

CASE 4548: Application of HANAGAN
PETROLEUM FOR NEW GAS POOL AND
SPECIAL POOL RULES, EDDY COUNTY.

Continued from p. 22-

Give next order
R-4157-B (1974)

Case Number
45 48

Application

Transcripts

Small Exhibits

E T C..

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date OCTOBER 2, 1974 TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
R. M. Richardson	C & K Pet.	Roswell, N.M.
Donald L. McClung	C & K Pet	Midland, Tex.
John D. Russell	T P	Poswell, N.M.
Melvin L. Schroeder	TPOCI	Midland, Tex.
Tom Kellahan	Kellahan & Fox	Santa Fe
Mylos A. Calligan	Holtz-Wagner-Brown	Santa Fe
W. J. Cooley	Murphy & Boyles	
	Kuse & Thomas	
Al K. Kendrick	OCC	Aytec
E. L. Lewis	OCC	
Twyll H. Webb	Keene & Thomas	Farrington
David A. Miller	Mark Prod. Co.	Midland Tex.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 2, 1974

EXAMINER HEARING

IN THE MATTER OF:

Case No. 4548 being reopened on
the motion of the Commission to
consider the amendment of the
special pool rules for the Catclaw
Draw-Morrow Gas Pool, Eddy County,
New Mexico, to limit the applicability
of said special rules to the confines
of the pool's horizontal limits.

Case No.
4548

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil
Conservation Commission:

Thomas Derryberry, Esq.
Legal Counsel for the
Commission
State Land Office Building
Santa Fe, New Mexico

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I N D E X

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R. L. STAMETS

Direct Examination by Mr. Derryberry

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MR. NUTTER: We will call Case No. 4548, which is in the matter of Case No. 4548 being reopened on the motion of the Commission to consider the amendment of the special pool rules for the Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico, to limit the applicability of said special rules to the confines of the pool's horizontal limits.

Are there any appearances in this case?

MR. DERRYBERRY: Yes, Mr. Examiner. I am Tom Derryberry, representing the Commission. I have one witness who has been previously sworn, and I ask that his qualifications which were heard in the previous case be accepted as a matter of record in this case.

MR. NUTTER: The witness is qualified and still under oath.

R. L. STAMETS

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

DIRECT EXAMINATION

BY MR. DERRYBERRY:

Q Mr. Stamets, are you familiar with the subject matter of Case 4548?

A Yes, I am.

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Q Would you please give a brief background of this case as well as the Commission's proposals?

A Yes. I don't exactly have the date that the Catclaw Draw Pool was discovered. It was shortly before I moved up here from Artesia. I was out and watched them cement the initial well in that field.

The initial well was granted 640-acre spacing. As time progressed, the pool was drilled and it was expanded and finally took in the Old Golden Eagle-Morrow Pool and an old --- I think it was Avalon-Middle Morrow Pool where David Fasken has a well.

The pool rules were reheard from time to time to determine whether 640-acre spacing was the proper spacing in this pool, and the evidence presented never indicated that it should revert to 320. In the meantime, outside of the Catclaw Draw-Morrow Pool, other wells were being developed in the Morrow formation on 320-acre spacing. Of course, many of the earlier Morrow Pools were developed on 640. Economics were a factor there. The gas price was relatively low. The wells were deep and expensive to drill. All of us were relatively unfamiliar with the Morrow formation at that time. In today's market with gas prices as they are, with the understanding that we have

developed of the Morrow formation, 320-acre spacing in most Morrow Pools is appropriate.

Of course, what we have now developing in Eddy County are 320-acre Morrow Gas Pools starting to abut against 640-acre gas pools. So, the Commission, as well as the operators, have been looking at this particular pool to determine what is the best method of handling this particular situation.

As I testified in the previous case, there was considerable testimony presented in September in Case 4548 concerning structure in the Morrow, its stratigraphy, and pressures existing in the Morrow in the Catclaw Pool and in those Morrow Pools to the east, the Morrow Wells to the east. The result of this case was the extensions we have seen to the Catclaw Draw-Morrow Gas Pool today. I believe we had one in Section 17 of Township 21 South, Range 26 East, and then two more sections were added in Sections 27 and 34 of Township 21 South, Range 25 East, to try and take in all of those wells or that acreage which reasonably could be a part of the Catclaw Draw-Morrow Gas Pool. The pool, as I previously stated, now is real well defined except on the southwest corner, and this, at the present time, does not present any problem as

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to any of the Morrow Gas Pool.

We have now east of the Catclaw Draw-Morrow Gas Pool, the Avalon-Morrow which is being developed on 320-acre spacing. Down to the southeast, development has not been clearly defined at this time, but in all likelihood, it would take place on 320-acre spacing. The regular pool rules, special pool rules are applicable to any well drilled within a mile of that pool. So, we have the problem here of two pools, two spacings, and what happens when you drill a well on a section that is within a mile of both pools? Do you go by the Catclaw rules or do you go by State-wide rules? As I said before, we feel that the Catclaw now is adequately defined. We feel like it would be improper for those pool rules to extend outside the defined horizontal limits of the pool, therefore, we are suggesting -- we are requesting -- that the special pool rules for the Catclaw Draw-Morrow Gas Pool be limited in applicability to wells within the horizontal limits or to just the horizontal limits of that pool.

I would point out that this will not prohibit us from acting expediently to extend that pool should any well be discovered outside which should be included in that pool.

Q Do you recommend that 640-acre spacing be

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continued in the Catclaw Draw-Morrow Gas Pool?

A Yes.

Q Do you have any further recommendations as to the special rules?

A I have no further recommendations. I might just point out that this certainly might prove to be an acceptable pattern for handling this situation in the future, but studies of the quality that we have in the Catclaw Draw-Morrow Pool would probably be necessary.

MR. DERRYBERRY: Thank you. I have nothing further.

MR. NUTTER: Are there any questions of Mr. Stamets? He may be excused.

(Witness dismissed.)

MR. NUTTER: Does anyone have anything they wish to offer in Case No. 4548 reopened?

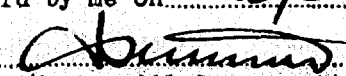
If not, we will take the case under advisement.

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.


COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4548 (re-opening) heard by me on 10/2, 1974.


Examiner
New Mexico Oil Conservation Commission

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 4, 1974

EXAMINER HEARING

IN THE MATTER OF:

Case No. 4548 being reopened
pursuant to the provisions of
Order No. R-4157-A, which order
continued in effect for one year
the special temporary rules and
regulations for the Catclaw Draw-
Morrow Gas Pool, Eddy County,
New Mexico.

Case No. 4548

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil
Conservation Commission:

Thomas Derryberry, Esq.
Legal Counsel for the
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State Land Office Building
Santa Fe, New Mexico

For Hanagan Petroleum:

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MONTGOMERY, FEDERICI, ANDREWS,
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Santa Fe, New Mexico

(Appearances continued)

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APPEARANCES (Continued):

For Inexco Oil Company:

W. Thomas Kellahin, Esq.
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For Morris R. Antweil:

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MR. NUTTER: The Hearing will come to order, please. We will call the next case, Case 4548.

MR. DERRYBERRY: Case 4548. In the matter of Case No. 4548 being reopened pursuant to the provisions of Order No. P-4157-A, which order continued in effect for one year the special temporary rules and regulations for the Catclaw-Draw Morrow Gas Pool, Eddy County, New Mexico.

MR. NUTTER: We call for appearances in this case, please?

MR. BUELL: Mr. Examiner, Sumner Buell of Montgomery, Federici, Andrews, Hannahs and Buell appearing on behalf of Hanagan Petroleum Corporation.

MR. KELLAHIN: Tom Kellahin of Kellahin and Fox, Santa Fe, New Mexico, appearing on behalf of Inexco Oil Company.

MR. STEVENS: Don Stevens, Santa Fe, New Mexico, appearing on behalf of Morris R. Antweil.

MR. BUELL: We have one witness, Mr. Examiner, and I ask that he be sworn.

(Witnesses sworn.)

(Whereupon, a discussion was held off the record.)

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HUGH HANAGAN

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

DIRECT EXAMINATION

BY MR. BUELL:

Q Would you state your name, please?

A Hugh Hanagan.

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

A I am Vice President of Hanagan Petroleum Corporation.

Q And that is in Roswell, New Mexico?

A Yes.

Q Mr. Hanagan, have you previously testified before this Commission or one of its Examiners and had your qualifications accepted as a matter of record?

A I have.

Q Are you familiar with the Catclaw Draw Field and experienced in drilling operations in that field?

A I am.

MR. BUELL: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, they are.

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BY MR. BUELL:

Q Would you briefly give the Examiner and staff here some history and background of your experience in the area and some history of the area?

A Well, the Catclaw Draw Field is a field -- gas pool producing from the Morrow horizon. It was established by the Commission under Order R-4157 in Case 4548 dated June 21st, 1971. Under special field rules, 640 acres were established, 1650 foot was the footage that you could drill closest to the outside boundaries of the section, and there were other provisions in there. In August of -- this was, of course, the temporary field rules -- and the first well to go on in the Catclaw Field was the Hanagan Petroleum Corporation No. 1-Y which was a discovery well in the field. It went on production in August of 1972, and the Order so stated that as soon as the first well went on the field that within a year's time there would be a reopening of the case to further justify or at that time justify again 640-acre spacing. A Hearing was held last August, and under R-4157-A, why, the 640 acres and other provisions were extended for another year. That brings us up to this year.

In the meantime, between 1973 and 1974, the pool

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was prorated under Case No. 5109 and Order No. R-4704 dated January 15th, 1974. This pool was prorated effective April 1st, 1974.

I believe that kind of catches up that part of it.

Q Referring you to what has been marked for identification as Exhibit No. 1, would you look at that and describe what is shown on there?

A Exhibit No. 1 is a structure map contoured on top of the Morrow B Zone or Middle Morrow Zone. It shows the location of the field which is approximately five miles west northwest of Carlsbad. The field is located in Township 21 South, Range 25 and 26 East. There are presently 15 wells in the field. The field outlined on the map is the dotted line. The outline area of the field is a dotted line. The yellow outlined area is the Catclaw Draw Federal and State approved unit area. The color codes and this same color code will be used on all exhibits that we have prepared here -- the orange would be the C Zone or Lower Morrow Zone. That is the principal producing pay in the field. The green would be the Middle Morrow or B Zone. The green would be the A Zone or Upper Morrow.

Q Excuse me a minute. You said the green would be the B Zone, and that is blue, isn't that correct?

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A Yes, that's correct. The blue would be the B or Middle Morrow Zone. The green would be the A or Upper Morrow Zone. We have a purple color which we call the Nan-Bet Stray Zone. We will elaborate on it, I think, probably better on the cross section. We do have two cross sections, as you can see, marked on this Exhibit labeled A and A-Prime which is a north-south cross section through the field. We also have a cross section labeled B and B-Prime, running west to east across the field, tying in mainly to dry holes or the limits, possible limits to the field. The inside circled color is the producing zone. That is, the zone that is actually perforated and producing gas. The outside colored circles are zones other than the producing zone in the center that we think are productive of gas, but are behind the pipe and are not presently perforated.

Looking at that color code, we can see that the field's main pay, which is colored orange and is the C or Lower Morrow Zone, is productive in all parts of the field and is producing out of 11 of the 15 wells. There are two wells producing out of the B Zone in blue there. One is in Section 1 of 21, 25 which is the Avalon Well and the other is in Section 25 of 21, 25, the Catclaw Draw

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No. 5 Well. There are two wells producing out of the Nan-Bet Stray Sand, both located in 21, 26. One is the Nan-Bet Well in Section 19 and the other is the Boskowitz Well located in Section 30.

The outside circled wells are zones that we have in almost every case conducted drill stem tests and by these tests, feel reasonably sure would be productive from zones that are not presently perforated, but you can see, for example, in a north-south -- well, right along the cross section, actually, in the A, A-Prime cross section, that we have four wells lined up, the No. 7, 2, 1 and 9 Catclaw Wells, roughly going right up the center of the field. All are productive in A Sand, one of which is perforated and producing along with the C Zone which is in the discovery well, the No. 1-Y Catclaw Draw located in Section 26 of 21, 25. The dark circled wells are dry holes as far as the Morrow is concerned. The blank circled wells are wells that are either a location or drilling at the present time. For example, in Section 27, is Hanagan Petroleum Corporation No. 10 Catclaw Draw which is a location, but we should be moving in the rig within the week on it. There is one well just west of there in Section 28 which is presently drilling and is

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being operated by Monsanto. There are two wells immediately outside of the field that are presently in the process of being completed. One is in Section 2 of 21, 25, Continental Oil Company No. 2 Levers. That well has not been completed to date. They are perforated in almost everything that they could possibly be perforated in, mainly the C Sand, the Nan-Bet Stray and the B. All of these together have been treated several times and it appears that this well is definitely a marginal well, perhaps in the order of 200 to 400,000 cubic feet of gas. It is about the maximum. It looks like that is about the way it is going to turn out.

The other well that is being completed and should be almost completed, I believe -- they may have taken the four point test within the last day or two -- is in 21, 26, Section 17. It was drilled by Inexco Oil Company and at that case in point, taken over by Gulf, so Gulf Oil is now the operator of that well. Again, that well appears to be, or will probably be a marginal well in the vicinity of a million to a million and a half. That well, by the color code, is perforated in the C and the Nan-Bet Stray Zones.

You will notice that we do have structure in the

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field. Normal regional dip in the area is east southeast. You will notice that in our dry hole, for example, in the Catclaw Draw No. 8 Well on the west side, located in Section 22, between there and the closest well to the east, there is about 100 feet of west dip. You will also notice as contoured, which on 100-foot contours, that there are two little high areas in the field: One around the Old Pure Federal Well in Section 11 of 21, 25 which is the highest well in the field, and one little closed area on the south end, situated around the Catclaw Draw No. 1, 9 and proposed 10 Wells.

We also are seeing approximately 50 feet of north dip between the well in Section 11, the Pure Federal, and the closest well to the north -- I mean the well to the north in Section 2. There is also a little north dip indicated there.

It is our opinion that Morrow production is basically stratigraphic, but definitely you have structure in almost every case, and it is our opinion that structure is definitely influential in the entrapment of this gas. For example, in the Rocktank Field to the south of us, that field definitely produces from a closed structure. In the Burton Flat area where you will see on this map,

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on the extreme east edge of this map, is the west edge of the Burton Flat Field. For example, in Township 21 South, 27 East in Section 3 there would be the west limits of the main Burton Flat pay. Now, the pool, I think, has been extended on over into Sections 6 and 7 there. But at any rate, you also, there in 3 between the wells in Section 3 and Section 4, you encounter about 100-foot of west dip there, so you do have an extreme long broad-nosing effect for miles both north and south along that Burton Flat Field.

The same thing is true in the South Carlsbad Field immediately south. We are experiencing some west dip there, so I really feel that structure does control and is one of the main trapping mechanisms for the Morrow. Now, in some Morrow Fields, you get the better wells on the crest and in others, you get it on the flange. Generally, these nosings or closed structures are steepage on the basin or its side of the structure, and on the basin or its side in almost every case, you do have considerably steeper dip than you do on the up-dip side or the west side.

The nature of the accumulation of the gas in the Morrow is confused by the erratic water tables, so to speak. I personally do not think that the Morrow has a

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set water table. I don't think that you can establish a water table. I do not think that there is a set water table in the Catclaw Draw Field.

The only other thing before we move onto the other exhibits is, we think, and we have gone through a considerable expense of drill stem testing all of these sands and doing it separately to where we know where the gas is coming from, and we feel that -- and 80 percent of the wells, and maybe even 90 percent of the wells in the Catclaw Field have been either drill stem tested or production tested in all of the A, B and C -- so, we are well aware, through our testing, that there are other zones, other possible productive zones other than the C Zone in this field, but since this field does produce so much from the C Zone, that is the zone that we will have to concentrate on in the way of recoveries and so forth.

MR. NUTTER: Mr. Hanagan, why is this Well No. 1 up here in Section 12 marked with a green cross hatch rather than the full circle green?

THE WITNESS: Section 1?

MR. NUTTER: Well No. 1 in Section 12?

THE WITNESS: That well is a -- the outer circle is a cross hatch because we feel like that it is probably

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productive from the A Zone, but they did not drill stem test it, so it hasn't been proven as such.

MR. NUTTER: Just from the log, you think it is productive?

THE WITNESS: Right. From the logs and structural position. We can't prove it and that's the reason we have the cross hatches. You can see -- we definitely think that the C Sand -- I mean, the A Sand, productive-wise, could extend as far north as there and maybe a little further. We do know from tests, for example, that the A Sand is present on all of the wells in the Catclaw in Township 21 South, 25 East, and as you go east into the Nan-Bet, for example, in 21, 26, it either shales out or is poorly developed, and it also waters out. For example, along that ridge there, we have gotten enough shows in there to feel that potentially, you could have an area productive-wise in A Sand of at least one mile and probably a little wider, and approximately six miles long, one to one-and-a-half miles wide, and the B Zone again appears to cover a considerable area. We think, in fact, that the B Zone is limited more, though, to the east side just immediately off the crest of the structure there, eastward. For example in Section 6 -- I am sorry, not in Section 6, but

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Catclaw Draw 6 which is in Section 13 -- that well, we think by drill stem test, that it is productive in the B Zone. The well in 4 is, the Nan-Bet Well is, and of course, the one in 5 is producing from the B. We feel that the one in Section 9 is too. So, we do feel that the B Zone does cover considerable area even though we do not have but only one well in that immediate area that is producing out of the B.

