

CASE NO. 5398: PENNZOIL UNITED,
INC., FOR DOWNHOLE COMMINGLING,
EDDY COUNTY, NEW MEXICO.

CASE No.

5398

Application,

Transcripts,

Small Exhibits

ETC.

EXAMINER HEARING

Application of Pennzoil United, Inc.,
for downhole commingling, Eddy County,
New Mexico.

BEFORE: Richard L. Stamets, Examiner.

A P P E A R A N C E S

William Carr, Esq.
Legal Counsel for the
Commission
State Land Office Bldg.
Santa Fe, New Mexico

W. Thomas Kellahin, Esq.
KELLAHIN & FOX
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MR. STAMETS: We will call the next case, Case 5398.

MR. CARR: CASE 5398. Application of Pennzoil United, Inc., for downhole commingling, Eddy County, New Mexico.

MR. KELLAHIN: Tom Kellahin of Kellahin and Fox, appearing on behalf of the Applicant, Pennzoil United, Inc., and I have one Witness to be sworn.

MR. STAMETS: The Witness will stand and be sworn, please.

(Witness sworn.)

J.C. RANEY

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you please state your name, by whom you are employed and in what capacity?

A My name is J.C. Raney, I'm employed by Pennzoil Company in Midland, Texas, as a Petroleum Engineer.

Q Mr. Raney, have you previously testified before this Commission and had your qualifications as an expert accepted and made a matter of record?

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A Yes, I have.

Q And have you studied and are you familiar with the facts surrounding this particular Application?

A Yes.

MR. KELLAHIN: If the Examiner please, are the Witness' qualifications acceptable?

MR. STAMETS: They are.

BY MR. KELLAHIN:

Q Mr. Raney, will you refer to what's been marked as Applicant's Exhibit No. 1 and identify it and state briefly what Pennzoil is seeking?

A Exhibit No. 1 is a general wellbore sketch of the Mobil 12 Federal No. 1 located in Section 12, 23 South, Range 26 East. We propose to perforate an interval at 11,285 to 11,295, which has been classified as Morrow in age. This interval is above the packer separating the Morrow and the Atoka interval. We had applied to the USGS and received approval to do some additional perforating in the Atoka including this interval and we received this approval on November 1st, '74, and we got a call back from Leon Beetman asking us not to perforate that, that it would be dependent upon the decision by the OCC.

Q Would you refer to Exhibit No. 2 and identify it?

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A Back to Exhibit No. 1, on the attached page it shows the new Atoka perforations as well as the new Morrow perforations which have been done since September of this year.

Q Okay. And now Exhibit No. 2?

A Exhibit No. 2 is a detail wellbore sketch showing the downhole equipment from the surface to TD. The attached page is a detail wellbore sketch of the equipment that's between the two packers, the top packer is a Model K dual packer located at 10,794 and the Model D packer is located at 11,345.

Q Mr. Raney, your proposed perforations are not shown here, are they?

A I didn't get it on there. The proposed interval is 11,285 to 11,295.

Q Thank you.

A Keep this page 2 of Exhibit 2 in mind; we will have to refer back to it a little later.

Q Refer to what has been marked as Exhibit No. 3 please and identify it?

A Exhibit No. 3 is a cross section of the Morrow pay. That cross section starts -- there is a small map.

Q Excuse me, let me stop you just a minute.

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Let me help you hang this on the wall; that will be easier.

A Okay. This is a cross section of the wells located around the Mobil 12 Federal No. 1 located in the North half of Section 12. The cross section starts with that well, goes south to the Pennzoil Echols No. 1 and then counterclockwise around the Mobil 12 Federal No. 1. Okay, this is to show the tops of the main producing intervals in the field as well as the perforations where the wells are perforated to the best of our knowledge; there may be some there that have changed. This well, the Mobil 12 Federal No. 1, is the discovery run in the South Carlsbad Field. This was the original pick top of the Morrow at 11,038; the top of the lower Morrow is 11,240. This well was completed as a dual and the main thing that we want to show with this is that what we call the "X" end is colored in yellow all the way across. Okay, to the best of our knowledge there is only one well that is currently producing from this interval and that is the Superior Stevens No. 1 located approximately 8 tenths of a mile southeast of the Mobil 12 Federal. That well has about 3 feet perforated in that interval. It is perforated on down into the main Morrow pay and the Morrow

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clastics down below. The only other wells that we can get any pay at all in this "X" interval or zone is the Grace Panagra No. 1, and what we used for a cutoff in determining net pay was 7 percent porosity and 45 api gamma ray units in determining shaliness, and you can see that the sand exists in all the wells around there but it's either real dirty from shale or real tight. The well directly south here is clean enough as far as shale, but it's very tight, no porosity. The main thing we wanted to show with this -- and this will show up in the next two Exhibits, or next three Exhibits -- that this is the only well with any commercial amount of pay in this particular interval here. I don't believe that this zone has contributed much gas to this well. We have an interest in this well, and the total well makes about 450 mcf a day.

