
LAB: 1

COMPOUND COMPONENTS	COMPONENT SPECIFIC GRAVITY	COMPONENT MOL FRACTION
NITROGEN	.9672	.0075
CARBON DIOXIDE	1.5194	.0076
HELIUM	.1382	.0001
OXYGEN	1.1048	. —
HYDROGEN SULFIDE	1.1766	. —
WATER VAPOR	.6220	. —
HYDROCARBON DILUENTS		(.0152)
METHANE	.5539	.7556
ETHANE	1.0382	.0229
PROPANE	1.5225	.0040
ISO-BUTANE	2.0067	.0006
N-BUTANE	2.0067	.0007
ISO-PENTANE	2.4910	.0003
N-PENTANE	2.4910	.0001
HEXANES	2.9753	.0004
HEPTANES +	3.4596	.0002
COMPOSITION		1.0000

LIQUEFIABLE HYDROCARBONS	COMPONENT G. P. M.	MOL FRACTION	G. P. M. CONTENT
PROPANE	27.514	.	.1101
ISO-BUTANE	32.698	.	.0196
N-BUTANE	31.510	.	.0221
LPG			.1518
ISO-PENTANE	36.582	.	.0110
N-PENTANE	36.213	.	.0036
HEXANES	41.111	.	.0164
HEPTANES +	46.126	.	.0072
NATURAL GASOLINE			.0402
TOTAL LIQUEFIABLE GPM			.1920

WATER VAPOR CONTENT:

Gas Mixture Static Pressure PSI: ____
Hydrocarbon Dew Point °F: ____
Water Vapor Dew Point °F: ____
Lbs Water Vapor per MMCF: ____
Conversion Constant: X 0.002095
Water Vapor Volume fraction: ____

Moisture recorder reading: ____
Make or type: ____

MIXTURE SPECIFIC GRAVITY:

Calculated From Analysis: .5834
Determined by Test Instrument: .583
Instrument Make or Type: Panametrics

MIXTURE HEATING VALUE:
(Btu/cf at 14.73 Psia, 60°F, Sat.)

Calculated From Analysis: 1010.9
Determined by Calorimeter: ____
Calorimeter Verified (____)

SULFUR CONTENT:

H_2S – Hydrogen Sulfide, Gr./100 cf: .02
RSH – Mercoptans " : .01
RSR – Sulfides " : .03
RSSR – Residuals " : .04
Total Sulfur, Gr./100 cf: .10
H_2S Grains to fraction conversion: X .001572
H_2S Volume Fraction: ____