MR. NUTTER: I think you meant Wells Nos. 6, 5, 4 and 9 rather than Sections 6, 5, 4 and 9?

THE WITNESS: That's correct. The Catclaw Draw Wells Nos. 6, 5, 4 and 9.

The main thing I am trying to get at here is, we are well aware that there are other zones in the Morrow productive in this field. Up until this time, we would prefer not to commingle these or perforate them together. There is arguments pro and con on the effects of perforating A, B and C all together, just lump them all together. I really don't know what the answer is, but I see no reason at this time to go in and perforate these other zones and produce them. We are selling about the maximum amount of gas that we can anyway. We are not being drained, to our knowledge. My understanding of the field, we are not

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being drained by anyone outside the area in any of these zones.

BY MR. KELLAHIN:

Q Referring to what has been marked for identification as Exhibit 2, would you go into that please?

A Exhibit No. 2 is the west-east cross section across the field. It is strictly a log section more than a cross section, and it is strictly limited to the Morrow Zone, the Morrow pay zone. We start out at what we call on the top of the log section, the Morrow Clastic, which is a zone that we can carry throughout the field. Immediately below this Clastic is a little sand zone that we call the A Sand or Upper Morrow. And then we have a thin persistent shale break between our A and our B sections. Again, the same color code is used. Then, of course, we go down to the B Zone and then we have a colored -- in pencil -- section that we call "Massive," which for the lack of a better word, we call, "Massive Shale." This Massive Shale is correlative over a wide area, and it is very correlative in the field area.

You will notice in the center there, the two wells on the cross section, the Catclaw Draw No. 4 and the Nan-Bet well. We also have colored in the Nan-Bet

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Stray Zone which is a little stray sand approximately in the center of that Massive Shale. We have every reason to believe in this area that it is definitely a limited reservoir. It cannot hardly -- it cannot be found in offset wells, and in a few wells that we have encountered it, it has been tight. We have established -- the Nan-Bet Well, for example, went on production several months after we had started on production with other wells in the field, and we could see no change in the bottomhole pressure whatsoever. No interference from the other wells around it at all, so we do feel that the Nan-Bet Zone in the field is a limited reservoir.

Also on the cross section in red, is the perforated intervals in each one of the wells on the cross section. The sand zones in the C Zone are colored yellow with the tongues of shall in between them colored in pencil again, in dark. In looking at the cross section from west to east, the correlations, we feel, are very good up until at least until we get to the Ocatilla Hills Well on the righthand side of the Section, and that particular well, we will not discuss at the present time, but the other wells, we feel, are very correlative. The sands are present, the C Sands are present, and as far as we

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are concerned, every well in the Catclaw Field. They, of course, are not exactly the same thickness and they even vary some in permeability, but we do feel that they are definitely correlative and it is so shown on this section. The dashed or kind of hatched line on the righthand side to the center of each log are drill stem test intervals, and on the right is what we covered from a drill stem test, plus, the number below each one of the tests are the bottomhole pressures from the drill stem tests.

You will notice that the Nan-Bet log which is the third well from the left on the section, is pretty much -- everybody, including us, kind of made it a typical log because it really contains every one of the probable pay sands in the Catclaw Draw with the exception of the A Sand or the Upper Morrow Sand. It is not present in this well. It shaled out, but with the exception of that, we have, from drill stem tests in that well, we have two sands toward the bottom, or say, the middle half of the B Zone is a zone that we have good sand.

MR. NUTTER: Which zone are you talking about?

THE WITNESS: The Nan-Bet Zone.

MR. NUTTER: You say the A Sand is shaled out?

THE WITNESS: Yes, sir. The A Sand is not

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present in the Nan-Bet Well. In other words, above that shale marker labeled 71-15, there is no sand in --

MR. NUTTER: (Interrupting) And this drill stem test here, although it went through that, it covered the B Sand also, didn't it?

THE WITNESS: Yes, sir. See the sands down at the bottom of that drill stem test that is kind of colored a little dark?

MR. NUTTER: Yes.

THE WITNESS: And labeled B-2?

MR. NUTTER: Yes.

THE WITNESS: Lightly, B-2?

MR. NUTTER: Yes.

THE WITNESS: That is the zone that gave up the gas. Where we did not have the A Sand present, we would sometimes set our packer up there in that line to get a better packer seat and make sure we didn't get a packer failure which is what happened in that case, but the productive gas sand is there at the bottom of that drill stem test. And, as you can see on that test, it flowed 7 and 1/2 million on a drill stem test. That zone is not perforated. Immediately below that, separated by a thin shale break, is a very good sand again which would be the

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basalmost sand of the B Zone which we recovered water. So, we do feel that the B Zone does have water or can have water in the area. Then, of course, just below that is the Nan-Bet Zone which is the only zone that we have perforated in that well, and it was completed for 84 million.

The lower zone, the C Zone, you can see pretty much the whole field. On this section, you can see that you have pretty much -- you have three divisions in the field interval. You have an upper sand which is tight and is not productive in hardly any of the wells. The only well that I know we have it perforated in is the No. 6 Catclaw. The No. 9 Catclaw could possibly be productive in this upper sand.

The middle sand in the Nan-Bet flowed gas, about 5.7 million. The lowermost sand -- and all these sands you can see throughout the field are separated by shale zones -- the lowermost sand of the Nan-Bet is water.

Every field has a kind of a pattern, I think, or every area in the Morrow has a pattern. They don't all have the same pattern. For example, I have come up with some kind of local names to identify different sands in the Morrow horizon. And speaking of the Morrow, I am

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talking about the whole thing, A, B and C Zones. For example, in this field in the immediate area, the B Zone, approximately the upper half of the B Zone, I call the Carlsbad Pay Equivalent. In the Carlsbad area, at least the initial wells, in some of the later development, they increased the C Zone production down there, but most of the -- the main pay in the South Carlsbad would be in the upper part, upper half of the B Zone. That zone, throughout all the wells in the Catclaw has been tight, or in a few cases there might have been just a smell of gas and a little bit of water, but mainly tight. All of the B Zone production has come from the bottom half of the B Zone. So, we can pretty much eliminate, in the Catclaw Field proper, the upper half of the B Zone, or that's what I call the Carlsbad Equivalent.

Now, in the C Zone, the uppermost sand which I just described as being tight and non-productive throughout the Catclaw, I call the Burton Flat Pay because in the Burton Flat area, immediately below the Massive Shale is where you get your main sand development. In the lower two sands in the Catclaw, I call the Catclaw Pay because that is where most of the production is coming from in the Catclaw area.

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Now, in comparing the main pays of the Burton Flat and the Catclaw Fields, you have just a reversal in the C Zone. You have the uppermost part of the C Sand as being the main pay in the Burton Flat, whereas, you just turn it just the opposite in the Catclaw and the main pay is the bottom approximate half of the C Zone. You do have kind of a flip-flop situation there and a definite change of pattern.

BY MR. KELLAHIN:

Q Going to what has been marked as Exhibit 2-A, would you explain what that is, please?

A The 2-A is the north-south cross section to the field, and it begins with the Continental Oil in Section 2 of 21, 25, a well that is presently in the process of being completed as probably a marginal well, and goes due south through the field and ties in on the south end in 22, 25 to the well in Section 2 which is the old Tom Brown Well which was dry in the Morrow. That well was not tested at all in the Morrow, so there is some question as to the extent of how much it is dry. We questioned it enough that we bought the leases anyway.

Again, we use the same color code and we have the same sand correlations in the field. You will notice

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that, again, the A Sand, or uppermost sand, the high well in the field, the Pure Federal in Section 11, we do not see any evidence of the A Sand being present there. We feel like it shaled out. But the A Sand is present all around that well. Every well offsetting that well has A Sand in it. It may be wet. In some cases it is wet. In other cases, it is gas, but the A Sand is present all the way around that well. It is just that one little well there that is pinched out.

The A Sand is present again in all of the wells in this Section, including the Tom Brown Well on the south end there, the dry hole. The A Sand is present in that well and looks wet on the log, but it has a very good porosity on it.

The B Zone, most of the wells except the No. 9 Catclaw in Section 34, are probably not productive in the B Zone to any extent, at least. The Pure Federal, we drill stem tested it and it tested tight. On our wells along the cross section, it was tight. We do have it perforated in one little zone in the discovery well again, on the Catclaw Draw No. 1-Y in Section 26. We do not think that there is probably any gas from that zone, however, on a drill stem test, we straddled two zones,

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the A Sand and B Zone, and we recovered 900 MCF of gas, so we weren't sure whether that B Zone had any gas in it or not, so we went ahead and perforated it. Again, that was the first well we drilled in the field, and if we had to do it again, we wouldn't have done it that way.

The C Sand, you can see also pinches out in that Pure Federal. It isn't gone, though. It is still a producing interval in the well. Again, it just illustrates mainly that these sands are correlative and are present throughout the field, the C Sands.

Q Referring to what has been marked for identification as Exhibit No. 2-B, would you explain what is shown on that exhibit?

A 2-B is merely a graph labeled, "Catclaw Draw-Morrow Field Production Data." It is plotted on the lefthand margin as the total monthly gas production in M.M.C.S. on a monthly basis for the field, all wells. The bottom margin is the time, based in months. Each one of those little squares on that chart is one month. You can see the years, and the black dots above and on the curve there, the colored dark dots is the month of December of each year, and above that dot is the cumulative production for the field up to that date.

Also on the curve are little arrows with dashes on there which shows the month that each well in the field was put on production, and as those wells are added, in parenthesis will be the total wells producing from the field at the time they were put on.

The map shows that the -- it goes all the way back to 1956 which is necessary because the Pure Federal was the first well drilled in there and originally, it was called the Golden Eagle Morrow Field, just a single-well field, and that well produced, as you can see there, for approximately 6 years before the Catclaw Field originated. At the time that the first Catclaw wells were put on production, that well at that time had produced, lacking 20,000 MCF of producing 3 billion cubic feet of gas, so it had already drained to some extent that immediate area around it. You can see that the peak of production was in December of 1973 and was a little over one and a half billion cubic feet during that month, and the curve, the isolation of the curve, is strictly based on market demand. It is not based on productivity of the wells or the wells dropping off or anything like that. It is strictly market demand. We have two pipelines in the area, Southern Union and Llano, and we have different demands

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from each pipeline which will cause erratic curves, but it is not due to productivity of the field.

Q Referring to what has been marked as Exhibit No. 2-C for identification, would you explain what is shown on there?

A 2-C is, again, just a graph showing the field production data by individual wells. The left margin is the number of months of production. In other words, the month that it actually went on the pipeline. It doesn't say, for example, that the well that has been on the pipeline for 20 months, that it produced every month in that 20 months. It does indicate when it went on the pipeline and how many months had gone by since it went on the pipeline.

The lower margin, going right, would be the amount of gas each well has produced in M.M.C.F. For example, the furthestest well to the right would be the No. 2 Catclaw. There is a number above each well, and just the number would be Catclaw Wells, Catclaw Draw Wells. The wells that are not in the unit have their last names on them. At any rate, the furthestestmost well, to the right would be the Catclaw Draw No. 2, and you can see that it has produced 23 months, and during that 23 months, it has

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accumulated approximately 4.8 billion cubic feet of gas. The longest well is, of course, the Pure Federal. You can see it up at the top of the graph. You can see that at that point, it had produced 94 months and had accumulated approximately 3,750,000 cubic feet of gas. These production figures and also the one on the field are up through June of 1974. Again, the same color code is used, and you can see which zone in the Morrow that they have accumulated these gas figures.

Q All right. Referring you to what is marked for identification as Exhibit No. 3, would you explain that, please?

A Exhibit No. 3 is an Isopach Net Gas Pay for the Lower Morrow or the C Zone only. This isopach pertains only to the lowermost part of the Morrow or the main pay in the field. The isopach contours on 10-foot thicknesses. The isopachs are not based on the presence of sand along the zero contour. It is just what we feel is the gas-productive interval of the well.

Also, note that the same color code is used. There is one thing on here a little different which is a pink dotted line that you can see on the north end of the field and a little small area again on the southeast side

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of the field. In that area is what I have labeled, "Lower Permeable Area," and I don't mean that they don't have any permeability. I am saying that they are tighter and they are lower. They have a lower porosity due to either the change in the character of the sand or cementation or such as that.

MR. NUTTER: Now, that is in the C Zone?

THE WITNESS: That is in the C Zone. This is strictly based on the C Zone.

MR. NUTTER: On your exhibit, then, these two wells that are enclosed in this line would be tighter in the C Zone?

THE WITNESS: That's correct.

MR. NUTTER: And up here, the well is on the outside?

THE WITNESS: Yes, sir. It would be tighter.

MR. NUTTER: Tighter wells in the C Zone?

THE WITNESS: Yes. To the north of that line on the north end would be the tighter wells. For example, the well in the -- the Continental Well in Section 2 -- would be tighter. The dry hole in Section 15 there, which was drilled by Hanagan Petroleum was definitely tight. Now, I am not saying that it is obvious that these wells --

for example, the area on the southeast side there where I have the little area around the Catclaw Draw No. 1 and the No. 3 Catclaw Draw in Section 36 -- they are tighter, but they are still productive and they have been completed as C Wells.

Also, below each well is a number with a letter "D" in front of the number. That denotes the bottomhole pressure recorded from drill stem tests, original drill stem tests of the C Zone only. Any tests overlapped into the B Zone was ignored. These are strictly bottomhole pressures that were obtained from drill stem tests, and I took the maximum bottomhole pressure recorded on each drill stem test taken in the C Zone only. It is pretty interesting to note, outside of the Pure Federal in Section 11, which has a figure D-4497, that, keep in mind, was probably the original bottomhole pressure of the field. Now, that well had produced six years, roughly 3 billion cubic feet of gas before any other gas was taken out of the area. So, roughly, about the time that we feel that the average bottomhole pressure of the Catclaw Draw originally was around 4375. You will note that all of these pressures recorded in this area are within 100 pounds of each other with the exception of that Pure Federal, the

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original well. They are really very close. Fifty to 100 pound variation from the drill stem test is not -- is pretty accurate. It is nothing to have a 50-pound error in bottomhole pressures recorded on the drill stem tests. But it is interesting to note that the pressures in all parts of that field was pretty consistent. Of course, when you get to the east side, for example, in the Inexco Arco Federal Well in Section 20 of 21, 26, you will see there a 4221, which is roughly 150 pounds or so below the original bottomhole pressure, but you have to keep in mind that that was the last well drilled and put on production in the field. There had been a considerable amount of gas taken out of the field before that well was completed. The cumulative production, by the way, of the field as of June 1st -- through June, 1974 -- was 24,000,676,255 MCF, and of that amount, 86 and 1/2 percent has been from the C Zone, the Lower Morrow. 2.7 percent has been from the B Zone. 10.8 percent has come from the Nan-Bet Stray Zone. So, a total of 11 wells has produced 86 and 1/2 percent of the total production in the field.

Also, you will note that the No. 2 Catclaw Draw which is located in Section 23 of 21, 25, has produced the

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most gas. It is the top producer of gas and it has accumulated through June of 1974, 4,000,812,046 MCF in 23 months. If you put that on -- that would be -- if you would assume an average of 25 feet of pay in that well, as you can see on the number there by the 2, we have 30 feet, but the average on that Section would be, say, 25 feet. It is probably going to be a little less than 25 feet average, but assume 25 feet of average pay over that Section, and assume that your recovery factor on a per-acre-feet basis is 500 MCF, that would be 15,000 MCF per acre recovery estimated. The well has already produced 9000 -- let's see -- it has produced 7500 MCF per acre right now and it is still capable of producing around 8 million a day at the present time. So, what I am getting at, if you break down the recoveries to date, that can show that we definitely feel that we can drain 640 acres from these wells. We think they are correlative throughout the field, the pay is. We think that when we are talking about the C Zone, we are talking about the same sand, not individual stringers, not separated every 20 acres, not faulted. We feel that there is definitely communication between them. We think that the variations somewhat in pressures are due to changes in permeability

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in the reservoir. Anytime that you are producing a reservoir at a high rate, that's when you are going to have pressure drop conditions, pressure drops throughout the field. Theoretically, if you produce it at a low rate, why, you should have -- the less permeable wells pretty much keep in pace with the higher permeable wells. So, if you are having very large variations of permeability, then you are going to get pressure differences in the field. The reservoir doesn't have time to adjust itself to a level, to seek its level at the bottomhole pressure. I mean, you are going to have different pressures throughout the area.

You can also see that the six wells on the north end have produced 70 percent. Today, it has produced 70 percent of the total gas in the field. Those six wells are located in Sections 11, 12, 13, 14, 23 and 24. Those six wells have produced 70 percent to date of the total production. Even the three top wells, which would be the Arco Federal in Section 11, the Catclaw Draw 2 and 4, those are the three top wells in the field, if you multiply those -- I mean, on 640 acres, that would be 1920 acres contributed to those three wells, or dedicated to those three wells, and that 1920 acres, the average recovery

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per acre would be 6600 MCF per acre right now.

Q Mr. Hanagan, are you of the opinion that keeping the Catclaw Draw-Morrow Gas Pool at 640-acre spacing will protect correlative rights and prevent waste?