There is some question in our mind about the permeability in this well. It may be a little tight and I think that's probably the problem in this well.

Q Would you refer to what has been marked as Exhibit No. 4 and identify it?

A Yes. Exhibit No. 4 is a structure map drawn on the top of the "X" Sand. This map is presented for two

purposes: First of all to show the lease name and the operator of the wells in the area, in a 9-section area, to the best of our knowledge, and also to show the structural position of this "X" Sand in this particular well to the surrounding wells around us there. It is presented mainly to show the operators' various wells in the lease.

Q Please refer to Exhibit No. 5 and identify it?

A Exhibit No. 5 is a gross "X" Sand isopach and you can refer back to the cross section to see where we got these numbers here and that is what this is for, just to show that the sand does exist in the various wells but only on a gross thickness.

Q Please identify Exhibit No. 6.

A Exhibit No. 6 is a net porosity isopach map and this is -- again refer back to the cross section -- this is where this data came from to make this map here. We feel like in our Mobil 12 Federal we have 11 feet of net pay and, as I said, the Superior Stevens No. 1 in Section 7 to the southeast of the Mobil 12 Federal No. 1 has two feet of pay and the Grace Panagra No. 1 located in Section 11 has 1 foot of net porosity pay.

Q Would you refer to Exhibit No. 7 and explain

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what this is?

A Okay. Let me make a statement leading up to Exhibit 7. On November 1st, 1974, Pennzoil received approval from the USGS to perforate an overall interval in the Atoka from 10,912 feet to 10,990. This was Form 9331 that was submitted to the USGS and we received approval to proceed with this work. At the same time we requested approval to perforate the interval 11,285 to 11,295, but were later told to hold up on perforating it for a ruling from the OCC.

On November 18th, we rigged up a Schlumberger Company gun to perforate this well in the interval that we had requested from 10,912 to 10,990, and we rigged up their mechanically oriented perforating gun and this is what Exhibit No. 7 is. This is to just give you an idea what type of gun we were using, and if you refer back to Exhibit No. 2, page 2, you can see why we need this; we were perforating between the packers. This gun, they asked me if we would get by without using this and if it would be possible I would like for this Exhibit 7 not to be published for anybody. This is confidential information to them. Would that be possible?

MR. CARR: Not if you offer it.

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MR. STAMETS: Why don't we discuss what the effect is and then --

MR. RANEY: (Interrupting) Well, they said it would be all right, I don't know, there are other people who have this thing.

MR. CARR: You can discuss it and then withdraw it.

MR. RANEY: Okay.

A (Continuing) What this gun is developed for is to perforate between packers on multiply completed wells and it is not a simple operating tool. On Figure 3 is more of a detailed sketch of the perforating gun and the mechanical operating device. The way this thing is set up is that there is a switch in the kicker arm and also a switch at the top of the rope socket. The kicker arm has to be out a certain distance in order to close the switch for the switch and rope socket to fire your guns. This way you can make sure with the setting of the maximum diameter of the kicker arm that you won't shoot a hole in your tubing.

Okay. We had quite a bit of trouble getting this gun to operate properly. By that I mean we thought it was operating improperly but it was operating properly;

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we couldn't shoot, but we were going down the wrong side of the tubing and the kicker arm was not going out far enough, so consequently this first switch was not closing and it would not allow the perforating unit to fire.

We started this perforating operation on November 18th and on November 21st we shot the interval 10,912 to 10,922 and 10,929 to 10,932, and we attempted to perforate some additional pay as well but the gun wouldn't work so we finally, on November 25th, got another gun that would work and we perforated the interval 10,935 to 10,945 and 10,950 to 10,957. At the time -- this is a single firing gun -- at the time we shot this interval, the Morrow zone was producing. We had an immediate drop in production from the Morrow from 1.94 million to 1.6 million. We felt we had some problems then. The Atoka was shut-in and we began to do some testing and later on in that day we finished up the perforating job from 10,978 to 82 and 10,984 to 990.

Since November the 25th we tested this well in various ways determining if we had a hole in the tubing and we would flow the Morrow zone and shut the Atoka and then we would reverse the setup. At the time we were doing this the total production rate was 2.2 million a day --

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this is approximately 200,000 cubic feet of gas daily increase from the time we perforated the Atoka -- or prior to the time up until we perforated -- so we got some increase in production, but it really didn't make any difference which way we went as far as producing the well, the production rate was about the same; we got the same thing out of both zones. So we knew we had a hole in it, so on December 13th we rigged up a Schlumberger and ran a gradio-monometer survey. This is Exhibit No. 8. We ran several different combinations of the Morrow zone flow and the Atoka shut-in and the Atoka flowing and the Morrow shut-in in an attempt to locate the leak. We finally concluded about a week later in the office that we had some temperature anomaly at 10,950 but it was not distinct enough to be able to tell what it was. The gradio-monometer was not an effective tool inside the tubing, we found this out. We were looking for fluid movement, or actually liquid movement in there and we couldn't use it. If you'll look all the way down through there the temperature anomaly always occurs at 10,950. The conditions which we were flowing and shut-in conditions are marked in the upper left-hand corner, or upper left-hand side of each one of the runs. This tells

you how long a zone has been flowing or shut-in.