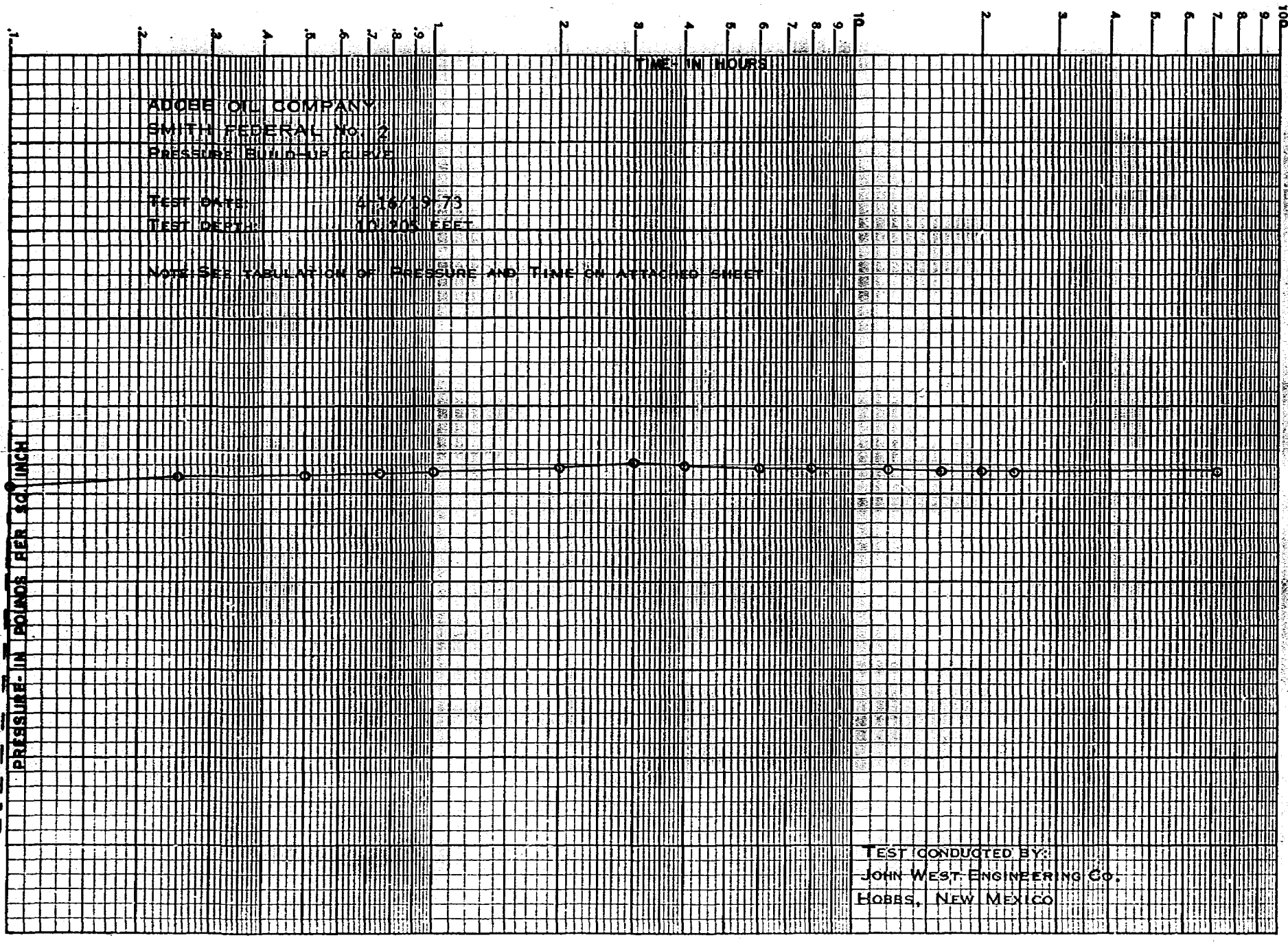
Critical Pressure 674.2 Critical Temperature 351.6

REMARKS: 4 Point Well Test

MEASUREMENT AREA: Roswell
GAS ANALYST: Heston

TW-232-A (REV. 1-68)

K&E SEMI-LOGARITHMIC 46 5373
3 CYCLES X 60 DIVISIONS MADE IN U. S. A.
KEUFFEL & ESSER CO.



ADOBE OIL COMPANY
SMITH FEDERAL No. 2
PRESSURE BUILD-UP TEST
TABULATION OF PRESSURE AND TIME

TEST CONDUCTED BY:
JOHN WEST ENGINEERING CO.

TEST DATE: APRIL 16 TO 19, 1973
TEST DEPTH: 10,205 FEET
ELEMENT NO.: 8534
OPER.: D. TYSON

DATE	TIME	CUM. HRS/MIN	PSIG @ 10,205 FEET	
4-16-73	9:50 AM			WELL SHUT-IN TO RUN BOMB
4-16-73	10:10 A.M.			WELL OPENED
4-16-73	10:18 A.M.		1644	GAUGE REACHED 10,205 FEET
4-16-73	10:42 A.M.	00 HRS. 00 MIN.	1229	SHUT-IN, BEGIN BUILD-UP
		00 06	2017	
		00 15	2037	
		00 30	2042	
		00 45	2051	
		01 00	2057	
		02 00	2062	
		03 00	2068	
		04 00	2065	
		06 00	2059	
		08 00	2059	
		12 00	2057	
		16 00	2054	
		20 00	2054	
4-17-73	10:42 A.M.	24 00	2054	
4-19-73	10:42 A.M.	72 HRS. 00 MIN.	2054	CHART RAN OUT, END TEST