A Yes, I do. I think that the exhibits submitted here shows that the field has reached the stage of fairly well being defined to its limits. The main area that is not completely limited yet is the southwest part of the field, but even it is limited there, as you can see. It is limited within two or three miles right now also, even on the southwest side. So, I think that we can show that the area within the field right now is protected from outside wells by either permeability, dry holes, zones being watered out and so forth.

Q Were Exhibits 1 through 3 prepared by you or under your supervision?

A Yes, they were.

MR. BUELL: We move the introduction of Exhibits 1 through 3.

MR. NUTTER: Hanagan's Exhibits Nos. 1, 2, 2-A, 2-B, 2-C and 3 will be admitted in evidence.

(Whereupon, Hanagan's Exhibits Nos. 1, 2, 2-A, 2-B, 2-C and 3 were marked for identification, and admitted into evidence.)

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BY MR. BUELL:

Q Mr. Hanagan, is there anything else you would like to add to your testimony?

A Well, I would like to request, of course, that the present field rules, including 640 acres and the other provisions of the Catclaw Draw Field be retained, and I would further request that these rules be made permanent. Now, as I understand the permanent rules, it doesn't mean that the Commission cannot reopen the case at any time, nor does it mean that some individual can reopen the case. The main thing by making these rules permanent, is where I don't have to come up here once a year and go through this rigamarole. I think the field is in its stage of production now to where we have enough production. Let's put it that way. The stage of development is such that we should not be required to come up here each year and rehash this.

MR. NUTTER: In other words, what you are saying is if the Commission should make the rules permanent, this still would not preclude someone at some later date when additional information became available --

THE WITNESS: (Interrupting) That is what I was saying.

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MR. NUTTER: (Continuing) To come back and maybe ask for a change in the rules?

THE WITNESS: Yes, sir. In fact, ourselves, we wouldn't want it -- we would want it with one open end too, but we still want some form of permanency here.

MR. NUTTER: So you don't have to come up here once a year?

THE WITNESS: Yes, sir.

MR. BUELL: I have nothing else, Mr. Examiner.

MR. NUTTER: Does anyone have any questions of this witness?

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Hanagan, referring to Exhibit No. 3, in the area of Township 22 South, Range 26 East, about Sections 17 and 20, you have pinched in the contours that --

A (Interrupting) 22, 26?

Q 21 South, I am sorry. You have pinched in the contour lines there that more or less delineate the net gas pay, and also referring now to the bottomhole pressure on the well in Section 20, there you show 4221, and then to the east, the well in 21, you show pressure of 4511.

A Mr. Stamets, before we proceed on this, I would

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like to discuss that area in the next case.

Q Okay.

A I have exhibits prepared similar to these that I would rather --

Q (Interrupting) All right. Based on your testimony, it would appear that you feel like this is the most efficient and economic way to produce the field at this time?

A Yes, I do. I really do think that we can drain 640 acres in the field. I feel like we are protected from any outside drainage in the field. I feel like that we couldn't get rigs and all the tubular goods to drill all those inside locations if you guys ordered us to.

Q If the economic situation would change drastically, you still wouldn't be precluded, even under these field rules, from going back in and developing additional wells on these 640 acres, is that correct?

A Yes, that's correct. We are not going to abandon the field until we are sure what we have left to drain, so to speak.

CROSS EXAMINATION

BY MR. NUTTER:

Q You've got lots more reserves left behind the

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pipe in several of these wells?

A Yes, sir, that's right, Mr. Nutter. We feel like that the A and B Zones are definitely a good potential. For example, the Catclaw Draw No. 4 there in Section 24 in the B Zone flowed 12 million on drill stem test. We do feel real strong that we do have definitely some A and B production.

Q Your 1-Y is the only well that is producing from the A Zone or has produced in the A Zone in the whole field, isn't it?

A Yes, sir, that is correct. I would say that it is fairly -- it is not as well developed -- but it is fairly tight. You can see we got 900 MCF on drill stem test.

Q Well, that drill stem test, as I recall, included the B Zone too?

A Yes, sir. We did not consider probably any gas coming from the B.

Q So, you didn't attribute any percentage of the total production to the A Zone, did you?

A No, I did not. That is correct. I wouldn't know how to divided it down. If I had to make a guess, I would say a very small percentage for two reasons: One

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is I think that the bottom zone would override that zone until some ex-pressure dropped in the C Zone to allow gas to come in. I would think that it would be overridden, the A Zone. Of course, now this A Zone in the No. 9 Well to the south in Section 34, that is the zone that we blew out in when we drilled the well, so definitely, we know it is productive.

Q Which one is that?

A That is the Catclaw Draw No. 9 in Section 34 of 21, 25.

Q Now, this No. 3 well was just recently put on production, wasn't it?

A Catclaw 3?

Q Yes, Catclaw 3.

A 36?

Q Yes.

A No, that was one of the original wells put on. It is a -- you might recall that originally, that well was dually completed in the Strawn and the Morrow, and we had nothing but mechanical problems with that well. We, for a while, set a plug and plugged off the Morrow and produced it from the Strawn, and it never did do a whole lot of good. The present position of it is, we have squeezed the

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Strawn and gone in, and we squeezed the Morrow one time above the pay, above the perforated interval. We went in and perforated and squeezed it because we felt like we were communicating with the A Zone in that well, and in that particular well, the A Zone is water, lots of water. Then, by tracer surveys, we confirmed that we had communicated. We went in and squeezed it and messed around with it and produced it for a little while, and we have again treated it and then within the last ten days, we went in there again and ran a tracer survey and we communicated again, but really, the well is not on production right now.

Q It is the low man on the totem pole as far as this Exhibit No. 2-C is concerned? It has the least production of any?

A That's right. I don't know how much to contribute it to, but I contribute a good part of it probably to mechanical problems.

MR. NUTTER: Are there any further questions of this witness?

MR. STEVENS: Don Stevens, representing Morris Antweil. He certainly has no objections to what the Applicant seeks in this case, however, we are concerned

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with the next case coming up. We basically would like to ask a question: Will much of your testimony in this case be carried over to the next case such that maybe I should ask you questions about this now, or do you have additional exhibits and testimony in the next case?

MR. BUELL: Well, Mr. Examiner, the next case will have substantially similar exhibits. There will be a few less exhibits.

MR. STEVENS: Then I have no questions of this witness.

MR. NUTTER: If there are no questions of the witness, he may be excused.

(Witness dismissed.)

MR. NUTTER: Do you have any additional questions, Mr. Buell?

MR. BUELL: No, sir, I do not, but I think Mr. Kellahin has, though.

KEN SOBKOWICH

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

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are employed, and in what capacity?

A Ken Sobkowich. I am employed by Inexco Oil Company as a Petroleum Engineer.

Q Have you made a study of and are you familiar with the Catclaw Draw Field?

A Yes, I have.

Q What is your degree in?

A Petroleum Engineering.

Q Are you familiar with the facts surrounding this Application?

A Yes, I am.

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

MR. NUTTER: Yes, they are.

BY MR. KELLAHIN:

Q Would you please refer to what has been marked as Exhibit No. 1? It has several attachments thereto, but the entire package has been marked as Inexco's Exhibit No. 1. Would you please refer to that and explain what information it contains?

A Exhibit 1 is a summary of reserves and estimated drainage area for five wells producing from within the Morrow in the Catclaw Draw Field.

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Q There are some 15 wells in this field. Why have you chosen only these wells?

A This exhibit was prepared to show that the main producing horizon, which the previous testimony has shown to be the Lower Morrow, and the exhibit was prepared to show that that main producing horizon will effectively drain 640 acres. The attached pages are the supporting data which went to make up the numbers in this first table. If I could refer to the first page attached, it is a summary of rock properties by zone.

Q That is the second page of the exhibit?

A Yes. Inexco has chosen to break the Lower Morrow into C and to D Zone, whereas, Hanagan calls it just a C Zone or Lower Morrow, but essentially, it is the main producing zones from the wells in the Catclaw Draw Field. It is a summary of the porosity net pay and water saturation for the wells considered in this Exhibit No. 1. From this table, weighted average rock properties for the C and D Zones combined was determined. The average porosity being 9.3 percent, and the water saturation being 34.5 percent. Using an initial average pressure of 4375, which agrees with the original pressure determined by Hanagan, we calculated the gas in place of 663 MCF per

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acre-foot. The recoverable gas-in-place to an abandoned pressure of 750 pounds is 546 MCF per acre-foot, and that's how the average recoverable gas-in-place in MCF per acre-foot was determined for the fourth column on the first page of this exhibit.

Referring to the second page, we have a bottom-hole pressure over compressibility versus cumulative production curve for the Catclaw Draw Unit No. 2 Well.

Q The graph is on the Catclaw Draw Unit No. 2?

A Yes, it is.

Q All right. Go ahead.

A In the upper righthand corner are the dates at which bottomhole pressures were available, and the cumulative production was tabulated, the compressibility factor and the bottomhole pressure over the compressibility factor. Those are the points that were plotted to make this curve.

I might mention that these curves were prepared for a previous hearing in April, and that the straight line portion of the curve has not been altered from that previous hearing, however, the last point in August of '74 is a bottomhole pressure determination obtained from shut-in tubing pressure, and that the last point plotted

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there shows where that point would fall with respect to the line. We didn't attempt to change the line because it is a shut-in tubing pressure rather than a bottomhole pressure measurement. We determined that the recoverable reserves for the Catclaw Draw Unit No. 2 Well were 11.25 billion cubic feet, and this is how the numbers in Column 3 were arrived at on the first page of this exhibit.

Q You prepared a similar graph for each of the wells involved in the summary?

A That's correct. In the case of Catclaw Draw No. 4, it looks like the shut-in tubing pressure obtained in August of '74 agrees with the line that was constructed for the earlier hearing. In the case of No. 6, the same is true. In the case of No. 7, it falls slightly below. In the case of No. 9, it is slightly above. I feel that the data is fairly good and that the recoverable reserves as determined previously are probably still representative of what these wells will recover.

Q How did you determine the estimated average net pay?

A That was determined by planimentering the combined net pay values of the second page of this exhibit for all the wells, by contouring the map of the net pay and

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planimetering the net pay map in determining an average net pay over the 640-acre spacing unit. That is, take the recoverable reserves, divided by the average recoverable gas-in-place, times the average net pay, and you come up with an estimated drainage area for the well, and you will see that they vary from a low of 481 acres to a high of 1020 acres. The average drainage area per well for the five wells considered is 752 acres.

Q On the second page of your exhibit, you have the weighted average rock properties. Tell me again how that weighted rock average was determined?

A In the case of porosity, it is just net pay times porosity divided by the total net pay, if you want an average porosity. In the case of saturation, it is just saturation times net pay divided by the total net pay.

Q From your analysis of the Catclaw Draw Field and from the data contained in your exhibit, what conclusions have you drawn with regard to the existing spacing of 640 acres per well?

A I would feel that the 640-acre spacing is adequate for these wells to drain the recoverable reserves within the 640 acres.

Q In your opinion, will a reduction in the spacing

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at this time from 640 acres to 320 acres or something less, constitute waste in that it would result in the drilling of unnecessary wells?

A That is my opinion.

Q In your opinion, will one well economically and efficiently drain 640 acres?

A Yes, it will.

Q In your opinion, will the continuation of the 640-acre spacing be in the best interest of conservation and prevention of waste and the protection of correlative rights of owners?

A Yes, it will.

MR. KELLAHIN: If the Examiner please, we move the introduction of Exhibit 1, submitted by Inexco.

MR. NUTTER: Inexco's Exhibit 1 will be admitted in evidence.

(Whereupon, Inexco's Exhibit No. 1 was marked for identification, and was admitted into evidence.)

MR. KELLAHIN: That concludes our direct examination.

CROSS EXAMINATION

BY MR. NUTTER:

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Q Mr. Sobkovich, admittedly you have taken some wells that are right in the heart of the pool, is this correct?

A Yes, sir.

Q And perhaps similar calculations on some of the outlying wells wouldn't yield such impressive drainage figures?

A The reason that we didn't consider any of the outlying wells is that they are not completed in strictly just the Lower Morrow. They have other zones which are influencing the cumulative production which you might attribute to those wells. For example, the 1-Y, right in the heart of the field has substantial pay thickness. The C and D pay thickness was included from that well in determining average for the section surrounding it, particularly in No. 9 and No. 2.

Q Tell me, where is No. 2 Well getting its 1020 acres to drain? It is completely surrounded by wells completed in the same zone with the exception of the dry hole to the west?

A No. 7 is indicated to be draining 481 acres. The zero control as I have drawn here may not necessarily be true, but I would say that it probably is -- you could

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slip 1000 acres surrounding the No. 2 Well into there quite easily.

Q If the other wells weren't draining anything?

A No, it is only a section and a half. You only have to drain the initial 320 acres. The No. 8 Well in Section 22 to the left of No. 2 is shown as a zero, but I am sure that there is some productive acreage underneath that Section 22 toward the No. 2.

MR. NUTTER: Does anyone else have any questions of the witness?

CROSS EXAMINATION

BY MR. STEVENS:

Q Will you be giving testimony at the next case, and will this information be available?

A No, we will not be giving any testimony in the next case.

MR. STEVENS: Mr. Examiner, I guess I would like to ask a question of you. Really, we would question some of these figures, not for the case at hand -- we have no objection at all, or Mr. Morris R. Antweil doesn't -- but since this is so analogous -- I don't know -- to the field that is to the east that I would like, I guess, your permission to question some of these conclusions if,

in the opinion of the Commission, this field might affect your ruling covering the field to the east.

MR. NUTTER: It may be as testimony develops in the following case that we may want to incorporate some of this into the record in the other case, and in that event, he would be available for cross examination.

MR. STEVENS: Then I have no questions.

MR. NUTTER: If there are no further questions of the witness, he may be excused.

(Witness dismissed.)

MR. NUTTER: We are not going to have time to finish the other case, I don't think, before lunch, so we will recess until 1:30.

Does anyone wish to make a statement in this case?

MR. FLUELLEN: My name is Reilly Fluellen. I am employed by Inexco Oil Company as a geologist, and I want to state that Inexco is in agreement with the geologic testimony presented by Mr. Hanagan and we also request that permanent rules be established for the Catclaw Draw Field and that the spacing be 640 acres.

MR. NUTTER: Does anyone else have anything to offer in Case No. 4548?

MR. DERRYBERRY: Mr. Examiner, the Commission has received two letters supporting continuation of 640-acre spacing. One from Union Oil Company of California written by L. F. Thompson, and one by Texaco, Incorporated written by Darrell Smith and signed by R. G. Brown.

MR. NUTTER: Thank you. If there is nothing further in Case 4548, we will take the case under advisement and recess until 1:30.

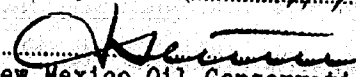
(Whereupon, the Hearing was recessed at approximately 11:45 a.m.)

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

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. 4548, heard by me on 9/4, 19 74.


Examiner
New Mexico Oil Conservation Commission

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

August 22, 1973

EXAMINER HEARING

IN THE MATTER OF:

Case 4548 being reopened pursuant
to the provisions of Order
Number R-4157.

Case No. 4548

BEFORE: Richard L. Stamets,
Examiner.

TRANSCRIPT OF HEARING

dearnley, meier & associates

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NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date

AUGUST 22, 1973

TIME:

9 A.M.

NAME	REPRESENTING	LOCATION
Hugh C. Hanagan	Hanagan Petroleum Corp.	Roswell
RC Hanks		Roswell
Richard S. Morrison	Montgomery, Federico et al	Santa Fe
Tom Kellahan	Kellahan & Co.	Santa Fe
John Castle	PERROC OIL CORP	MIDLAND
James H. Hinkle	ATL-Richfield	Roswell
Jim Henry	HENRYENGR. For David Fackler	MIDLAND
DARREL BOSE	Atlantic Richfield Co.	Midland
J. E. Sperling	Modrall, Sperling et al	alt.
Larry Mc Intosh	Roger Hanks	Midland
John Seery	Mobil Oil Corp	Midland
Don Allen	Hillman Prod.	Santa Fe
ROGER HANKS	Roger Hanks	Midland

1 MR. STAMETS: The hearing will come to order, please.
2 We will call first Case 4548.

3 MR. DERRYBERRY: Case 4548: Continued from the
4 August 9th, 1973, Examiner Hearing. In the matter of Case
5 Number 4548 being reopened pursuant to the provisions of
6 Order Number R-4157.

7 MR. MORRIS: Mr. Examiner, I am Dick Morris of the
8 firm of Montgomery, Federici, Andrews, Hannahs and Morris,
9 Santa Fe, appearing on behalf of Hanagan Petroleum Corporation,
10 which was the Applicant for temporary rules in the original
11 hearing in this matter. We have one witness, Mr. Huhg Hanagan.

12 MR. STAMETS: Are there other appearances in this
13 case?

14 (No response)

15 MR. STAMETS: The witness will stand and be sworn,
16 please.

17 * * * *

18 HUGH HANAGAN,
19 was called as a witness, and after being duly sworn according
20 to law, testified as follows:

21 DIRECT EXAMINATION

22 BY MR. MORRIS:

23 Q Mr. Hanagan, please state your name and where you reside.
24 A Hugh Hanagan, I reside in Roswell, New Mexico.

25 Q What is your relationship to the Hanagan Petroleum

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1 Corporation?

2 A I am Vice-President of Hanagan Petroleum Corporation.

3 Q Have you previously testified before the Commission or
4 one of its examiners and had your qualifications
5 established as a matter of record?