Q Would you refer to what has been called as Exhibit No. 9 and explain what this is?

A Okay. On December 19th we rigged up Schlumberger and ran a vertical spinner survey in an attempt to isolate the hole in the Morrow tubing string and it was confirmed that we had a hole 10,951 to 10,953. As part of a back-up to this, referring back to Exhibit No. 2, this well went on production in about March of 1969 and has been producing out of both zones up to the time we did this additional perforating in December in the Atoka, or in November in the Atoka zone. Okay, when this well was drilled we used 11.3 pound mud in order to hold the Canyon back up the hole there, and they drilled all the way through the Morrow zone with that heavy mud and I know we lost some drilling mud back into the Atoka as well as the Morrow zone. When the well was completed they loaded the hole between the bottom packer and the bottom of the original Atoka perforations with treated brine which had a corrosion inhibitor in it. When we perforated this interval 912 to 990 we had a pretty hard time getting the perforating gun down because of heavy fluids down in here. We have a problem there that's shown on page 2 of Exhibit 2 at 10,951

to 953. I think this problem -- I know the problem is not caused from shooting the jet hole into the tubing. My theory is of what this hole is caused from is a recoil from the perforating gun and it happens to be just opposite a tubing collar, and I think this hole was partially caused from corrosion, even though we had an inhibited fluid in that annulus, this drilling fluid that came back in here probably diluted that fluid to the extent that some external corrosion in this tubing did occur. We attempted to on this vertical spinner survey to locate other holes below this 10,951 to 53, but because of the gas volume coming up out of the Morrow our spinner survey went off short and we were not able to detect any other holes in there.

We have, since December 19th, continued to test the well, but without changing the flow rate -- or we're not testing it, we're flowing it -- and the total production rate on the well now is about 2.3 million cubic feet of gas.

We have spent to this date approximately \$25,000 trying to find -- that includes perforating it -- trying to find this hole in this tubing.

Q In your opinion, is there any economically

feasible way of repairing this leak in the Morrow tubing?

A It would include not only economics, but the loss of possible production out of the Morrow zone, the method in which we have to go about repairing this leak, and there are several ways to do this. We have investigated several of them. We propose to, because of the mechanical setup down hole, we propose to go ahead and perforate -- with the Commission's approval -- go ahead and perforate the interval 11,285 to 295, test it for a while, and at that time go in and run a tubing stop inside the Morrow string and set it approximately 11,340 feet and load the Morrow string with either nitrogen or water and at that time treat the old and new Atoka perforations with approximately 10,000 gallons of 15 percent acid using 750 standard cubic feet of nitrogen, and then flow the Atoka back and then retrieve the tubing stop from the Morrow string of tubing. We feel that this would be the most economical as well as the safest way -- and safest means not only from the loss of reserves and revenue from this well but also because of the mechanical set up there is a lot of human danger involved if you attempt to repair it any other way.

Q Will either zone of production be damaged by approval of the downhole commingling?

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A I don't think it will because both zones now are marginal zones.

Q What's the ownership with regard to the two, the Atoka and the Morrow?

A They're common.

Q And how about the compatibility of the composition of these fluids and the gas?

A We have gas analysis from the time this well went on production and the gases are essentially the same. They're both sweet gas, the BTU is within one of each - other, the inerts or dilutants are approximately the same, .014 both fractions. Neither one of the zones make any water to speak of; approximately 1 barrel per day out of both zones combined.

Q If this Application is approved, how would you propose to handle the allocation of production?

A We could allocate it on the basis of 83 percent from the Morrow and 17 percent from the Atoka. This is based on the producing rate of what I think it is now and prior to the time of any perforating on the well, but they're both marginal zones or marginal wells.

Q In your opinion, Mr. Raney, will approval of this Application result in the production of hydrocarbons

that would not otherwise be produced, the prevention of waste, and protection of correlative rights?

A Yes.

Q Were Exhibits 1 through 9 either compiled directly by you or under your direction and supervision?

A Yes, sir.

MR. KELLAHIN: If the Examiner please, we request permission to withdraw Exhibit No. 7 and submit Exhibits 1 through 6, 8 and 9 into evidence.

MR. STAMETS: Exhibits 1 through 6 and Exhibits 8 and 9 will be admitted.