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 4862
Order No. R-4456

APPLICATION OF ADOBE OIL COMPANY
FOR A NON-STANDARD GAS PRORATION
UNIT AND AN UNORTHODOX LOCATION,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 29, 1972, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 4th day of January, 1973, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Adobe Oil Company, seeks authority to drill a well at an unorthodox gas well location 660 feet from the South line and 330 feet from the East line of Section 11, Township 23 South, Range 24 East, NMPM, Rock Tank-Upper Morrow and Rock Tank-Lower Morrow Gas pools, Eddy County, New Mexico.

(3) That a standard location for the subject well would be no closer than 1650 feet to the outer boundary of the section and no nearer than 330 feet to any governmental quarter-quarter section line.

(4) That a well completed at the proposed unorthodox location would enjoy an undue advantage over some offset operators if unrestricted production of the well is permitted.

(5) That the applicant further seeks approval of a 520-acre non-standard gas proration unit in the Rock Tank-Upper Morrow and Rock Tank-Lower Morrow Gas Pools comprising the NE/4, SE/4, E/2 SW/4, N/2 NW/4, and SE/4 NW/4 of said Section 11 to be dedicated to the subject well.

(6) That the evidence indicates the presence of a NE-SW trending fault in said Section 11, North and West of which the Morrow formation is non-productive from the Rock Tank Pools.

(7) That though the exact location of the fault cannot be accurately determined, no more than 430 acres of the applicant's lease in said Section 11 may reasonably be presumed to be productive of gas from said pools.

(8) That an additional 60 acres of unleased land in the W/2 SW/4 of said Section 11 may be presumed to be productive.

(9) That a standard unit in the aforesaid pools consist of 640 acres.

(10) That the application for said 520-acre non-standard gas proration unit should be denied and that a 430-acre non-standard gas proration unit consisting of the E/2, E/2 SW/4, S/2 SE/4 NW/4 and NE/4 SE/4 NW/4 of said Section 11 should be established, to be dedicated to the proposed well, with the option to add the SW/4 SW/4 and S/2 NW/4 SW/4 of said Section 11 to the non-standard unit upon its communitization with the 430-acre unit described above.

(11) That to compensate for the fact that only 430 acres of applicant's lease in said Section 11 can reasonably be presumed productive of gas from the Rock Tank-Upper Morrow and Rock Tank-Lower Morrow Gas Pools, an acreage factor of 430/640, or 0.672, should be applied to the proposed well.

(12) That to compensate for the advantage gained over offset operators due to the non-standard location of the proposed well, a penalty of 30 percent should be applied to the proposed well.

(13) That the composite ratable-take factor for the proposed well should be 70 percent of 0.672, or 0.470.

(14) That upon drilling of the proposed well at a standard location upon the proposed non-standard proration unit, the penalty factor described in Finding No. (12) above should not be applicable, but the acreage factor described in Finding No. (11) above should be applicable.

(15) That upon communitization of the 430-acre non-standard proration unit described in Finding No. (10) above with the 60 acres described in Finding No. (8) above, the acreage factor assigned to the proposed well should be 490/640, or 0.766.

(16) That approval of the proposed unorthodox location will not violate correlative rights and will afford the applicant the opportunity to produce its just and equitable share of the gas

in the above-described pools, will prevent the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and otherwise prevent waste, provided that the appropriate above-described ratable-take factor is assigned to the subject well.

IT IS THEREFORE ORDERED:

(1) That an unorthodox location in the Rock Tank-Upper Morrow and Rock Tank-Lower Morrow Gas Pools is hereby approved for the Adobe Oil Company well to be located 660 feet from the South line and 330 feet from the East line of Section 11, Township 23 South, Range 24 East, NMPM, Eddy County, New Mexico.