6 A Yes.

7 Q And just for the record, what is your profession?

8 A I am a geologist.

9 Q Now, was Hanagan Petroleum Corporation the Applicant
10 for the special rules and regulations in the Catclaw
11 Draw-Morrow Gas Pool which resulted in present Order
12 R-4157 establishing 640-acre spacing units in that field on
13 a temporary basis?

14 A It was the Applicant.

15 Q What, in a general way, is Hanagan Petroleum Corporation's
16 position with respect to the special pool rules in the
17 Catclaw Draw-Morrow Gas Pool at this time?

18 A Hanagan Petroleum Corporation seeks the permanent
19 establishment of these special rules and regulations in
20 including 640-acre proration units for the Catclaw Draw-
21 Morrow Gas Pool in Eddy County, New Mexico in order to
22 prevent economic loss from the drilling of unnecessary
23 wells, reduce the risk of drilling, protect correlative
24 rights, and assure orderly development of the subject
25 gas pool.

1 Q Would you please refer to the document marked as Exhibit
2 Number One in this reopened case and point out the
3 features of that exhibit?

4 A Exhibit One is a lease ownership plat with a subsurface
5 structure map superimposed on it. This structure map
6 is contoured on the base of the Morrow sand. On this
7 plat, outlined in red, is the present Catclaw Draw
8 pool limits. Outlined in yellow is the Catclaw Draw
9 Federal and State approved unit with Hanagan Petroleum
10 Corporation as the operator.

11 The color code isn't marked on the exhibit, but
12 the wells colored in red are Morrow producers, gas
13 producers. The yellow wells are wells presently drilling.
14 The blue colored wells are the Strawn producers. There
15 is one well on the southern end colored in green, and
16 that is a Canyon gas producer outside of the field area.
17 Also marked on this plat is the cross section line
18 which pertains to Exhibits Number Two and Three. As
19 you can see, it is labeled A A Prime and B B Prime--
20 Well, we'll get into that in a minute.

21 Q Those cross sections marked A A Prime and B B Prime,
22 are those the cross sections that are identified as
23 Exhibits Two and Three?

24 A Yes, that's correct. Exhibit Number Two is a west-east
25 log section labeled A A Prime, which cuts directly

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1 through the field on a west-east direction.

2 Exhibit Three is a north-south log section which
3 cuts through the field north-south.

4 Q Would you review for the Commission the basic nature of
5 this reservoir, and then go into a little bit of the
6 pool history and its development?

7 A We have been referring back and forth between these
8 three exhibits. Exhibit Two of these exhibits, both
9 numbers Two and Three, are log sections which include
10 just what we call the Morrow Clastics Zone. This
11 Morrow Clastics Zone is approximately 315 to 400 feet
12 thick in the field area, and within these limits are
13 contained all of the known gas producing sands in this
14 field.

15 The thickening of this gross section, as you can
16 see in Exhibit Number Two-- I beg your pardon, Exhibit
17 Number Three, you can see that starting from your
18 highest well in the field which is on the north end,
19 the Arco No. 1 Federal located in Section 11 of Township
20 21, Range 25. That is the highest well structurally
21 in the field.

22 You can note that the total thickness there is
23 318 feet as marked on the exhibit, and as you go south
24 to the southern-most well, which would be the-- I
25 think if we could call Hanagan Petroleum Corporation

1 just H.P.C., it would save a lot of words, because most
2 of these are H.P.C. wells.

3 So in the south end of the section, the H.P.C.
4 No. 3 Catclaw Draw Well located in Section 36 of Township
5 21, Range 25, you will note in that well that the total
6 thickness is 380 feet. So we have approximately 65
7 feet of thickening overall in the Morrow Clastics Zone
8 going north to south. This is also true going east
9 to west.

10 Now, you can see that roughly you are getting
11 about twenty-five percent thickening over the gross
12 section of the Morrow, and along with that thickening,
13 you do encounter more sands.

14 Referring back to Exhibit One where we have the
15 structure map on the base of the Morrow sand, we
16 interpret that as being broad and it is contoured on
17 100 foot contour intervals and a one-inch to 4000 foot
18 scale. You can see that we do some reversal across
19 the field, and that we do have some structure, and
20 this is shown primarily on Exhibit Number Two, which
21 is the west-east cross section.

22 You will note that the H.P.C. Well No. 2 Catclaw
23 located in Section 23 is the high well. As you go
24 west to the dryhole, the H.P.C. Number 8, in Section 22,
25 you have approximately 130 feet of west dip. As you

1 go from the H.P.C. Well No. 2 to our eastern-most
2 well, which is the Nan Bette-- The H.P.C. Nan Bette
3 No. 21 located in Section 19 of 21, 26, you again get
4 200 feet of east dip. So we do have reversal across
5 the field.

6 There is some structure present, we feel however,
7 that the basic trapping mechanism for the sands is a
8 stratographic dip trap, and of course, the secondary
9 trapping would be the nosing of the structure. But
10 primarily, we feel it is stratographic in nature.

11 Going back to both Exhibits Number Two and Three,
12 we have the Morrow Clastics section divided into three
13 zones, the A Zone, or the Upper Morrow; the B Zone, or
14 the Middle Morrow; and the C Zone, or the Lower Morrow
15 section.

16 On these exhibits, the Upper Morrow or A Zone is
17 colored blue. Where you see the blue coloring, that is
18 A sand. You will note in Exhibit Number Three in the
19 Arco Well in Section 11, 21, 25, the A sand is not
20 developed. It has shaled out. As you go south into
21 the next well, which is the H.P.C. No. 7 Catclaw in
22 Section 14 of 21, 25, the A sand-- We did discover
23 gas out of the A sand in that well. It is not perforated
24 at the present time. As you go on south into Section
25 23 in the Catclaw No. 2 Well, that well flowed 4.1

1 million out of the A sand. As you go on south a
2 little off structure, this sand does carry water. There
3 are only three wells in this field to date that we
4 feel could produce gas out of this particular zone.

5 The B, or the Middle Zone, is colored in green.
6 This is your thickest zone, and the Morrow Clastics
7 Section has one allowable, and it is treated as such.

8 Q Excuse me. This is not a prorated pool, is it?

9 A It's not prorated at the present time.

10 Q When you have referred to proration units, you mean
11 actual spacing units.

12 A I'm sorry, but if I said proration units, I should have
13 said spacing units.

14 Q Were you through with your explanation here?

15 A Almost.

16 Q All right.

17 A The Lower Morrow is colored in yellow on the exhibits,
18 and the Lower or C Zone, as we call it, is primarily--
19 Or most of the wells in the pool are producing out of
20 this particular sand, the Basel Morrow sand, at the
21 present time.

22 Q Now, when you came to the Commission for temporary
23 rules, what was the status of the development in the
24 field at that time?

25 A Before the discovery well of the Catclaw Draw field,

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1 which was the No. 1 C Catclaw Draw, drilled by H.P.C.
2 in Section 26 of 21, 25, before that well was discovered,
3 the first Morrow producer within the field area was
4 the Arco No. 1 Federal located in Section 11 of 21, 25.

5 That well was completed in February of 1966. It
6 was originally classified as the Golden Eagle Morrow
7 field, and was a single well field. The next producing
8 well in the area was the David Fasken No. 1 located
9 in Section 1 of 21, 25. It was completed and classified
10 as a Middle Morrow field, and called the Avalon field.
11 I believe that was the name of it.

12 In Case No. 4838, Order No. 4421, dated November
13 1st, 1972, the OCC on its own motion abolished those
14 two fields, or those two wells, and included those two
15 fields in the Catclaw Draw Morrow field.

16 After the No. 1 Y Well, which was completed in--
17 the H.P.C. No. 1 Y Catclaw Draw Well, which was
18 completed in May of 1971. During 1971, one other well
19 was drilled in that field, and that was the H.P.C.
20 No. 2 Catclaw Draw. Most of the development occurred
21 last year in 1972. During 1972, the H.P.C. No. 1
22 Nan Bette in Section 19 of 21, 25, was drilled. The
23 H.P.C. No. 3 Catclaw located in Section 36 of 21, 25,
24 was drilled and completed as a dual completion in the
25 Morrow and Strawn horizons.

1 The H.P.C. No. 4 Catclaw Draw Well in Section 24
2 of 21, 25, was completed. At the time the No. 4 was
3 being drilled, there were two other wells being drilled
4 and completed at the same time, the No. 1 McMahon Well
5 located in Section 18, 21, 26, and the Texaco Well
6 located in Section 12 of 21, 25. Those three wells
7 were drilled and completed at about the same time.

8 Then H.P.C. drilled, during 1972, the No. 5
9 Catclaw Draw located in Section 25 of 21, 25; the No.
10 6 Catclaw Draw located in Section 13 of 21, 25; and
11 the No. 7 Catclaw Draw, which was drilled in Section
12 14 of 21, 25.

13 We also drilled the No. 6 Catclaw Draw in Section
14 22, 21, 25, which was a dryhole, and which is on our
15 cross section in Exhibit Number Two.

16 In 1973, there have been two wells drilled so far,
17 and we have just completed, and we haven't filed our
18 papers on the third well. They were the No. 1 Bosco,
19 which was drilled in Section 30 of 21, 26, and the
20 Hanagan Petroleum No. 9 Catclaw Draw, which at present,
21 we have taken a four point test on, and it will be
22 filed within the next day or two. This well is
23 located in Section 35 of 21, 25.

24 So to date, we have thirteen producing wells in
25 the field, one of which is temporarily shut in, and

1 that is the No. 3 H.P.C. Catclaw Draw. We haven't
 2 plugged it in, it is temporarily set, and is producing
 3 out of the Strawn. But we have had some mechanical
 4 difficulties there, and expect to re-complete it in
 5 the near future.

6 There is also one well drilling at the present
 7 time which is the Arco Federal Well located in Section
 8 20 of 21, 26. This location has been established, and
 9 to my knowledge, it is still a location.

10 Q Mr. Hanagan, I will not ask you to give us detailed
 11 pressure and tests for all these wells that have been
 12 drilled in the field. But could you summarize or
 13 point out the particularly important pressures that
 14 you have obtained from these wells that would be
 15 pertinent to this hearing to show the drainage pattern
 16 and the ability of the wells in this area to drain at
 17 least 640 acres?

18 A All right. The pay thickness ranges from 15 feet to
 19 60 feet. Now, when I'm talking about pay thickness,
 20 I am talking about zones that actually were perforated
 21 and are producing at the present time. The porosity
 22 ranges from 8 to 14 percent. The water saturation is
 23 25 to 37. The original bottomhole pressure ranges
 24 from 4250 to 4450, and this was arrived at mostly from
 25 drill stem testing, and drill stem testing has been

1 considerable. The drill stem testing conducted,
2 particularly by H.P.C., has been considerable. We
3 have attempted and gone through a lot of expense to
4 selectively test each one of these sands, and we feel
5 this has paid off to the extent that we feel sure
6 that the area, the individual zones, are pretty well
7 associated with each other, and can be drained on
8 this pattern.

9 The bottom hole temperature will vary from around
10 180 to 185 degrees. The BTU of the gas on a dry basis
11 is between 1015 and 1035. On a wet basis, it is from
12 1050 to 1075. It is a sweet gas, 93 to 95 percent
13 methane.

14 The gravity will vary from about a .58 to a .61.
15 The gravity of the condensate is 52 to 54 degrees.

16 The original shut-in pressure on most of these
17 wells, and this is interesting in that on all of them,
18 they have been within about fifty pounds. The original
19 shut-in pressures were from 3450 to 3500. What is
20 strange about this is even in the few wells that have
21 been perforated in a little different sand, it is
22 still pretty close to that figure. The shut-in
23 pressure at the present time around the areas that have
24 been producing for, say, a month or so-- I mean a year
25 or so is around 2750 at the present time. The wells

1 on the south end, the present shut-in pressure on those--
2 the tubing pressure can be 3000 to 3200 pounds. It is
3 interesting to note that the majority, roughly two-
4 thirds of the total gas produced to date, has been
5 around the northwest side around the Arco Well and the
6 H.P.C. No. 7. Of course, the Arco Well, which has
7 been producing for seven years, their tubing pressure
8 is around 1900 pounds, but that is the area of the
9 largest drainage right now, and the offset wells to
10 the Arco Well are around 25 to 2750 on their shut-in
11 tubing pressure.

12 You can see on the two exhibits, Exhibits Two and
13 Three, that we have drill stem tests marked on them,
14 and bottomhole pressures noted, and this gives you a
15 fair idea of how closely the bottomhole pressures do
16 fall within that 4400 pound range.

17 We feel like there is real good drainage from
18 most of the wells to date in the field, with the
19 exception of about three producers from the lower sand,
20 the C sand.

21 Q Mr. Hanagan, in your opinion, will one well efficiently
22 and economically drain and develop an area of 640 acres
23 in this field?

24 A I believe it will.

25 Q Would you summarize for the Commissioner the bases for

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1 that conclusion and also your recommendations with
2 respect to the continuation of the present field rules?

3 A Based on the information that we have in the way of
4 shut-in tubing pressure, bottomhole pressure, as I
5 mentioned, extensive drill stem testing, we feel that
6 in this area, correlation-wise, we can follow these
7 sands and correlate them quite well.

8 Now, when you have heard the old adage, most of
9 us have made the statement, that it's impossible to
10 correlate these sands from one area to another, and
11 I think that's probably correct, but in this field,
12 and in the local area, I think it can be done, and
13 as you can see, I have a lot of lines marked, so I
14 do break them down, although I haven't mentioned them
15 all here in this hearing, but the zones do correlate
16 quite nicely, particularly the main producing zone
17 which is the Lower C Zone.

18 In any fields that I have found where you can
19 correlate pay zones and have quite similar bottomhole
20 pressures, within fifty to 100 pounds of shut-in
21 tubing pressure, I would say they are pretty well
22 communicated. Therefore, I think developing of this
23 field on 640 acres is practical.

24 We are talking about wells that cost in the
25 neighborhood of \$250,000 when we complete them. The

1 expense of doubling the number of wells in the field
2 would be in the neighborhood of \$3,000,000, and this
3 expense would be really for little or no added reserves.

4 Therefore, I think we should continue on 640-acre
5 spacing and the other rules that presently apply to
6 this field.

7 Q Would it be your recommendation, Mr. Hanagan, that these
8 rules be made permanent at this time?

9 A Yes, it would.

10 Q Has the pool been more or less completely defined at
11 this time?

12 A The field is becoming defined. It is not definitely
13 defined, and of course, a lot of guys will snicker and
14 say, "Well, in the Morrow, it never will be defined",
15 which may be right, but we do have limitations on the
16 field, particularly on the east side where we have a
17 dryhole in Section 7 of 21, 26. That well encountered
18 a little bit of gas in the Middle Morrow, or B Zone.

19 It was wet in the Lower C Zone, the main zone.
20 Our Nan Bette Well in Section 19 of 21, 26, had water
21 in the lowermost part of the C sand. The upper part
22 of the C sand was gas productive. In the Bosco Well
23 in Section 21-- I mean in Section 30 of 21, 26, it was
24 wet in the A Zone, one portion of the B Zone, and
25 completely wet in the Lower or main C Zone. It is

1 producing out of a thin stringer in one of the B sands
2 at the present time.

3 So between the water-- the limiting factor on this
4 east side would be the water situation.

5 On the north side, as you can see in the Arco Well
6 in Section 11, the A sand is not present, and the whole
7 Morrow Clastics sand section is thin. The only productive

8 zone is the one sand in the Lower C, which is thinning.
9 The normal sand in the Lower C quit. In fact, one of
10 them is completely gone in that well. So it appears

11 that as you go north and northwest particularly, and
12 this is also based on the dryhole that H.P.C. drilled
13 in Section 15, the sands are shaling up, thinning up.

14 Therefore, going north and northwest, we are
15 losing our sands, and they are tightening up, so we
16 have somewhat of a barrier in that area.

17 Also on the west side in Section 22 in the H.P.C.
18 No. 8 Catclaw, we recovered water and gas out of the
19 A sand.

20 MR. STAMETS: Which well was this?

21 THE WITNESS: The H.P.C. No. 8 Catclaw in Section

22 22 of 21, 25.

23 A (Continuing) We recovered oil and gas out of the A Zone,
24 and we recovered water out of the B Zone, and we
25 recovered water and gas out of the C Zone.

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1 On the south end, we have two wells drilled outside
2 of the field area, one in Section 1 and one in Section
3 2 of 22, 25. Both wells were drilled to the Morrow,
4 and were not productive in the Morrow. The No. 2 Well,
5 we have questions about its productivity in that it was
6 never drill stem tested or anything. We think enough
7 about that section, we do own it, and we think it could
8 be drilled again some time.

9 The only area-- Where the greatest potential of
10 the field, the undeveloped part of the field, in my
11 opinion at the present time, and based on the structure
12 map in front of you there in Exhibit One, would be to
13 the southwest. It has not been defined. Our newest
14 well, which is the Catclaw No. 9 Well in Section 35
15 of 21, 25, is a real fine well. We ran a four point
16 test on it a few days ago, and had 10.6 million out
17 of the Lower or the C sand again.

18 So the field is being limited in, I think, a fairly
19 safe way. My opinion at this time would be perhaps
20 four or five more locations, and the field will be
21 developed.