(Whereupon, Applicant's Exhibits 1 through 6 and Exhibits 8 and 9 were admitted into evidence.)

MR. KELLAHIN: That concludes our direct examination.

CROSS EXAMINATION

BY MR. STAMETS:

Q In this procedure you propose to repair, or correct the problem. I somehow missed the part where you replaced the tubing with the leak in it.

A Well, we do not propose to do this. If the permit to perforate the interval 11,285 to 95 is granted

then we will be comingling downhole.

Q I see, so this would not just be comingling this Morrow "X" zone, it would be comingling all of the production?

A Yes. Because of the mechanical setup, referring to -- and we have, in fact I called a guy in Odessa this afternoon about one method of repairing this leak, assuming that you denied our request to perforate the interval 11,285 to 95. One way that we have looked at is to run two tubing stops, one on a wire line and then load the hole with water. The tubing stop allows flow from the bottom up but not from the top down, and then run 545 feet of 1-inch liner inside this Morrow string from approximately 10,830 to approximately 11,340, with a tubing stop on top and on the bottom. But, the disadvantage to this is that there is two of them, or three: One is that this tubing has to be stripped in the hole; secondly we would never be able to treat the Morrow without stripping that out of the hole because you can't pump through it; thirdly, because of the treating pressure of the Atoka interval, we would never be able to retreat the old perforations as well as our new Atoka perforations. That cost there would be approximately

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\$35,000 in addition to what we've spent. I have looked at one other -- or two other methods of repairing this, and one would be to kill everything we've got there, and rather than kill the well -- we don't want to kill the Morrow, we got our production increased by about 1.1 million per day out of it -- we would go in and set a tubing stop and then pull the short string in the Atoka, and then go in and cut the Morrow tubing off, and that Morrow tubing has to be a perfect cut, but when you cut it off with a chemical cutter, when you pull up on your tubing string, if you pull out that Model G Locator Seal Assembly, the only thing that holds it in is the weight of the tubing, we would hope that we could hold it in there with water that we dump in the Atoka, but should the Morrow build up enough pressure to blow that out of the hole, then here it would come; then we would pull everything out of the hole and go back with a casing perforating gun and perforate this interval 11,285 to 295, and then go back with a work string and run a second Model "D" Packer with a skirt and a pack off overshot below them, and attempt to get back over this cut-off here. Then, you set that packer and then come out, take up both strings of tubing and go back, and then hope you can get

that tubing stop out of the bottom Model D packer. We estimated this cost of this particular type of work-over in just replacing one packer and one or two joints of tubing. The rest would be for services. The estimated cost is between \$75,000 and \$100,000. But, the biggest thing that we were looking at on this particular type of repair is there is a real human danger and we would have to strip everything in and out of the holes because if it blew this Morrow plug out, then it would get away from us.

A second biggest danger to us would be not being able to retrieve the tubing stop out of the cut-off tubing. Going through a packer and a pack-off over shot to retrieve it, and if we didn't retrieve it, then we would have to go back and drill everything out or forget about the Morrow, which we feel like is about 1 billion to a billion-and-a-half cubic feet left there, the way that it is performing now.

We've got a problem there and we'd be running work any way, and I've taken a lot of suggestions; I've taken a lot.

Q Have you been able to get any kind of a test on the new Atoka perforations yet?

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A Nothing other than what's flowing with both zones flowing, and it's not a good test. We might be able to run a different type of spinner survey below this leak and measure the gas volume coming out of the Morrow and then subtract that off what the total production is to account for the Atoka production. I would like to do that after -- you know, as soon as everything goes like we had planned -- after we treat the Atoka.

Q If you didn't treat these other Morrow perforations, the proposed ones, that 285 to 295, you have pretty good records on what your Morrow production has been up until this leak developed and you knew what your Atoka production was before that time?

A Yes.

Q Could you use those to give you a better indication of what the new Atoka perforations are producing and utilize that then for a good percentage factor?

A That's what I used on this 83 and 17ths. Right now -- just before we perforated this interval 30935 to 57 overall, the Morrow was producing 1.94 million but it will fluctuate according to what the line pressure is, and at that time -- no, before I ever perforated any Atoka, the Atoka was producing 155 mcf per day.

Q 155 mcf per day?

A But it will not stay on the line all the time, or would not. It will now. One concern we have had on this is cross flow, which you always have when you go back and reperfurate in an old well. We were probably experiencing the same thing between the Morrow and the Atoka. That is why I would rather not shut-in any more than we absolutely have to. To give you a comparison, we were producing approximately 800 mcf a day out of both zones prior to the time we did any perforating, and right now we're making 2.3 million.

Q Are there other zones in this well which potentially might be perforated at a later date, such as the Cisco and the Strawn?