(2) That the application for a 520-acre non-standard gas proration unit in the Rock Tank-Upper Morrow and Rock Tank-Lower Morrow Gas Pools comprising the NE/4, SE/4, E/2 SW/4, N/2 NW/4, and SE/4 NW/4 of said Section 11, to be dedicated to said well is hereby denied.

(3) That a 430-acre non-standard gas proration unit in said Rock Tank gas pools comprising the E/2, E/2 SW/4, S/2 SE/4 NW/4 and NE/4 SE/4 NW/4 of said Section 11 is hereby established and dedicated to the subject well.

(4) That the SW/4 SW/4 and S/2 NW/4 SW/4 of said Section 11 may be added to the 430-acre non-standard unit upon communitization, and the entire 490-acre non-standard gas proration unit be dedicated to the subject well.

(5) That a ratable-take factor of 0.470 in each of said pools is hereby assigned to said well so long as the aforesaid 430-acre non-standard unit is dedicated to the well; that said ratable-take factor shall be adjusted to 0.536 upon dedication of the aforesaid 490-acre non-standard gas proration unit to the subject well.

IT IS FURTHER ORDERED:

(1) That should applicant drill its proposed well at a standard location for the Rock Tank-Upper Morrow and Rock Tank-Lower Morrow Gas Pools, at a point not closer than 1650 feet to the outer boundary of the proration unit, the ratable-take factor for the aforesaid 430-non-standard unit shall be 0.672 and the ratable-take factor for the aforesaid 490-acre non-standard unit shall be 0.766.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

BRUCE KING, Chairman

ALEX J. ARMIJO, Member

A. L. PORTER, JR., Member & Secretary

S E A L

dr/

Memo

From

W. A. GRESSETT
Supervisor

To Dan Mutter

Do you need the attached
Warrens?

Bill.

File
Case 4978

RECEIVED

MAY 3 1973

O. C. C.
ARTESIA, OFFICE

RECEIVED
MAY 7 1973
OIL CONSERVATION COMM.
Santa Fe

New Mexico Oil Conservation Commission
Drawer DD
Artesia, New Mexico 88210

Re: Adobe Oil Company
Smith Federal No. 2
Eddy Co., New Mexico

Gentlemen:

The below named operator hereby waives objection to the multiple completion in the Atoka and lower Morrow in the subject well.

Being an authorized representative of the offset operator, you are advised that we hereby waive any objection to the approval of the multiple completion.

Yours very truly,

MONSANTO COMPANY

Offset Operator

W. W. Wood

Representative

April 26, 1973

Date

New Mexico Oil Conservation Commission
Drawer DD
Artesia, New Mexico 88210

Re: Adobe Oil Company
Smith Federal No. 2
Eddy Co., New Mexico

Gentlemen:

The below named operator hereby waives objection to the multiple completion in the Atoka and lower Morrow in the subject well.

Being an authorized representative of the offset operator, you are advised that we hereby waive any objection to the approval of the multiple completion.

Yours very truly,

MONSANTO COMPANY

Offset Operator

R. W. Work

Representative

April 26, 1973

Date

New Mexico Oil Conservation Commission
Drawer DD
Artesia, New Mexico 88210

Re: Adobe Oil Company
Smith Federal No. 2
Eddy Co., New Mexico

Gentlemen:

The below named operator hereby waives objection to the multiple completion in the Atoka and lower Morrow in the subject well.

Being an authorized representative of the offset operator, you are advised that we hereby waive any objection to the approval of the multiple completion.

Yours very truly,

Jake L. Hamon
Offset Operator

W. M. Shaw
Representative

4/25/73
Date

New Mexico Oil Conservation Commission
Drawer DD
Artesia, New Mexico 88210

Re: Adobe Oil Company
Smith Federal No. 2
Eddy Co., New Mexico

Gentlemen:

The below named operator hereby waives objection to the multiple completion in the Atoka and lower Morrow in the subject well.