22 Q Mr. Hanagan, did you prepare Exhibits One, Two and Three?

23 A Yes, I did.

24 MR. MORRIS: At this time, Mr. Examiner, we offer
25 Hanagan Petroleum Corporation Exhibits One, Two and Three

1 into evidence.

2 MR. STAMETS: Without objection, they will be
3 admitted.

4 (Whereupon Applicant's Exhibits One through Three,
5 respectively, were admitted in evidence.)

6 MR. MORRIS: I would like to comment, Mr. Examiner,
7 before offering the witness for cross examination, that in
8 the last two cases that I am aware of involving reopened
9 hearings in the Morrow gas pools in cases 3727 and 4434, the
10 Commission did see fit to make permanent the temporary
11 640-acre rules for the Morrow involvement in those areas.

12 Along those lines, Mr. Hanagan, did you review
13 the records of those two cases I just referred to?

14 THE WITNESS: Yes, I did.

15 MR. MORRIS: That's all I have of this witness.

16 * * * *

17 CROSS EXAMINATION

18 BY MR. STAMETS:

19 Q Have any interference tests been conducted between wells
20 in this pool?

21 A No, they have not.

22 Q Do you have any pressures available here which definitely
23 show to you that there is connection between all of
24 these wells in the field? We have generally discussed
25 pressure here, but do you have some specific pressures

1 you can show me?

2 A Yes. I have original bottomhole pressure on every well
3 drilled here, if you would like them.

4 Q Would this show what you want to show?

5 A I believe that the bottomhole pressures, the original
6 bottomhole pressures, that were within 100 pounds of
7 each other, I think that would show communication.

8 Q Is it possible that that would also show that the gas
9 was merely trapped about the same time under the same
10 general conditions, and therefore the bottomhole pressures
11 would be about the same?

12 A That's possible, except that you can-- At the same time,
13 you can take and correlate those zones zone for zone,
14 and they do extend throughout the area, throughout the
15 pool area. You can say on your sections here that the
16 zones are definitely correlative to one another.

17 Production-wise, we do see, basically now we are
18 talking about production within the last year. In
19 other words, the first well outside of the Arco Federal
20 Well which was completed in 1966, the first production
21 or first wells to go on the line after that were the
22 No. 1 and No. 2 Catclaw Draws in August of last year.

23 So we have about one year of production, and during
24 that time, those wells have all-- At the present time,
25 they all have about the same shut-in tubing pressure.

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1 They have about the same shut-in tubing pressure this
2 August as they had originally last August, which to
3 me would indicate that they are being drained pretty
4 much at the same rate around those particular wells.

5 Now, to me, that would indicate communication.

6 If they were not the same reservoir, I would not think
7 the shut-in tubing pressure would remain the same.

8 Q Which was the last well completed in this pool?

9 A Well, the last well is the H.P.C. No. 9 and, as I said,
10 this is the one for which we will file the form within
11 the next few days.

12 Q Do you have bottomhole pressures on this well?

13 A Yes, sir.

14 Q What figure do you have on that?

15 A I might not have the bottomhole pressure, I had the
16 shut-in pressure which was 3309.

17 Q How does that compare with the No. 1 Well at the present
18 time?

19 A The No. 1 Well is 3250.

20 Q What was the initial shut-in pressure on the No. 1 Well?

21 A Three thousand five hundred four. The No. 1 Well, as
22 you might recall, was a tight well in that the

23 porosity itself was less permeable, and where we are
24 producing or can produce on deliverability test about

25 3.6 million a day out of the No. 1. Offset to the

1 north is the No. 2 Well where we can produce 11 million
2 a day. So consequently, we have withdrawn gas at a
3 much higher rate out of the No. 2 than we have out of
4 the No. 1.

5 Q You said that the initial shut-in on the No. 9 was 3309?
6 A Yes. It was a dead weight test.

7 Q The zones which you show on your cross sections, Exhibits
8 Number Two and Three, let's just take the C Zone. For
9 instance, you have a number of sands colored in yellow
10 which appear to correlate between the individual wells?
11 A Yes.

12 Q Is it possible that these are sand zones in which the
13 sand themselves are not interconnected, even though
14 the zones may appear to be between wells?

15 A In my opinion, no. We again get back to this same
16 premise that all of the original bottomhole pressures
17 are within 50 pounds of each other. The wells on the
18 east side definitely, if you get below the minus stage,
19 you don't get water because they do have a common water
20 table on each side.

21 Now, as in a lot of stratigraphic type traps, the
22 water, for example, on the updip side is not going to
23 be the same. But generally, once on the downdip side,
24 they are fairly consistent. In other words, you better
25 watch it because if you get below it, you are going to

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1 get water. Therefore, you have established water in
2 the reservoir, and this water below this interval
3 waters out not only the bottom sand itself, but also
4 the top sand.

5 For example, in the Bosco Well, all of the sands
6 were wet, and should have been because it came in
7 below the gas-water contact. Therefore, basically the
8 same bottomhole pressures indicate you have basically
9 the same shut-in tubing pressure, and you have common
10 water established on the east side.

11 Of course, the center wells, they are too high,
12 and we don't have water problems right there. To me,
13 that indicates a common reservoir condition.

14 Q Let me rephrase my question then. Is it not common
15 for the Morrow to be made up of correlative zones which
16 tend to be discontinuous?

17 A Oh, absolutely.

18 Q But your testimony is that you don't think that condition
19 exists here.

20 A Well, as I said before, we have gone through considerable
21 expense, and I think we probably have done more drill
22 stem testing than any company in the area, particularly
23 in the Morrow. On every well we have drilled in here,
24 I would say we have averaged three drill stem tests,
25 and we are only talking about a 400-foot interval, total

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gross interval, and we have averaged three drill stem tests, and as high as five drill stem tests.

In other words, we tested every one of these sands individually. Therefore, we do think we have good pressure data. In other words, before we run logs and run pipe, we feel we know pretty much what the sand is going to produce and what it isn't.

It is common practice, and I think it is somewhat of a shame, in drilling these Morrow wells, they deal with two or three sands together. They are getting gas and water, and they have no idea where the water is coming from or where the gas is coming from.

You can take the information, and it's public, and break these zones down, and I think you would come up with the opinion that I have, that these sands are interconnected, they are a common reservoir, and I am talking about the C Zone. When you start talking about the other zones, some of them cover one section, but I'm talking about the main zone, the main pay zone in this field, the C Zone.

I think they are definitely connected, and even between the dryholes themselves, they are connected. What about the current productive capacity of the wells in here? Are these all good wells at the present time? Do you have current potential on them?

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1 A Yes, I can give you a pretty good idea of about what
2 they are delivering or can deliver. The Fasken well
3 in Section 1, which is the northern-most well, is
4 producing around 200 MCF a day. The No. 1 Arco Well
5 in Section 11 has just recently been acidized, and it
6 was producing 1.1 million a day. It is now producing
7 about 2 million a day. The well in Section 12 has not
8 been hooked up yet to a pipe line connection, even
9 though it has been completed for some time. It is
10 being hooked up to Southern Union's line, and I don't
11 know what their problem has been, but that well was
12 completed in August of last year, August of 1972.

13 It is my understanding that the line is being
14 built into that well right now.

15 The No. 7 Catclaw in Section 14 can deliver about
16 seven and a half million a day.

17 The No. 6 Catclaw in Section 13, about 6 million
18 a day.

19 Going from east to west in the next tier, in
20 Section 18, the Nan Bette Well, can deliver fourteen and
21 a half million a day-- Let me back up. I think I'm
22 on the wrong tier. In the north tier in Section 18,
23 the Nan Bette Well, that well is producing about 2
24 million a day. The No. 6 Catclaw in Section 13 of 21,
25 25, six million a day. And the No. 7 Catclaw in Section

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1 14 is producing seven and a half million a day. The
2 No. 2 Catclaw in Section 23 is producing 3.6 million
3 a day. The No. 4 Catclaw in Section 24, nine and a
4 half million a day.

5 And as I have previously stated, the Nan Bette
6 Well, fourteen and a half million a day. The Bosco
7 Well in Section 30, 2 million a day. The Catclaw No. 5
8 in Section 5, 1.2 million a day. The No. 1 Catclaw
9 in Section 26, 3.6 million a day. The No. 3 Catclaw
10 is the temporary well, and is not producing at the
11 present time in the Morrow. The No. 9 Catclaw, of
12 course, is not hooked into a line yet.

13 Speaking of lines, we have two transporters in
14 the area and two purchasers in the area. One is
15 Southern Union Gas, and the other is Southwestern
16 Public Service.

17 Q Some of these wells appear to be very good, and others
18 moderate, and some relatively marginal or poor. It
19 would look like economically that the second well
20 could be paid for with some of these 320's, and not
21 paid for on others. Would that be a fair analysis?

22 A Yes, I think that's correct. As you can see, H.P.C.
23 themselves have drilled two dryholes. I am talking
24 about in the area now. Actually they drilled three in
25 that we did drill another well and re-entered a well,

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1 the Mercury-Baxter Well, located in Section 9 of 21, 25.

2 So basically you might say we have drilled over
3 the years three dryholes. We have drilled the No. 3
4 and the No. 5 Wells, which I think you could say are
5 weaker wells. We do hope, of course, to pay for them,
6 and I think we will do that.

7 But you can see that we have spent some money on
8 dryholes in the area too.

9 Q Mr. Hanagan, are you familiar with the operations in
10 the other Morrow pools such as the South Carlsbad Morrow
11 Pool?

12 A What do you mean operations?

13 Q I am not speaking about how anyone operates, but the
14 activity in the area.

15 A Yes, I am familiar with it.

16 Q In that particular pool, I believe the spacing is 320
17 acres.

18 A That's correct.

19 Q And although we don't have any evidence of it here before
20 us today, it seems, to the best of my recollection, and
21 I will ask you to verify this, that the number of wells
22 drilled on these 320's have encountered different zones
23 between wells, and some productive wells have been
24 found in different zones between two wells producing
25 from the apparent same zone. Does this go along with

1 what you understand of the field?

2 A Well, I think there is a difference, and I think one
3 of the basic differences between the two fields is what
4 part of the Morrow Clastics Zone you are producing from.

5 Now, the main production in the South Carlsbad
6 field comes from the B or the Middle Morrow Zone, to
7 my knowledge. There is no A Zone present, as I
8 correlate the South Carlsbad field, therefore we eliminate
9 that upper sand-- I take it back. I believe there are
10 one or two wells that produce out of the A. The B
11 Zone, which is true in this area, consists of several
12 sand zones, some productive, some tight, some even
13 have water, and the B is the main zone in the South
14 Carlsbad field.

15 It is more erratic, it's not only erratic in
16 the presence of the sands, but if you isopack the B,
17 that's where you are getting most of your fluctuation.

18 Now, the main zone in the Catclaw Draw is the
19 Lower or the C sand, and it is almost non-productive
20 in the South Carlsbad area. There are not over one
21 or two wells, to my knowledge, that are even perforated
22 in the C sand. The C sand is very poorly developed
23 there.

24 Therefore, I really think that in the Catclaw,
25 there is a considerable difference from the South

1 Carlsbad field. We are not talking about the same part
2 of the Morrow, and I'm not talking about individual
3 zones, I am talking about breaking it down in general
4 into Upper, Middle and Lower.

5 Our basic production is the bottom, or the Lower
6 Morrow. In fact, you can take our wells, the C sand
7 wells, which is the main pay in the Catclaw, and correlate
8 them in the Rock Tank, which is an entirely different
9 animal. The Rock Tank in these logs looks almost
10 identical. Our production is quite similar to the
11 Rock Tank, but it is not similar to the South Carlsbad
12 area.

13 Q Mr. Hanagan, could you furnish the Commission with some
14 sort of chronological set of pressures on these wells,
15 bottomhole, surface, shut-in, that we could examine
16 to more or less verify what you have testified to today?
17 A Yes.

18 Q If the Commission would not choose at this time to make
19 these field rules permanent, do you have any sort of
20 alternative in mind? Would you propose the extension
21 of the temporary rules for six months or a year?

22 A That gets back to the development of the field. I
23 think to develop the field, you have to know what the
24 rules are going to be. We are talking about investments
25 here of several million dollars, and we are also talking

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1 about an area, as far as Hanagan Petroleum Corporation
2 is concerned, where they have a majority of the field,
3 and certainly more than a majority of the production.

4 To say that we are going to be foolish enough not
5 to drill a sufficient amount of wells to drain the gas
6 would be fantasy. We are not going to leave any gas
7 around that area.

8 Getting back to the orderly development of the
9 field, you have got to know what the rules are going
10 to be. You can't have 640 one day and 320 the next.
11 You have got to be able to plan these wells. You plan
12 your spacing and your footage of each well based on
13 the proration unit. If it's going to be 640, we might
14 drill in a certain part of the section. If it's going
15 to be on 320, we might drill an entirely different
16 location.

17 So I personally-- Of course, I'd rather temporary
18 than 320, but at the same time, I have got to, as far
19 as I am concerned, I have to say I would want to see
20 permanent field rules set up.

21 I am becoming quite concerned personally with the
22 encroachment of operators around older fields and even
23 newer fields, getting these oddball locations and
24 crowding these lines. If you are going to set a spacing
25 pattern, set it even on 320's, if it's certain footage,

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PAGE 31

1 I will be on certain footage. I do realize there are
2 exceptions, there are topographic exceptions, and even
3 at times other exceptions. But I feel like the
4 development of this field has been quite orderly, and
5 at the present time, we have no problems between the
6 operators.

7 There are five operators in there including
8 ourselves, and we are all in agreement. We are all
9 basically under the same type of contract based on
10 deliverability. Hanagan Petroleum is selling to both
11 purchasers in the area, and therefore we have contracts
12 with both purchasers in the area. So I would say we
13 are developing the field in an orderly fashion, we
14 are selling the gas in an orderly fashion, and to date,
15 we have had no problems between ourselves as to the
16 amount of spacing or the amount of anything.

17 In fact, I believe you will find that most all
18 of the operators are in favor of this 640-acre spacing.

19 MR. STAMETS: Are there any other questions of
20 the witness?

21 (No response)

22 MR. STAMETS: If not, he may be excused.

23 (Witness excused.)

24 MR. STAMETS: We do have some telegrams, and maybe
25 Mr. Derryberry can more or less tell us who they are from

1 and what the jist of the communications are.

2 MR. DERRYBERRY: We have a letter from J. R.
3 Rothenbury supporting continuation of the special pool rules
4 for the field as proposed by Hanagan.

5 MR. HANAGAN: Who was that?

6 MR. DERRYBERRY: J. R. Rothenbury.

7 MR. HANAGAN: What company is that?

8 MR. DERRYBERRY: I don't believe it says.

9 We have a letter from Union Oil Company of
10 California supporting the adoption of permanent rules
11 establishing 640-acre proration units.

12 We have a letter from Anexko Oil Company supporting
13 the 640-acre proration units.

14 We have a letter from Texaco Oil Company supporting
15 the 640-acre proration units.

16 The company involved in the telegram I first mentioned
17 is Atlantic Richfield Company.

18 MR. HANAGAN: So that would be four of the five
19 operators.

20 MR. STAMETS: Do you have anything further in this
21 case?

22 MR. MORRIS: I have nothing further.

23 MR. STAMETS: Is there anything else in this case?

24 (No response)

25 MR. STAMETS: Take the case under advisement.

1 STATE OF NEW MEXICO)
 2) ss
 3 COUNTY OF BERNALILLO)
 4

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

12 *Richard E. McCormick*
 13 CERTIFIED SHORTHAND REPORTER
 14
 15
 16
 17
 18
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 20
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 22
 23
 24
 25

I do hereby certify that the foregoing is
 a complete record of the proceedings in
 the Examiner hearing of Case No. 4548,
 heard by me on August 22, 19 73.

Richard J. Stewart Examiner
 New Mexico Oil Conservation Commission

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I N D E XWITNESSPAGE

HUGH HANAGAN

Direct Examination by Mr. Morris

3

Cross Examination by Mr. Stamets

19

E X H I B I T SEXHIBITADMITTEDOFFERED

Applicant's #1

Plat

19

5

Applicant's #2

Cross section

19

5

Applicant's #3

Cross section

19

5

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
CONFERENCE ROOM, STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
August 9, 1973

EXAMINER HEARING

Case No. 4548

IN THE MATTER OF:

Order Number R4157, establishing
special rules and regulations for
the Catclaw Draw-Morrow Gas Pool,
Eddy County, New Mexico.

BEFORE: ELVIS A. UTZ,
Examiner.

TRANSCRIPT OF HEARING

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1 MR. UTZ: The hearing will come to order, please.
2 We have a new member of the staff with us today. Bill,
3 would you like to introduce your new cohort?

4 MR. CARR: We have Tom Berryderry. Tom is an
5 attorney who is joining the Commission staff to work
6 on problems of the Federal Power Commission. He's a
7 New Mexican who has just, in the past, been working for
8 the Housing and Urban Development. We're indoctrinating
9 him to the whole thing at this point.

10 MR. UTZ: We have two continued cases we'll take
11 first. 4548.

12 MR. CARR: In the matter of Case Number 4548, being
13 reopened pursuant to the provisions of Order Number
14 R-4157, which order established special rules and
15 regulations for the Catclaw Draw-Morrow Gas Pool, Eddy
16 County, New Mexico, including a provision for 640-acre
17 proration units. All interested parties may appear and
18 show cause why said pool should not be developed on
19 320-acre spacing.