A The Strawn had quite a bit of depletion on drill-stem test. The Canyon, we had a hearing back in '72 to abandon the Atoka at that time, but subsequent to that we had a compressor on this well and we made a little money out of it and we will eventually put the compressor back on after these two zones go down, any subsequent treatment, then we'll put the compressor back on, and the Canyon is on down the road. It's at about 10,000 feet.

Q I was thinking about the potential for this Morrow "X" zone. Even if that would not be perforated at this time, that is something that conceivably, when the Atoka and the Morrow are abandoned, then you might test the Cisco, that this could be perforated at that time?

A We would go on the assumption then that both the Atoka and Morrow would be depleted at this same time, but if the Morrow is not depleted at that time, then we would not be able to do this. What we had planned to do before was to go ahead; it wouldn't be any good anyhow because that interval would have to come up the short-string of tubing unless we were to flow the Canyon up the annulus, which we really don't want to because it made a lot of liquid on the drillstem test. Our plans are right now to go ahead and try to deplete these at the same time if we can.

Q If you would go in there and perforate this Morrow "X" zone, that would add another complicating factor to your analysis of which gas comes from which zone?

A Yes.

Q And all of these perforations would be subject to being cleaned up with production and varying the rate of production after a period of time?

A Yes. The treatment between the Atoka and the Morrow is not that different and I'm not sure we will get anything out of this "X" zone, but we feel like it's worth trying, 11 feet of pay, 10 percent porosity, and about 30 percent water saturation.

Q If all of this gas were charged against the well's Morrow allowable, would the well still be a marginal well?

A Yes. I feel like if the production upped to 3 million a day it would still be a marginal well, though, as compared to the other wells, nonmarginal wells in the field.

Q With the situation now existing in the field you'd be producing both zones and there would not be any significant opportunity for cross flow and reservoir damage?

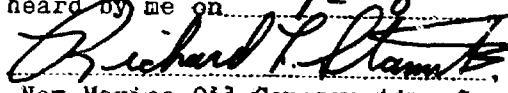
A No, because there is not that much difference in the two gases and as long as we flow them both and we meter them separately on the surface, we'll continue to do this, for what purpose it serves, but it's there.

MR. STAMETS: Are there any other questions of this Witness? He may be excused. Anything further in this Case? The Case will be taken under advisement.

STATE OF NEW MEXICO)
) SS.
COUNTY OF SANTA FE)

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


RICHARD L. NYE, Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5398 heard by me on 1-8-75.

Richard L. Nye, Examiner
New Mexico Oil Conservation Commission

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168 From 1974
Monthly Stat 217

	Morrow	Atoka	
June	20 639	14 029	34%
May	27 753	9 216	25%
April	28 371	10 260	27%
March	30 352	12 019	28%
Feb	27 663	11 445	29%
Jan	31 848	14 993	32%

From 1973 Annual
R. L. STAMETS 439 467

Run 2 Mobil 12 Fed
Cum 1973
mor 27,148,57 38,126,7 60%
57%

Atoka 25,543,85 25,074,2 40%
48%
5269,242 632,009



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 · SANTA FE

January 28, 1975

I. R. TRUJILLO
CHAIRMAN

LAND COMMISSIONER
PHIL R. LUCERO
MEMBER

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

5398

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

Re: CASE NO. R-4953
ORDER NO. _____

Applicant: Pennzoil United, Inc.

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 _____ ☒
Artesia OCC _____ ☒
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. 5398
Order No. R-4953

APPLICATION OF PENNZOIL UNITED,
INC., FOR DOWNHOLE COMMINGLING,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 8, 1975, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 28th day of January, 1975, 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, Pennzoil United, Inc., is the owner and operator of the Mobil 12 Federal Well No. 1, located in Unit B of Section 12, Township 23 South, Range 26 East, NMPM, South Carlsbad Field, Eddy County, New Mexico.

(3) That said well is a gas well which has been dually completed in the Atoka and Morrow formations for several years.

(4) That the applicant has recently perforated additional producing zones in the Atoka and Morrow formations in said well.

(5) That for unknown reasons, the perforation work resulted in communication of the Atoka and Morrow zones within the wellbore of said well.

(6) That to perform the work necessary to achieve separation of the two zones in the wellbore would result in substantial risk to human life or damage to the reservoir with concurrent underground waste.

(7) That the applicant proposes to commingle Atoka and Morrow gas production in the wellbore of the subject well.

- (8) That the Morrow zone in said well is prorated.
- (9) That the Atoka zone in said well is not prorated.
- (10) That if the production for both zones were credited to the Morrow zone, the well would still be a marginal well.
- (11) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.
- (12) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.
- (13) That to afford the Commission the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Artesia district office of the Commission any time the subject well is shut-in for 7 consecutive days.
- (14) That in order to allocate the commingled production to each of the commingled zones in the subject well for statistical purposes, 30 percent of the commingled production should be allocated to the Atoka zone, and 70 percent of the commingled production to the Morrow zone.
- (15) That for purposes of prorationing, 100 percent of the production from the subject well should be charged against the well's gas allowable for the Morrow zone.