Being an authorized representative of the offset operator, you are advised that we hereby waive any objection to the approval of the multiple completion.

Yours very truly,

Jake L. Hamon
Offset Operator

Representative

4/25/73
Date

New Mexico Oil Conservation Commission
Drawer DD
Artesia, New Mexico 88210

Re: Adobe Oil Company
Smith Federal No. 2
Eddy Co., New Mexico

Gentlemen:

The below named operator hereby waives objection to the multiple completion in the Atoka and lower Morrow in the subject well.

Being an authorized representative of the offset operator, you are advised that we hereby waive any objection to the approval of the multiple completion.

Yours very truly,

ATLANTIC RICHFIELD COMPANY
Offset Operator

V. M. Holbrook
Representative

April 25, 1973
Date

New Mexico Oil Conservation Commission
Drawer DD
Artesia, New Mexico 88210

Re: Adobe Oil Company
Smith Federal No. 2
Eddy Co., New Mexico

Gentlemen:

The below named operator hereby waives objection to the multiple completion in the Atoka and lower Morrow in the subject well.

Being an authorized representative of the offset operator, you are advised that we hereby waive any objection to the approval of the multiple completion.

Yours very truly,

ATLANTIC RICHFIELD COMPANY
Offset Operator

V. M. Hollrah
Representative

April 25, 1973
Date

DRAFT

dr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 4978

Order No. R-4582

APPLICATION OF ADOBE OIL COMPANY
FOR A DUAL COMPLETION AND NON-
STANDARD GAS WELL LOCATION,
EDDY COUNTY, NEW MEXICO.

6-28-73

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on May 23, 1973, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this _____ day of ~~June~~, 1973, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Adobe Oil Company, seeks authority to complete its Smith Federal Well No. 2 at a non-standard location at a point 660 feet from the South line and 330 feet from the East line of Section 11, Township 23 South, Range 24 East, NMPM, Rock Tank Gas Field, Eddy County, New Mexico, as a dual completion (conventional) to produce gas from an undesignated Atoka gas pool through the casing - ~~&~~ tubing annulus and from the Rock Tank-Upper Morrow gas pool through a ~~parallel~~ string of 2 7/8 inch tubing ~~with~~ separation of the zones by a packer set at approximately 10,100 feet.

(3) That the evidence introduced at the hearing established that the proposed dual completion would be in the Rock Tank - Upper Morrow Gas Pool and the Rock Tank - Lower Morrow Gas Pool and not in an undesignated Atoka Gas pool.

(4.) That order No. R-4456 approved an application by Adobe Oil Company for an unorthodox location in the Rock Tank - Upper Morrow and the Rock Tank - Lower Morrow Gas Pools 660 feet from the South line and 330 feet from the East line of Section 11, Township 23 South, Range 24 East, NMPM, Eddy County, New Mexico.

(5) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

(6) That approval of the subject ~~application~~ DUAL COMPLETION will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Adobe Oil Company, is hereby authorized to complete its Smith Federal Well No. 2 at a non-standard location at a point 660 feet from the South line and 330 feet from the East line of Section 11, Township 23 South, Range 24 East, NMPM, Rock Tank Gas Field, Eddy County, New Mexico, said location having previously been approved ~~for the Upper Morrow formation~~ by Order No. R-4456, as a dual completion (conventional) ~~to produce gas from an undesignated Atoka gas pool and from the Rock Tank Upper Morrow gas pool through parallel strings of tubing~~ and the Rock Tank - Upper Morrow

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsisent with this order;

PROVIDED FURTHER, that the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Shut-in Pressure Test Period for the ~~Atoka~~ Rock Tank - ~~Morrow~~ Lower Morrow Gas Pool.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

the Rock Tank - Upper Morrow Gas Pool through the casing - tubing annulus and the Rock Tank - Lower Morrow Gas Pool through 2 7/8 inch tubing with separation of the zones by a packer set at approximately 10,100 feet.