20 MR. UTZ: Case 4548 has been requested to be
21 continued to August 22, and it will be continued.
22
23
24
25

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STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) SS.

I, CLAUDIA FAHRENTHOLD, a Court 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.

Claudia H. Fahrenthold
COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4548, heard by me on August 9, 1972.

[Signature], Examiner
New Mexico Oil Conservation Commission

Page 1

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date AUGUST 9, 1973 TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
Walter W. Krug	Wallen Prod Co.	Midland
James H. Hinkle	Exxon Corp.	Roswell
R. M. Richardson	W. T. Co. Inc.	Roswell
Richard S. Morris	Montgomery, McDonald	Santa Fe
HARLEY REAVIS	EXXON	MIDLAND
Bill Jordan	EXXON	ANDREWS
Harold Miller	El Paso Natl Gas	El Paso
J. H. Ramsey	CPNG	El Paso

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 16, 1971

EXAMINER HEARING

IN THE MATTER OF:)
)
)

Application of Hanagan Petroleum)
Corporation for creation of a new)
gas pool and special pool rules,)
Eddy County, New Mexico.)

Case No. 4548

BEFORE: DANIEL S. NUTTER, EXAMINER

TRANSCRIPT OF HEARING

1 MR. NUTTER: Call Case Number 4548.

2 MR. HATCH: Case 4548. Application of Hanagan
3 Petroleum Corporation for creation of a new gas pool and special
4 pool rules, Eddy County, New Mexico.

5 MR. MORRIS: Mr. Examiner, I am Richard Morris of
6 Montgomery, Federici, Andrews, Hannahs & Morris, Santa Fe,
7 appearing on behalf of the applicant.

8 I have one witness, Mr. Hugh Hanagan, and I ask that
9 he stand and be sworn at this time.

10 (Witness sworn)

11 HUGH HANAGAN

12 having been first duly sworn, testified upon his oath as
13 follows:

14 DIRECT EXAMINATION

15 BY MR. MORRIS:

16 Q Mr. Hanagan, will you please state your name and where
17 you reside?

18 A My name is Hugh Hanagan. I reside in Roswell, New Mexico.

19 Q And are you employed by Hanagan Petroleum Corporation,
20 the applicants in this case?

21 A Yes, sir.

22 Q In what capacity?

23 A Vice-president of Hanagan Petroleum Corporation.

24 Q And what is your profession, Mr. Hanagan?

25 A Geologist.

1 Q Have you previously testified before the Commission or
2 its examiners and had your qualifications established as
3 a matter of record?

4 A Yes, sir.

5 MR. MORRIS: Are the witness' qualifications
6 acceptable?

7 MR. NUTTER: Yes, they are.

8 Q (Mr. Morris continuing) Mr. Hanagan, what does Hanagan
9 Petroleum Corporation seek by this application?

10 A We would like to establish a new gas pool in Eddy County,
11 New Mexico. We would recommend that they designate this
12 new gas pool as the Catclaw Draw, Morrow gas pool. We
13 would like 640 acres spacing, comprising all of section
14 twenty-six, township twenty-one south, range twenty-five
15 east.

16 We would like to establish temporary special field
17 rules and regulations providing standard spacing and
18 proration units of 640 acres, the same being a single
19 governmental section.

20 Each well to be drilled not nearer than 1650 feet
21 to the outer boundaries of the section and no nearer than
22 330 feet to any governmental quarter quarter section line.

23 MR. NUTTER: Did you say 650 or 1650?

24 THE WITNESS: 1650.

25 Q (Mr. Morris continuing) Mr. Hanagan, will you refer to

1 Exhibit Number 1 and briefly state what that exhibit is
2 and what it shows?

3 A Exhibit Number 1, also labeled Exhibit A is a lease
4 ownership map covering the Catclaw Draw Unit, showing the
5 state federal and fee acreage, overriding royalties, and
6 our production pavement, less numbers and expiration dates,
7 and the subject well locations, not that all the offsetting
8 640 proration units are within the unit area.

9 The unit outline is in green, and the 640 gas unit
10 is outlined in yellow.

11 Q While we are on this exhibit, would you go further and
12 explain the location of the subject well and the location
13 of the well and this unit with respect to other Morrow
14 production in this area?

15 A The Hanagan Petroleum Corporation Number 1Y, Catclaw Draw
16 Unit well is located 1986 feet from the north line and
17 2310 feet from the west line in Unit F of section twenty-six,
18 township twenty-one south, range twenty-five east, Eddy
19 County, approximately six miles northwest of Carlsbad,
20 New Mexico.

21 It lies two and a half miles due south of the one
22 well Golden Eagle Morrow Pool, four miles southwest of
23 the one well, Avalon Middle Morrow Pool, approximately
24 three miles northwest of the Hackaberry Hills Cannon
25 Pool, and approximately seven miles east of the Indian

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1 Basin Upper and Lower Carin Gas Field. Avalon and Indian
2 Basin Fields, are on 640 acre spacing in the Morrow
3 Horizon.

4 The subject's well was drilled in the center of the
5 Catclaw Draw Unit, comprising 6720 acres of state federal
6 and fee land.

7 The unit was approved by the Commission by its Order
8 Number R-4081 dated December 17, 1970 in Case Number
9 4476.

10 Q Mr. Hanagan, would you refer now to Exhibit Number 2, and
11 would you first state what the four parts of this exhibit
12 are and then go back and explain what they show that is
13 pertinent to this application.

14 A In Exhibit Number 2, also shown to be Exhibit B, this
15 exhibit consists of four maps, labeled Figures 1, 2, 3
16 and 4.

17 Figure 1 is a sub-surface structure map contoured
18 on top of the Morrow Horizon, and the subject well
19 encountered at 10,186 feet, contour interval fifty feet
20 scale is one inch equal 4000 feet.

21 Q The minus datum figures to the right of each well is the
22 top of the Morrow as pictured by electric logs.

23 All double-circled wells have penetrated the Morrow
24 Horizons. Those that aren't double-circled are above
25 the Morrow -- did not penetrate the Morrow.

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1 The figure below each well is the total gross
2 thickness of the Morrow in the 1Y Catclaw from 10,186 to
3 10,570. This includes shale, sands, whatever is in that
4 interval.

5 An anomalous area is indicated in the unit area. This
6 Morrow gross section can be divided into three zones, the
7 Upper or A, the Middle or B, and the Lower or C zones.

8 Figures 2 3 and 4 are clean sands within each of
9 these zones. Figure 2 is the A zone, Figure 3 is the C
10 zone, and Figure 4 is the B zone.

11 The figures to the right of each well is a total
12 amount of clean sand developed in each zone. The number
13 below each well is the total gross thickness of each
14 zone.

15 These three Isopach maps, as interpreted by electric
16 logs, samples and tests show that all three of the
17 Morrow sand zones are developed over the entire area, or
18 I should say unit area.

19 Q Now, would you describe the drilling and the well history
20 of the Number 1 Catclaw Draw Units well?

21 A The Hanagan Petroleum Corporation Number 1Y Catclaw Draw
22 Unit well was drilled at an unorthodox location, 1986
23 feet from the north and 2310 from the west, due to
24 topography.

25 Under administrative order, the NFL-488, dated March 4,

1 1971, the subject well was spudded 2/16/71 and reached a
2 total depth of 10,905 feet, 371 open hole.

3 Electric logs were run only to the depth of 10,584,
4 at which time it was decided to drill to the top of the
5 lower Mississippian line encountered by samples at 10,890
6 feet.

7 Four and a half inch casing was run to a total depth
8 of 10,905 feet plug-back depth, 10,855 cased hole location,
9 Gamma Ray Neutron was run from 10,000 feet to a plug-back
10 depth of 10,855 feet.

11 During the drilling of the well, two drill stem tests
12 were conducted in the Morrow Horizon. The first test
13 included both the Upper and Middle Morrow sands, flowing
14 naturally at the rate of 920 MCF gas per day.

15 Test interval, 10,202 to 370. The second test
16 covered part of the Lower Morrow, flowing naturally at
17 rate 1,450,000 cubic feet of gas per day.

18 That interval tested 10,470 to 520. The thickest
19 producing sand zone, 10,542 to 570 was not drill stem
20 tested.

21 Some perforations, 10,202 to 12, 10,312 to 23,
22 10,492 to 502, 10,542 to several -- the well was
23 potentially natural on a 4.70 test, calculated absolute
24 open flow of 2,800,000 cubic feet of gas per day, plus
25 twenty-five barrels.

1 The well was completed on May 11, 1971, four point
2 test on a two-inch proper was as follows: one hour each
3 point, quarter inch choke, flowing to pressure 1421 pounds
4 2217 MCF, seven thirty-seconds, 1662 pounds, 2021 MCF,
5 three-sixteenths, 1901 pounds, 1686 MCF, one-eighth inch,
6 2598 pounds, 991 MCF.

7 The well is presently shut in waiting on pipeline
8 connections.

9 Q Mr. Hanagan, we have submitted to the Commission Exhibits
10 3 and 4, Exhibit 3 being the open hole log, and Exhibit
11 4 being the cased hole log.

12 Do you care to make any comments, further comments
13 with respect to those two logs?

14 A Well, the third exhibit, which is of the open hole log,
15 on that log is all the electric log pictures from the
16 Lone Spring all the way down to a total depth of 10,584.
17 In other words, through the Morrow section.

18 The log also contains the drill stem test intervals
19 and the perforated intervals. The Exhibit Number 4, which
20 is your cased hole log is strictly just an unmarked log.

21 Q Now, your perforations as shown on that Exhibit 3 show
22 that you are perforated in the Upper Middle and Lower
23 Morrow zones; is that correct?

24 A That's correct.

25 Q All right.

1 MR. NUTTER: Now, Mr. Hanagan, what was that
2 calculated absolute open flow that you gave me a minute ago?

3 THE WITNESS: 2,000,830.

4 MR. NUTTER: That is from the perforated interval
5 then?

6 THE WITNESS: That's correct. That's correct.

7 MR. NUTTER: Okay.

8 Q (Mr. Morris continuing) Do you have other reservoir data
9 to present to the Commission at this time on this Morrow
10 reservoir?

11 A Well, the pay thickness in the A zone, ten feet, B zone,
12 eleven feet, C zone, ten feet plus twenty-eight feet for
13 a total of thirty-eight feet.

14 That would give the total Morrow gross pay thickness
15 of fifty-nine feet, reserves calculated on twenty-six feet
16 of net pay, porosity range from eight to fourteen percent,
17 water saturation range from twenty-five to thirty-seven
18 percent, original bottom hole pressure of 4393 PFIA, at
19 10,386 minus 6961, bottom hole temperature of 181 degrees,
20 gas graft, .584, BTU, 1041 to 1023. It is a sweet gas.

21 Q Does it appear probable, Mr. Hanagan, that you will have
22 additional drilling and development within this unit area
23 in the near future?

24 A Yes. Quite possible that within the next two or three
25 months we will have another well going.

1 Q In your opinion, will it be in the best interest of
2 conservation if this area is permitted to develop on 640
3 acre spacing?

4 A Yes, sir.

5 Q In your opinion, will correlative rights be protected by
6 this type of space?

7 A Yes, sir.

8 Q Were Exhibits 1 and 2 and the information shown on Exhibits
9 3 and 4 prepared by you?

10 A Yes, sir.

11 MR. MORRIS: We offer at this time, Mr. Examiner,
12 Exhibits 1, 2, 3 and 4.

13 MR. NUTTER: Exhibits 1 through 4 will be admitted
14 in evidence.

15 MR. MORRIS: That's all we have on direct examinations.

16 CROSS EXAMINATION

17 BY MR. NUTTER:

18 Q Mr. Hanagan, I thought there for a minute you were going
19 to give us the reserves, what the volumetric reserves
20 calculated out on this twenty-six feet of net pay you
21 have got here under those reservoir conditions you gave.

22 A Gas in place, 15,000 MCF per acre, sixty-five percent
23 recover factor, which would be 9750 MCF per acre.

24 Q What was that figure again?

25 A 9750 MCF per acre or 640 acres would be 6,240,000,000

1 cubic feet gas.

2 This is based on a reservoir study by Henry Engineering
3 Company out of Midland, Texas in which he also gave us
4 credit over the life of the well of an average of three
5 barrels of condensate per million which would be a total
6 of 8700 barrels of condensate.

7 Q When do you anticipate you will have a pipeline connection
8 for this well?

9 A We hope within the next sixty days.

10 Q Has the contract yet been negotiated for sale of the gas?

11 A No, sir, it hasn't.

12 Q And you are making your request for 640 acre spacing so
13 similarity of this reservoir to other reservoirs that the
14 Commission has approved 640 acre spacing for or what?

15 A Yes, sir. I do think that it is similar to the Morrow
16 of the Indian Basin Field and practically all Morrow
17 fields in the county.

18 Q Now, this pool is immediately north here. You mentioned
19 the name of it, that is that Golden White?

20 A Golden Eagle.

21 Q That is the pool that is immediately north here, isn't it?

22 A Yes, sir. That is that well in section --

23 Q Section one, two?

24 A Eleven.

25 Q And also in eleven, but section eleven would be the closest

- 1 well to you? Are these Morrow wells up here?
- 2 A The well in section one of 2125 is the Avalon Morrow
- 3 Fields, which is on 640.
- 4 Q I see.
- 5 A The well in sections two and three are really the Spring's
- 6 Unit Cisco Canyon wells. They are not Morrow wells.
- 7 Q I see.
- 8 A The well in section four is the Gulf Seven-Rivers Hill
- 9 well which is an Upper Morrow well.
- 10 Q And then how about eleven?
- 11 A And eleven is the Golden Eagle, single well of the Golden
- 12 Eagle Morrow Field.
- 13 Q I see. And what is the spacing for that pool?
- 14 A It is just normal 320.
- 15 Q Pool rules in there?
- 16 A No pool rules.
- 17 Q And have you made a recommendation as to whether these be
- 18 temporary rules or just --
- 19 A Yes, sir. We did establish a temporary which would be, I
- 20 think, generally a year, isn't it?
- 21 Q Well, normally on those that don't have a pipeline
- 22 connection we set it for a rehearing a year after a
- 23 pipeline connection is obtained, so you have got a year
- 24 to gather some data.
- 25 A Correct. That is what we would like. In fact, that is

dearnley-meier reporting services, inc.

1 exactly what they have in the Avalon Morrow Field there
2 in section one.

3 Q Is that pool connected?

4 A It is not connected, no, sir.

5 Q All right.

6 MR. NUTTER: Are there any further questions of
7 Mr. Hanagan? He may be excused.

(Witness excused)

8 MR. NUTTER: Do you have anything further, Mr.
9 Morris?

10 MR. MORRIS: No, sir.

11 MR. NUTTER: Does anyone have anything they wish to
12 offer in Case Number 4548? We will take the case under
13 advisement.
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dearnley-meier reporting service, inc.

I N D E X

WITNESS

PAGE

HUGH HANAGAN

Direct Examination by Mr. Morris

2

Cross Examination by Mr. Nutter

10

1 STATE OF NEW MEXICO)
2 COUNTY OF BERNALILLO)

3 I, LINDA MALONE, Court Reporter, do hereby certify that
4 the foregoing and attached Transcript of Hearing before the
5 New Mexico Oil Conservation Commission was reported by me; and
6 that the same is a true and correct record of the said
7 proceedings, to the best of my knowledge, skill and ability.

8
9 Linda Malone
10 Court Reporter
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21

22 I do hereby certify that the foregoing is
23 a complete record of the proceedings in
24 the Examiner hearing of Case No. 1548
25 heard by me on 8/16 19 71.
James, Examiner
New Mexico Oil Conservation Commission

western union
Telegram

OCT -1 AM 7:56

IPMFEKA SANA

2-006367E274 10/01/74

ICS IPMBNGZ CSP

9156828631 TDBN MIDLAND TX 139 10-01 0918A EDT

PMS THE NEW MEXICO OIL CONSERVATION COMMISSION STATE OF NEW MEXICO
STATE LAND OFFICE, ATTN DANIEL S NUTTER, DLR

SANTA FE NM 87501

REGARDING CASE NUMBER 4548

THIS IS IN REGARDS TO CASE NUMBER 4548 AT NMOCC HEARING TO BE
HELD OCTOBER 2 1974. ARCO REQUEST SPECIAL CONSIDERATION BE GIVEN
TO THOSE OPERATORS WHO HAVE ATTEMPTED IN GOOD FAITH TO COMPLY
WITH THE RULES AND REGULATIONS FOR THE DRILLING AND COMPLETING
OF WELLS WITHIN ONE MILE OF THE CATCLAW DRAW MORROW GAS FIELD.