IT IS THEREFORE ORDERED:

- (1) That the applicant, Pennzoil United, Inc., is hereby authorized to commingle Atoka and Morrow production within the wellbore of the Mobil 12 Federal Well No. 1, located in Unit B of Section 12, Township 23 South, Range 26 East, NMPM, South Carlsbad Field, Lea County, New Mexico.
- (2) That for statistical purposes, 30 percent of the commingled production shall be allocated to the Atoka zone and 70 percent of the commingled production shall be allocated to the Morrow zone.
- (3) That 100 percent of the commingled production shall be charged against the well's gas allowable for the Morrow zone.
- (4) That the operator of the subject well shall immediately notify the Commission's Artesia district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Commission, a plan for remedial action.

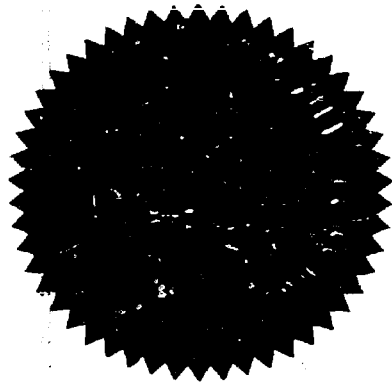
-3-

CASE NO. 5398
Order No. R-

(5) 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

Phil R. Lucero
PHIL R. LUCERO, Member

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

S E A L

jr/

Exh. #1
Mobil "12" Federal

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
Penn. / EXHIBIT NO. 1
CASE NO. 5398
Submitted by
Hearing Date 8 Jan 75

Treatments

500626 15% MSA
2,000 ✓ ✓ NE Perfor. @ 10,842'
20,000 ✓ 15% CRA 10 holes
(After Fishing Job) 10,868'

500626 15% MSA 11,453
20,000 ✓ Mod Brine 14 holes
(After Fishing Job) 11,539'

7" 29#, N-80+P-110
@ 11,859' w/ 625 SX.
(DV Tool @ 11,009' w/
425 SX.)

J.C.R.
2-22-73

See Attached
Page For New
Atoka & Morrow Perfs.

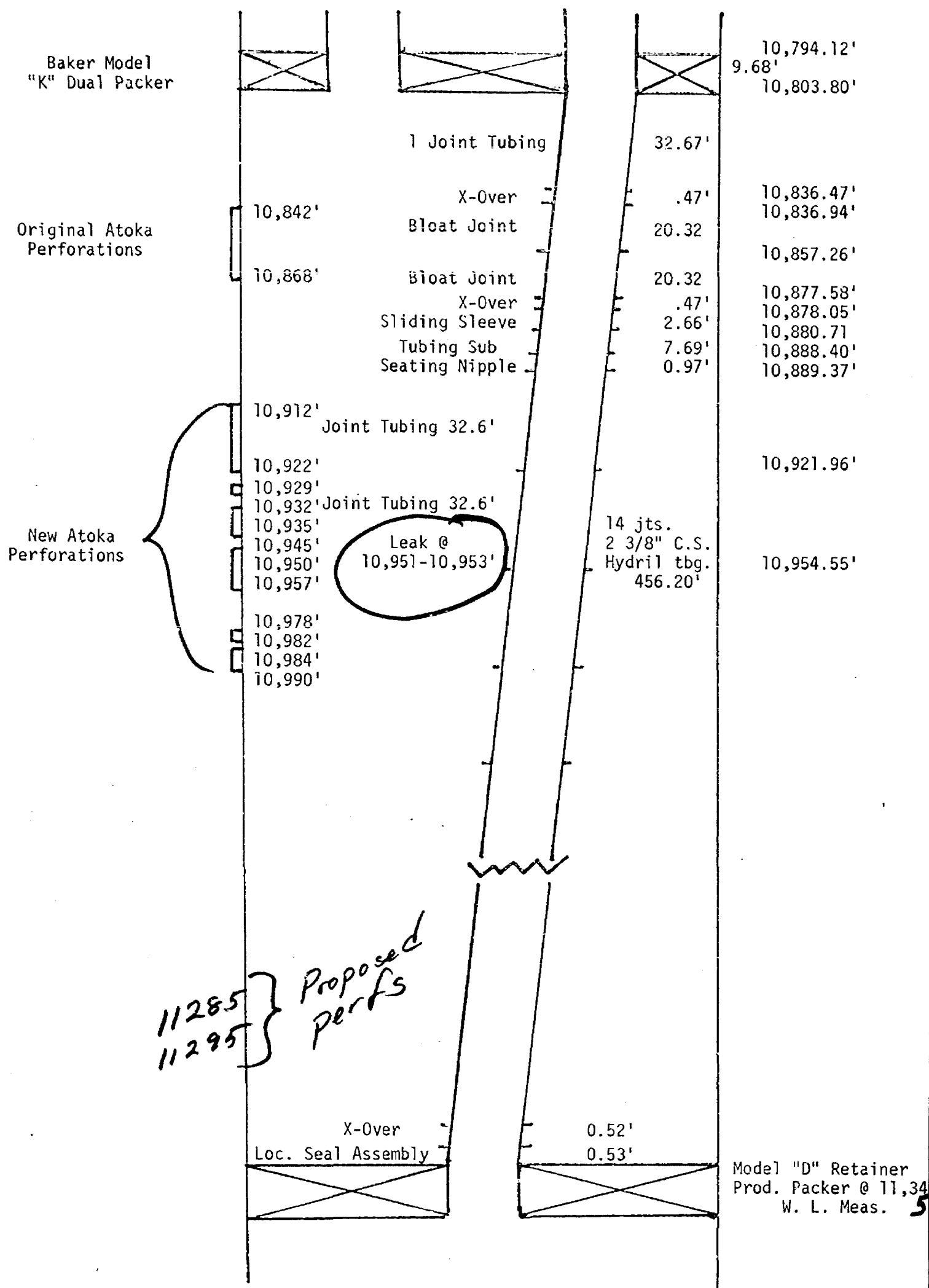
NEW ATOKA PERFORATIONS:

10,912-10,922'
10,929-10,932'
10,935-10,945'
10,950-10,957'
10,978-10,982'
10,984-10,990'

NEW MORROW PERFORATIONS:

11,350'; 11,351'; 11,353'; 11,354'
11,357 - 11,360' ; 11,373 - 11,375'
11,393'; 11,395'; 11,397'; 11,399'; 11,401'; 11,403'
11,439 - 11,442'
11,446'; 11,486'; 11,488'
11,544 - 11,548'
11,618'; 11,620'
11,651 - 11,653'; 11,656';
11,682 - 11,686';

MOBIL -12- FEDERAL NO. 1
SEC. 12, T-23-S, R-26-E
EDDY COUNTY, NEW MEXICO



CASE 5396: Application of Continental Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to convert its Lynn A Well No. 5, located in Unit A of Section 28, Township 23 South, Range 37 East, Jalmat and Langlie-Mattix Pools, Lea County, New Mexico, to dispose of produced salt water into the Seven Rivers formation through perforations in the overall interval from 3470 to 3679 feet.

CASE 5397: Application of Cities Service Oil Company for pool creation and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new gas pool for Wolfcamp production for its Government T Well No. 1 located in Unit C of Section 14, Township 20 South, Range 28 East, Eddy County, New Mexico, and the promulgation of temporary special pool rules therefor, including a provision for 320-acre spacing and proration units.

CASE 5398: Application of Pennzoil United, Inc., for downhole commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Atoka and Morrow production in the wellbore of its Mobil 12 Federal Well No. 1, located in Unit B of Section 12, Township 23 South, Range 26 East, South Carlsbad Field, Eddy County, New Mexico.

CASE 5399: Application of Coastline Petroleum Company, Inc., for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of undesignated Gallup and Basin-Dakota gas production in the wellbore of its Schalk 94 Well No. 1, located in Unit A of Section 26, Township 32 North, Range 8 West, San Juan County, New Mexico.

CASE 5400: Application of Twinlakes Oil Company for amendment of special pool rules, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks amendment of the special rules and regulations for the Twin Lakes-San Andres Pool, Chaves County, New Mexico, to permit the drilling of oil wells on gas proration units, the simultaneous dedication of acreage to oil and gas wells, and to limit production from such wells.

CASE 5379: Southeastern New Mexico nomenclature case calling for the creation and extension of certain pools in Lea and Eddy Counties, New Mexico:

(a) Create a new pool in Lea County, New Mexico, classified as an oil pool for Paddock production and designated as the Spencer-Paddock Pool. The discovery well is the Aztec Oil & Gas Company State DS Well No. 3 located in Unit J of Section 24, Township 17 South, Range 36 East, NMPM. Said pool would comprise:

TOWNSHIP 17 SOUTH, RANGE 36 EAST, NMPM
Section 24: SE/4

BEFORE THE
OIL CONSERVATION COMMISSION OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF PENNZOIL UNITED, INC., FOR
DOWN-HOLE COMMINGLING, EDDY COUNTY,
NEW MEXICO

A P P L I C A T I O N

COMES NOW Pennzoil United, Inc., and applies to the Oil Conservation Commission of New Mexico for approval of down-hole commingling in its Mobil 12 Federal Well No. 1 Atoka, South Carlsbad Field, Eddy County, New Mexico, and in support thereof would show the Commission:

1. The Pennzoil Mobil 12 Federal No. 1 is located 660 feet from the North line, and 1980 feet from the East line of Section 12, Township 23 South, Range 26 East, N.M.P.M.

2. The Mobil 12 Federal No. 1 was completed as a dual completion, producing from an undesignated Morrow Pool and an undesignated Atoka pool, pursuant to Commission Order No. R-3702, entered on March 12, 1969.

3. Subsequent to completion of the well as proposed in the above case, applicant has perforated an additional Atoka zone from 10,912 feet to 10,990 feet. During the course of this work a small leak developed between the two

DOCKET MAILED

Date 12-26-74

packers, below 10,900 feet. Applicant is diligently seeking to locate and repair this leak.

4. Applicant proposes to perforate an additional zone between 11,285 feet and 11,295 feet, which zone has been designated by the Commission as Morrow production.

5. It is impossible mechanically for applicant to isolate this ten-foot interval from the Atoka formation, and unless this zone is produced, hydrocarbons that could otherwise be produced will be lost.

6. Applicant proposes to continue to produce the Morrow formation through the long string of tubing, as approved by Commission Order No. R-3702, but to perforate the zone 11,285 to 11,295 feet, designated as Morrow, and produce it with the Atoka production.

7. Approval of this application will result in the production of hydrocarbons that would not otherwise be produced, will prevent waste, and will not cause any damage to either the Morrow or the Atoka formations. Correlative rights including those of offset operators will not be impaired.

WHEREFORE applicant prays that this application be set for hearing before the Commission or the Commission's duly appointed examiner, and that after notice and hearing as provided by law, the Commission enter its order approving commingling as prayed for.

Respectfully submitted,

PENNZOIL UNITED, INC.

By Jason W. Kellahin
KELLAHIN & FOX
P. O. Box 1769
Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT

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. 5398

Order No. R-4953

APPLICATION OF PENNZOIL UNITED, INC.,
FOR DOWNHOLE COMMINGLING, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 8, 1975
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this day of January, 1975, 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, Pennzoil United, Inc., is the
owner and operator of the Mobil 12 Federal Well No. 1, located
in Unit B of Section 12, Township 23 South, Range 26 East, NMPM,
South Carlsbad Field, Eddy County, New Mexico.

(3) That said well is a gas well which has been dually completed in the Atoka and Morrow formations for several years.

(4) That the applicant has recently perforated additional producing zones in the Atoka and Morrow formations in said well.

(5) That for unknown reasons, the perforation work resulted in communication of the Atoka and Morrow zones within the wellbore of said well.

(6) That to perform the work necessary to achieve separation of the two zones in the wellbore would result in substantial risk to human life or damage to the reservoir with concurrent underground waste.

(7) That the Morrow zone in said well is prorated.

(8) That the Atoka zone in said well is not prorated.

(9) That if the production for both zones were credited to the Morrow zone, the well would still be a marginal well.

*That the applicant proposes to commingle
Atoka and Morrow zone production in the wellbore
of the marginal well.*

~~(3) That the applicant seeks authority to commingle Atoka and Morrow production within the wellbore of the above-described well.~~

~~(4) That from the Atoka zone, the subject well is capable of low marginal production only.~~

~~(5) That from the Morrow zone, the subject well is capable of low marginal production only.~~

~~10~~¹¹ That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

~~11~~¹² That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

~~12~~¹³ That to afford the Commission the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Artesia district office of the Commission any time the subject well is shut-in for 7 consecutive days.

~~13~~¹⁴ That in order to allocate the commingled production to each of the commingled zones in the subject well, ^{for statistical purposes} ~~30~~ 30 percent of the commingled _____ production should be allocated to the Atoka zone, and 70 percent of the commingled _____ production to the Morrow zone.

~~(14)~~¹⁵
IT IS THEREFORE ORDERED:

(1) That the applicant, Pennzoil United, Inc., is hereby authorized to commingle Atoka and Morrow production within the wellbore of the Mobil 12 Federal Well No. 1, located in Unit B of Section 12, Township 23 South, Range 26 East, NMPM, South Carlsbad Field, Lea County, New Mexico.

~~(14)~~¹⁵ That for purposes of prorationing, 100 percent of the production from the subject well should be allocated to the Atoka zone and 0 percent to the Morrow zone. The well's gas allowable for the 11 months period.

(2) That 30 percent of the commingled _____ production shall be allocated to the Atoka zone and 70 percent of the commingled _____ production shall be allocated to the Morrow zone.

(4) That the operator of the subject well shall immediately notify the Commission's Artesia district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Commission, a plan for remedial action.

(5) 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.

(3) That 100 ~~0~~ percent of the ~~262~~ commingled production shall be charged against the well's gas allowable ~~for the Morrow zone~~