IT IS RECOMMENDED THAT THOSE OPERATORS BE GIVEN 6 MONTHS FROM
THE EFFECTIVE DATE OF ANY NMOCC ORDER REGARDING CASE NUMBER
4548 IN WHICH TO COMPLY WITH THE NEW REGULATIONS OF THE AVALON-MORROW
GAS FIELD THIS IS REQUESTED IN ORDER THAT AN OPERATOR MAY HAVE
TIME IN WHICH TO COMPLY WITH NEW SPACING REGULATIONS AS A RESULT
OF CASE NUMBER 5336 WHICH MAY REQUIRE HIM TO DRILL TO PROTECT
LEASES BECAUSE OF REVISION AND ACREAGE DEDICATION
M JAMES WALKER ATLANTIC RICHFIELD CO

0921 EDT

IPMFEKA SANA

*recd 9:05 am
10/1
DNU*

Catlaw Draw Morrow Pool

Arco-Pure Fed - 11-21-25 - (2/4/66) ^{Comp.} Orig. SITP 3435 - Present 1973 - ⁴⁴¹⁷ Orig BHP DST 4406/4497

Fosken-Ovelan - 1-21-25 - (7/25/70) - ~~"~~ - SITP not avail. - ^{Orig BHP DST} 4436-4398

HPC - #14000 - 26-21-25 - (5/11/71) - Orig SITP 3459 - Present 3241 - Orig BHP DST 4414/4493

" - #2 - 23-21-25 - (10/28/71) - Orig SITP 3502 - Present 2721 - Orig BHP DST 4304-4334

HPC - Also Oct - 19-21-26 - (6/1/72) - Orig SITP 3504 - Present 2722 - By RH bomb 4472

HPC - 3 CGD - 36-21-25 (8/7/72) - " " 3254 - shut in - BHP DST 4411-4413

HPC - 4 " - 24-21-25 (8/14/72) - " " 3506 - Present 2747 - " " 4419-4419

*HPC - 5 " - 25-21-25 (10/28/72) - ^{"B" zone} " 2955 - Present 1756 - ^{Orig BHP DST} 4130-4325

*Inexco Roscowitz - 30-21-26 (2/24/73) - ^{"B" zone} - Orig SITP 3265 - Present 1800 - ^{Orig BHP DST} 4386

HPC - 6 CGD - 13-21-25 (10/18/72) - Orig SITP 3487 - Present 2762 - BHP DST 4358-4450

HPC - 7 CGD - 14-21-25 (12/14/73) - Orig SITP 3389 - Present 2500 - BHP DST 4376-4369

(#7 - shows drainage ~~from~~ from Cat #2 + Arco-Fed.
^{lower} int'l pressure + bottom hole pres. than normal)

Inexo-McMinn - 18-21-26 (8/1/72) Orig SITP 3408 - Present 2975 ^{Orig BHP} 4254-4438

Tefaco-hivers - 12-21-26 (8/17/72) Orig SITP 3470 - Present not avail. ^{Orig BHP} 4359-4390

~~Inexo Roscowitz - 30-21-26 (2/24/73) Orig SITP 3265~~

Case 4548 - Reopened
 Submitted by
 Hogan Pet. Co
 8/22/73

CAMPBELL, BINGAMAN AND BLACK, P.A.

LAWYERS

JACK M. CAMPBELL
JEFF BINGAMAN
BRUCE D. BLACK
MICHAEL B. CAMPBELL

POST OFFICE BOX 2208

JEFFERSON PLACE

SANTA FE, NEW MEXICO 87501

TELEPHONE (505) 988-4421

September 20, 1977

Ms. Lynn Techendorf
Oil Conservation Commission
Legal Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Dear Lynn:

Enclosed please find an Application for Hearing filed on behalf of Texas Pacific Oil Company, Inc. The Company seeks to withdraw acreage dedicated to the Catclaw Draw Morrow Pool and to extend the Revelation Morrow Pool limits to include Section 3, T22S, R25E, Eddy County, New Mexico.

28
It is my understanding that Belco Petroleum Corporation has filed a Force Pool Application for the same acreage. A hearing on Belco's Application is set for September 18, 1977. We believe that both Applications should be heard by the Commission at the same time. We have contacted Belco to request that they voluntarily continue their scheduled hearing until October 12, 1977, the date on which I understand our Application will be heard. Belco has refused to continue its hearing voluntarily. I have therefore enclosed a Motion to Consolidate the hearing on Belco's Application with ours. I believe that consolidation of the matter is in the best interest of the Commission and the parties involved.

Very truly yours,


Michael B. Campbell

MBC:mr

Enclosures

Case 6067

APPLICATION FOR HEARING BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION

Applicant's Name:

Texas Pacific Oil Company, Inc.
Regional Office
Post Office Box 4067
Midland, Texas

Common Sources of Supply:

The Catclaw Draw Morrow Pool and
the Revelation Morrow Pool in
Eddy County, New Mexico.

General Nature of the Order Sought: To withdraw acreage dedicated
to the Catclaw Draw Morrow Pool by Order No. 4861 Para-
graph (M) and to extend the Revelation Morrow Pool limits
to include Section 3, T22S, R25E, Eddy County, New Mexico.

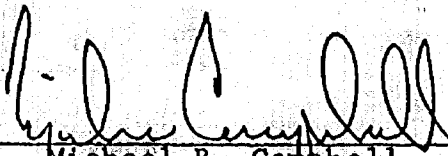
Justification:

Case 5326
Record of Case No 5311
was incorporated in 5336
4548
was inc.

1. Dry holes to the west and southwest of the Catclaw Field have delineated the boundary of the field.
2. Section 3, T22S, R25E, is located outside the defined boundaries.
3. Rule 1 of the Special Rules and Regulations for the Catclaw Draw Morrow Gas Pool (Order No. R-4157, Case No. 4548) appears to provide that in the event dedicated Catclaw acreage is nearer to another designated Morrow gas pool, such acreage should be reclassified and drilled under the closer pool field regulations. Section 3, T22S, R25E is nearer to the Revelation Morrow gas pool and should be reclassified and drilled under the pool field regulations governing that pool.

Respectfully submitted,

CAMPBELL, BINGAMAN & BLACK

By 
Michael B. Campbell
Attorneys for Applicant,
Texas Pacific Oil Company, Inc.
Post Office Box 2208
Santa Fe, New Mexico 87501



OIL CONSERVATION COMMISSION

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

October 22, 1974

I. R. TRUJILLO
CHAIRMAN
LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER
STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

Re: CASE NO. 5311 and 4548
ORDER NO. R-4887 and R-4157-B
Applicant:

Mr. Sumner Buell
Montgomery, Federici, Andrews, Hannahs & Buell
Attorneys at Law
Post Office Box 2307
Santa Fe, New Mexico

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 Mr. Tom Kellahin, Mr. Don Stevens, Mr. James Walker

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

CASE NO. 4548
Order No. R-4157-B

IN THE MATTER OF CASE NO. 4548 BEING
REOPENED PURSUANT TO THE PROVISIONS
OF ORDER NO. R-4157-A WHICH ORDER
CONTINUED IN EFFECT FOR ONE YEAR THE
SPECIAL TEMPORARY SPECIAL RULES AND
REGULATIONS FOR THE CATCLAW DRAW-MORROW
GAS POOL, EDDY COUNTY, NEW MEXICO

AND:

IN THE MATTER OF CASE NO. 4548 BEING
REOPENED ON THE MOTION OF THE OIL
CONSERVATION COMMISSION TO CONSIDER THE
AMENDMENT OF THE SPECIAL POOL RULES FOR
THE CATCLAW DRAW-MORROW GAS POOL, EDDY
COUNTY, NEW MEXICO, TO LIMIT THE APPLI-
CABILITY OF SAID SPECIAL RULES TO THE
CONFINES OF THE POOL'S HORIZONTAL LIMITS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

These causes came on for hearing at 9 a.m. on September 4, 1974, and at 9 a.m. on October 2, 1974, respectively, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 22nd day of October, 1974, the Commission, a quorum being present, having considered the testimony, the records, 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 these causes and the subject matter thereof.

(2) That by Order No. R-4157, dated June 21, 1971, temporary special rules and regulations were established for the Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico, establishing 640-acre spacing units.

(3) That by Order No. R-4157-A, dated September 13, 1973, said temporary special rules and regulations were extended for a period of one year.

(4) That by Order No. R-1670-O, dated January 15, 1974, the Special Pool Rules for the Catclaw Draw-Morrow Gas Pool were amended to provide for the prorationing of gas in said pool, and Special Rules 1, 2, 8(A), 8(B), 9, 25, and 26 were promulgated, the pool also being subject to the General Rules for Prorated Gas Pools in Southeast New Mexico, as promulgated by Order No. R-1670.

(5) That pursuant to the provisions of Order No. R-4157-A, this cause was reopened to allow the operators in the Catclaw Draw-Morrow Gas Pool to appear and show cause why said pool should not be developed on 320-acre spacing.

(6) That the available pressure and reservoir information tends to support the conclusion that effective drainage is occurring within the sand lenses of the Morrow formation on 640-acre spacing in the Catclaw Draw-Morrow Gas Pool, and that to prevent waste and protect correlative rights, 640-acre spacing and proration units should be continued for said pool, at least in the foreseeable future.

(7) That the engineering and geological information available indicates that the productive limits of the Catclaw Draw-Morrow Gas Pool have been effectively defined in practically all directions, with the possible exception being to the Southwest.

(8) That the drilling of Pennsylvanian gas wells on the standard Southeast New Mexico spacing of 320 acres is occurring in lands offsetting the established limits of the Catclaw Draw-Morrow Gas Pool but outside the productive limits of said pool.

(9) That to avoid conflicts of spacing patterns and violation of correlative rights, the pool rules for the Catclaw Draw-Morrow Gas Pool, including 640-acre spacing units and prorationing of gas, should be limited to the established productive limits of the pool, and not, as is often the case in other pools, to the pool limits and to lands outside said limits but within one mile thereof.

(10) That Rule 1 of the Special Rules and Regulations for the Catclaw Draw-Morrow Gas Pool, as promulgated by Order No. R-4157, and as amended by Order No. R-1670-O, should be amended to read in its entirety as follows:

"RULE 1. Each well completed or recompleted in the Catclaw Draw-Morrow Gas Pool, as defined by the Commission, shall be spaced, drilled, operated, and prorated in accordance with the rules for the Catclaw Draw-Morrow Gas Pool as set forth herein."

-3-
Case No. 4548
Order No. R-4157-B

IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations governing the Catclaw Draw-Morrow Gas Pool, as promulgated by Order No. R-4157, and as amended by Order No. R-1670-O, are hereby continued in full force and effect until further order of the Commission, provided however, that Rule 1 of said Special Rules is hereby amended to read in its entirety as follows:

"RULE 1. Each well completed or recompleted in the Catclaw Draw-Morrow Gas Pool, as defined by the Commission, shall be spaced, drilled, operated, and prorated in accordance with the rules for the Catclaw Draw-Morrow Gas Pool as set forth herein."

(2) That jurisdiction of this cause is hereby 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

SEAL

dr/

Dockets Nos. 29-74 and 30-74 are tentatively set for hearing on October 16 and October 30. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 2, 1974

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

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

CASE 5329: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider the amendment of Rule 109 of the Commission Rules and Regulations to require installation of blowout preventers on all drilling and workover rigs operating in areas of unknown pressures or high pressures and on all drilling and workover rigs operating within the corporate limits of any city, town, or village or within 1320 feet of a habitation, school, or church, wherever located.

CASE 5305: (Continued and Readvertised)

Application of Continental Oil Company for simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order approving the simultaneous dedication of its Britt B Well No. 17 located in Unit P of Section 10 and its Skaggs B Well No. 7 located in Unit K of Section 11, Township 20 South, Range 37 East, Eumont Gas Pool, Lea County, New Mexico, said wells to be dedicated to a 320-acre non-standard proration unit comprising the SE/4 of said Section 10 and the SW/4 of said Section 11, said unit having previously been approved by Commission Order No. R-908.

CASE 5330: Application of Texas Pacific Oil Company, Inc. for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its J. H. Ansley Unit Well No. 1 to be located 660 feet from the North and East lines of Section 27, Township 17 South, Range 26 East, Kennedy Farms-Morrow Gas Pool, Eddy County, New Mexico, the N/2 of said Section 27 to be dedicated to the well.

CASE 4976: (Reopened)

In the matter of Case No. 4976 being reopened pursuant to the provisions of Order No. R-4638 to permit all operators in the West Parkway-Strawn and West Parkway-Atoka Gas Pools in Section 28, Township 19 South, Range 29 East, Eddy County, New Mexico, to appear and present evidence to clearly establish the nature of the reservoirs, proper rates of production for wells therein, and special rules therefor.

CASE 5331: Application of J. Gregory Merrion for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Devils Fork-Mesaverde and Devils Fork-Gallup production in the wellbore of his NCRA State Wells Nos. 1 and 4 located in Units E and J, respectively, of Section 16, Township 24 North, Range 6 West, Rio Arriba County, New Mexico.

CASE 5288: (Continued from the September 18, 1974, Examiner Hearing)

Application of Merrion & Bayless for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of hydrocarbon production from the top of the Gallup formation at 5434 feet to the base of the Dakota formation at 6570 feet in its Keeling Federal Well No. 1 located in Unit B of Section 20, Township 25 North, Range 8 West, Dufers Point-Dakota Pool, San Juan County, New Mexico.

CASE 5332: Application of C & K Petroleum, Inc. for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the West Airport Unit Area comprising 3,840 acres, more or less, of Federal, Fee and State lands in Township 22 South, Range 26 East, Eddy County, New Mexico.

CASE 5333: Application of Mark Production Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a gas well to be drilled 660 feet from the South and West lines of Section 9, Township 20 South, Range 25 East, Cemetery-Morrow Gas Pool, Eddy County, New Mexico, the S/2 of said Section 9 to be dedicated to the well.

CASE 5334: Application of Stoltz, Wagner & Brown for directional drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to re-enter and clean out to a depth of approximately 8400 feet its H. L. Vinson Well No. 1, formerly Gulf Oil Corporation Vinson Well No. 2, the surface location of which is 1980 feet from the North and East lines of Section 22, Township 9 South, Range 36 East, Cross-roads Siluro-Devonian Pool, Lea County, New Mexico, and to then directionally drill said well in such a manner as to bottom the well in the Devonian formation within a 180-foot radius of a point 2310 feet from the North line and 1320 feet from the East line of said Section 22.

CASE 5337: Application of Keese & Thomas for an unorthodox oil well location, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Chacon Jicarilla Apache "D" Well No. 1 located 870 feet from the North line and 1140 feet from the East line of Section 23, Township 23 North, Range 3 West, Sandoval County, New Mexico. Said well was projected at an orthodox location for a Basin-Dakota gas well, but was completed as an oil well in the Dakota formation.

Examiner Hearing - Wednesday - October 2, 1974

Docket No. 28-74
-3-

CASE 5335: Northwestern nomenclature case calling for the creation and extension of certain pools in Rio Arriba, San Juan and McKinley Counties, New Mexico:

(a) Create a new pool in McKinley County, New Mexico, classified as an oil pool for Gallup production, designated the Arroyo Chico-Gallup Oil Pool. The discovery well is the Northern Minerals, Inc. Santa Fe Pacific Railroad Well No. 7 located in Unit G of Section 29, Township 16 North, Range 6 West, completed October 15, 1973. The depth of the casing shoe is 764 feet. Said pool would comprise:

TOWNSHIP 16 NORTH, RANGE 6 WEST, NMPM
Section 29: SW/4 NE/4

(b) Create a new pool in San Juan County, New Mexico, classified as a gas pool for Chacra production, designated the Bloomfield-Chacra Pool. The discovery well is the El Paso Natural Gas Company Hubbell Well No. 9, located in Unit P of Section 18, Township 29 North, Range 10 West. Said pool would comprise:

TOWNSHIP 29 NORTH, RANGE 10 WEST, NMPM
Section 7: SW/4
Section 18: All
Section 19: All
Section 20: NW/4

TOWNSHIP 29 NORTH, RANGE 11 WEST, NMPM
Section 4: SW/4
Section 5: SE/4
Section 9: N/2 & SE/4
Section 10: S/2
Section 11: S/2
Section 12: W/2 & SE/4
Section 13: All
Section 14: E/2
Section 23: E/2
Section 24: All
Section 26: E/2

(c) Create a new pool in Rio Arriba County, New Mexico, classified as a gas pool for Gallup production, designated the Campo-Gallup Pool. The discovery well is the Continental Oil Co. Conoco 29-4 Well No. 2 located in Unit H of Section 11, Township 29 North, Range 4 West. Said pool would comprise:

TOWNSHIP 29 NORTH, RANGE 4 WEST, NMPM
Section 11: NE/4

(Case 5335 continued from Page 3)

(d) Create a new pool in Rio Arriba County, New Mexico, classified as a gas pool for Pictured Cliffs production, designated the Gobernador-Pictured Cliffs Pool. The discovery well is the Lone Star Industries, Inc. Schalk 52 Well No. 1 located in Unit M of Section 24, Township 29 North, Range 5 West. Said pool would comprise:

TOWNSHIP 29 NORTH, RANGE 5 WEST, NMPM
Section 24: All

(e) Create a new pool in Rio Arriba County, New Mexico, classified as a gas pool for Gallup production, designated the Rosa-Gallup Pool. The discovery well is the Merrion & Bayless Gibbins Well No. 1, located in Unit L of Section 20, Township 32 North, Range 5 West. Said pool would comprise:

TOWNSHIP 32 NORTH, RANGE 5 WEST, NMPM
Section 20: S/2
Section 28: SW/4
Section 29: E/2
Section 33: NW/4

(f) Extend the Aztec-Pictured Cliffs Pool boundary in San Juan County, New Mexico, to include therein:

TOWNSHIP 28 NORTH, RANGE 10 WEST, NMPM
Section 15: SW/4

TOWNSHIP 30 NORTH, RANGE 10 WEST, NMPM
Section 7: N/2

(g) Extend the Blanco-Mesaverde Pool boundary in Rio Arriba & San Juan Counties, New Mexico, to include therein:

TOWNSHIP 26 NORTH, RANGE 2 WEST, NMPM
Section 16: All

(h) Extend the Blanco-Pictured Cliffs Pool boundary in Rio Arriba & San Juan Counties, New Mexico, to include therein:

TOWNSHIP 28 NORTH, RANGE 7 WEST, NMPM
Section 7: All

TOWNSHIP 29 NORTH, RANGE 8 WEST, NMPM
Section 9: SW/4

TOWNSHIP 30 NORTH, RANGE 8 WEST, NMPM
Section 17: SW/4

TOWNSHIP 30 NORTH, RANGE 9 WEST, NMPM
Section 25: NE/4

TOWNSHIP 30 NORTH, RANGE 10 WEST, NMPM
Section 5: SW/4
Section 26: SE/4

(Case 5335 continued from Page 4)

TOWNSHIP 31 NORTH, RANGE 11 WEST, NMPM

Section 2: NW/4

Section 7: E/2

TOWNSHIP 32 NORTH, RANGE 11 WEST, NMPM

Section 19: E/2

Section 20: All

Section 21: W/2

Section 22: SE/4

- (i) Extend the Gonzales-Mesaverde Pool boundary in Rio Arriba County, New Mexico, to include therein:

TOWNSHIP 25 NORTH, RANGE 6 WEST, NMPM

Section 1: NE/4

- (j) Extend the Harris Mesa-Chacra Pool boundary in San Juan County, New Mexico, to include therein:

TOWNSHIP 28 NORTH, RANGE 9 WEST, NMPM

Section 34: NE/4

- (k) Extend the Largo-Chacra Pool boundary in Rio Arriba & San Juan Counties, New Mexico, to include therein:

TOWNSHIP 27 NORTH, RANGE 7 WEST, NMPM

Section 5: SW/4

Section 6: E/2

Section 7: E/2

Section 8: All

Section 9: W/2 & SE/4

Section 16: All

Section 17: All

Section 18: All

Section 19: N/2

Section 20: All

Section 21: All

Section 28: W/2

Section 29: N/2

Section 30: All

Section 33: W/2

TOWNSHIP 27 NORTH, RANGE 8 WEST, NMPM

Section 13: NE/4

Section 24: N/2

Section 25: E/2

TOWNSHIP 28 NORTH, RANGE 7 WEST, NMPM

Section 31: SE/4

(Case 5335 continued from Page 5)

- (1) Extend the Otero-Chacra Pool boundary in Rio Arriba County, New Mexico, to include therein:

TOWNSHIP 26 NORTH, RANGE 6 WEST, NMPM
Section 36: NE/4

TOWNSHIP 26 NORTH, RANGE 7 WEST, NMPM
Section 24: E/2

- (m) Extend the Tapacito-Pictured Cliffs Pool boundary in Rio Arriba County, New Mexico, to include therein:

TOWNSHIP 26 NORTH, RANGE 4 WEST, NMPM
Section 3: N/2
Section 4: N/2

TOWNSHIP 27 NORTH, RANGE 4 WEST, NMPM
Section 19: NW/4
Section 22: SE/4
Section 26: NW/4
Section 27: All
Section 28: All
Section 33: E/2
Section 34: All

TOWNSHIP 27 NORTH, RANGE 5 WEST, NMPM
Section 9: SE/4
Section 10: SW/4
Section 27: SE/4
Section 34: NE/4
Section 35: NW/4

- (n) Extend the Tocito Dome-Pennsylvanian D Oil Pool boundary in San Juan County, New Mexico, to include therein:

TOWNSHIP 26 NORTH, RANGE 18 WEST, NMPM
Section 7: SW/4
Section 15: S/2 & NE/4
Section 20: NW/4
Section 22: N/2
Section 26: NE/4
Section 27: SE/4

CASE 5336: Southeastern nomenclature case calling for the creation and extension of certain pools in Chaves, Eddy and Lea Counties, New Mexico:

- (a) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated the Avalon-Morrow Gas Pool. The discovery well is the David Fasken El Paso Federal Well No. 1 located in the SW/4 NW/4 of Section 3, Township 21 South, Range 26 East, NMPM. Said pool would comprise:

(Case 5336 continued from Page 6)

TOWNSHIP 20 SOUTH, RANGE 27 EAST, NMPM
Section 33: S/2

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM
Section 3: Lots 1 through 16
Sections 4 and 5: All
Sections 8 and 9: All
Section 16: All
Section 21: All

(b) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Strawn production and designated the Avalon-Strawn Gas Pool. The discovery well is the David Fasken El Paso Federal Well No. 1 located in the SW/4 NW/4 of Section 3, Township 21 South, Range 26 East, NMPM. Said pool would comprise:

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM
Section 3: Lots 1 through 16

(c) Create a new pool in Chaves County, New Mexico, classified as a gas pool for Mississippian production and designated the Denton Camp-Mississippian Gas Pool. The discovery well is The Superior Oil Company Chatten & Muncy Well No. 1 located in Unit O of Section 18, Township 6 South, Range 28 East, NMPM. Said pool would comprise:

TOWNSHIP 6 SOUTH, RANGE 28 EAST, NMPM
Section 18: S/2
Section 19: E/2

(d) Create a new pool in Eddy County, New Mexico, classified as an oil pool for Wolfcamp production and designated the LaHuerta-Wolfcamp Pool. The discovery well is the Cities Service Oil Company Simpson A Well No. 1 located in Unit H of Section 29, Township 21 South, Range 27 East, NMPM. Said pool would comprise:

TOWNSHIP 21 SOUTH, RANGE 27 EAST, NMPM
Section 29: NE/4

(e) Extend the Antelope Ridge-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 34 EAST, NMPM
Section 21: S/2
Section 28: E/2

(f) Extend the Atoka-Pennsylvanian Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM
Section 10: E/2

(Case 5336 continued from Page 7)

(g) Extend the North Bagley-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 12 SOUTH, RANGE 33 EAST, NMPM
Section 6: NW/4

(h) Extend the South Bell Lake-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 34 EAST, NMPM
Section 5: NW/4
Section 6: N/2

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

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM
Section 35: NE/4

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

TOWNSHIP 19 SOUTH, RANGE 25 EAST, NMPM
Section 16: N/2

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

TOWNSHIP 21 SOUTH, RANGE 27 EAST, NMPM
Section 14: N/2

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

TOWNSHIP 22 SOUTH, RANGE 30 EAST, NMPM
Section 1: S/2

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

TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM
Section 27: All
Section 34: All

TOWNSHIP 22 SOUTH, RANGE 25 EAST, NMPM
Section 3: All

(Case 5336 continued from Page 8)

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

TOWNSHIP 20 SOUTH, RANGE 25 EAST, NMPM
Section 5: S/2

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

TOWNSHIP 15 SOUTH, RANGE 29 EAST, NMPM
Section 2: All

(p) Extend the Eagle Creek-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 25 EAST, NMPM
Section 13: E/2 SW/4

(q) Extend the South Flying M-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 32 EAST, NMPM
Section 14: SE/4
Section 23: E/2

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

TOWNSHIP 20 SOUTH, RANGE 30 EAST, NMPM
Section 31: E/2

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

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

TOWNSHIP 20 SOUTH, RANGE 30 EAST, NMPM
Section 29: S/2

(t) Extend the Los Medanos-Atoka Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 30 EAST, NMPM
Section 1: N/2

(u) Extend the McMillan Seven Rivers-Queen Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 26 EAST, NMPM
Section 1: SE/4 NE/4
Section 12: SE/4 NE/4

(Case 5336 continued from Page 9)

(v) Extend the Monument-Paddock Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM
Section 15: SW/4
Section 22: NW/4

(w) Extend the South Salt Lake-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 32 EAST, NMPM
Section 4: Lots 3, 4, 5 and 6

(x) Extend the Sams Ranch Grayburg-San Andres Gas Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 28 EAST, NMPM
Section 10: SE/4
Section 11: S/2
Section 14: N/2 and SE/4
Section 15: NE/4

(y) Extend the North Shoe Bar-Strawn Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 35 EAST, NMPM
Section 13: SW/4

(z) Extend the Square Lake Grayburg-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 30 EAST, NMPM
Section 9: E/2 NW/4

(aa) Extend the North Vacuum-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM
Section 7: W/2

(bb) Extend the Vada-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 33 EAST, NMPM
Section 2: NW/4

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

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM
Section 2: S/2

Examiner Hearing - Wednesday - October 2, 1974

Docket No. 28-74

-11-

CASE 4548: (Reopened)

In the matter of Case No. 4548 being reopened on the motion of the Commission to consider the amendment of the special pool rules for the Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico, to limit the applicability of said special rules to the confines of the pool's horizontal limits.

Union Oil and Gas Division: Central Region

Union Oil Company of California
500 North Marienfeld, Midland, Texas 79701
Telephone (915) 682-9731



Midland District

August 30, 1974

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

Gentlemen:

Catclaw Draw Morrow Gas Pool
Rules Review, Case 4548 (Reopened)

Union Oil Company of California is a non-operating working interest owner in wells in the Catclaw Draw Morrow Gas Pool. This is to advise that we support the adoption of permanent rules establishing 640 acre proration units. We believe that Morrow performance in the area indicates that development on 640 acre proration units will adequately produce reserves thereunder, prevent economic waste, protect correlative rights, and consequently, is the most practical spacing for field development.

Accordingly, we respectfully join in the request for the establishment of 640 acre proration units in this field.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

A handwritten signature in dark ink, appearing to read "L. F. Thompson".

L. F. Thompson

District Operations Manager

HRW:rb

cc: Hanagan Petroleum Corporation



PETROLEUM PRODUCTS

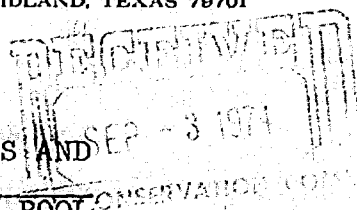
PRODUCING DEPARTMENT
CENTRAL UNITED STATES
MIDLAND DIVISION

August 30, 1974

TEXACO INC.
P. O. BOX 3109
MIDLAND, TEXAS 79701

SPECIAL TEMPORARY RULES AND
REGULATIONS

CATCLAW-DRAW MORROW GAS POOL
EDDY COUNTY, NEW MEXICO



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

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

At the Examiner Hearing to be held on September 4, 1974, Case No. 4548 will be re-opened pursuant to the provisions of Order No. R-4157-A, which order continued in effect for one year the special temporary rules and regulations for the Catclaw-Draw Morrow Gas Pool, Eddy County, New Mexico.

Texaco Inc. supports the position that this Pool should continue to be developed on 640-acre spacing.

Yours very truly,

Darrell Smith
Division Manager

By R. G. Brown
R. G. Brown
Assistant to Division Manager

CHF:MIS

Dockets Nos. 27-74 and 29-74 are tentatively set for hearing on September 18 and October 2. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 4, 1974

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

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

CASE 5038: (Reopened)

In the matter of Case No. 5038 being reopened pursuant to the provisions of Order No. R-4620, which order authorized the temporary disposal of produced water in unlined surface pits in the Twin Lakes Field, Chaves County, New Mexico, for a period of one year. All interested parties may appear and show cause why Commission Order No. R-3221 should not apply to this area.

CASE 5304: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Mercury Production Company, American Employers' Insurance Company and all other interested parties to appear and show cause why the Mercury State Well No. 1 located in Unit E of Section 27, Township 10 South, Range 26 East, Chaves County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 5305: Application of Continental Oil Company for simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order approving the simultaneous dedication of its Britt B Well No. 17 located in Unit P of Section 10 and its Skaggs B Well No. 7 located in Unit K of Section 11, Township 20 South, Range 37 East, Eumont Gas Pool, Lea County, New Mexico, said wells to be dedicated to a 320-acre non-standard proration unit comprising the SE/4 of said Section 10 and the SE/4 of said Section 11, said unit having previously been approved by Commission Order No. R-908.

CASE 5306: Application of Franklin, Aston & Fair for directional drilling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to directionally drill its Lightcap Well No. 2, the surface location of which is 660 feet from the North line and 1980 feet from the East line of Section 25, Township 17 South, Range 29 East, Chaves County, New Mexico, by setting a whipstock at approximately 5800 feet and bottoming in the Siluro-Devonian formation within a 50-foot radius of a point 361 feet south of the surface location.

CASE 5307: Application of Continental Oil Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Eumont Gas Pool and the Eunice Monument Grayburg-San Andres Pool in the wellbore of its Reed "B" Well No. 2 located in Unit H of Section 23, Township 20 South, Range 36 East, Lea County, New Mexico.

- CASE 5308: Application of Continental Oil Company for simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order approving the simultaneous dedication of its Lynn B-25 Wells Nos. 1 and 2 located in Units J and M, respectively, of Section 25, Township 23 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, said wells to be dedicated to a 320-acre non-standard proration unit comprising the S/2 of said Section 25, said unit having been previously been approved by Commission Order No. R-2088.
- CASE 5309: Application of C. & K. Petroleum, Inc. for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests of Pennsylvanian age or older underlying the SW/4 SE/4 of Section 27, Township 16 South, Range 37 East, Lea County, New Mexico, to be dedicated to a wildcat oil well to be drilled to the Strawn, and possibly the Devonian formation, at an orthodox location for said proration unit. 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 charge for risk involved in drilling said well.
- CASE 5310: Application of William C. Russell for directional drilling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the directional drilling of his Hammond Well No. 1, the surface location of which is 1800 feet from the North line and 1650 feet from the East line of Section 26, Township 27 North, Range 8 West, Largo-Chacra Pool, San Juan County, New Mexico.
- CASE 4548: (Reopened)
- In the matter of Case No. 4548 being reopened pursuant to the provisions of Order No. R-4157-A, which order continued in effect for one year the special temporary rules and regulations for the Catclaw-Draw Morrow Gas Pool, Eddy County, New Mexico. All interested parties may appear and show cause why said gas pool should not be developed on 320-acre spacing.
- CASE 5311: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider extension of the Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico. All interested parties may appear and present geological and engineering data to show whether the boundaries of the Catclaw Draw-Morrow Gas Pool should be extended to the East in Township 21 South, Range 26 East, Eddy County, New Mexico, and if so, to what extent.
- CASE 5303: Southeastern nomenclature case calling for the extension of certain pools in Lea, Eddy and Chaves Counties, New Mexico.

Examiner Hearing - Wednesday - September 4, 1974

Docket No. 26-74
-3-

(Case 5303 continued from Page 2)

(a) Extend the North Benson-Queen Grayburg Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM
Section 33: NE/4 NW/4

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

TOWNSHIP 15 SOUTH, RANGE 27 EAST, NMPM
Section 13: S/2
Section 24: N/2

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

TOWNSHIP 21 SOUTH, RANGE 27 EAST, NMPM
Section 6: All

(d) Extend the Dos Hermanos-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 30 EAST, NMPM
Section 21: All

(e) Extend the East Empire Yates Seven Rivers Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM
Section 28: SE/4 SE/4

(f) Extend the Field Ranch-Wolfcamp Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 11 SOUTH, RANGE 38 EAST, NMPM
Section 34: S/2 and NE/4

(g) Extend the West Jal-Delaware Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 25 SOUTH, RANGE 36 EAST, NMPM
Section 20: E/2

(h) Extend the Querecho Plains-Queen Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 32 EAST, NMPM
Section 23: SE/4

Examiner Hearing - Wednesday - September 4, 1974

Docket No. 26-74
-4-

(Case 5303 continued from Page 3)

(i) Extend the Wantz-Granite Wash Pool in Lea County, New Mexico,
to include therein:

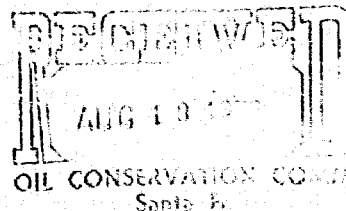
TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
Section 1: SW/4

(j) Extend the Winchester-Strawn Gas Pool in Eddy County, New Mexico,
to include therein:

TOWNSHIP 20 SOUTH, RANGE 23 EAST, NMPM
Section 3: E/2



August 8, 1973



Hanagan Petroleum Corporation
P. O. Box 1737
Roswell, New Mexico

Attention: Mr. Robert G. Hanagan

Re: NMOCC Order No. R-4157
Case 4548 (reopened)
Special Rules and Regulations
Catclaw Draw - Morrow Gas Pool
Eddy County, New Mexico

Dear Bob:

Dear Bob:

Please be advised that Inexco Oil Company concurs and supports Hanagan Petroleum Corporation's request that the existing temporary pool rules for the above denoted field, establishing 640 acre spacing, be adopted as permanent rules for the field.

Should Hanagan Petroleum Corp. require any production data, or assistance in rendering this plea, please advise the undersigned.

Yours truly,

INEXCO OIL COMPANY

Delven H. Mermis
Delven H. Mermis
Production Manager
Mid-Continent Division

DHM:do

cc: A. C. Simmons
M. B. Silva
New Mexico Oil Conservation Commission
Atlantic Richfield Co.
David Fasken
Texaco, Inc.
Union Oil Co. of California

DLH

INEXCO OIL COMPANY 1301 AMERICANA BUILDING HOUSTON, TEXAS 77002 (713) 224-8085
OFFICES: CALGARY, CASPER, DENVER, HOUSTON, JUNEAU, MIDLAND, NEW ORLEANS, OKLAHOMA CITY, NEW YORK

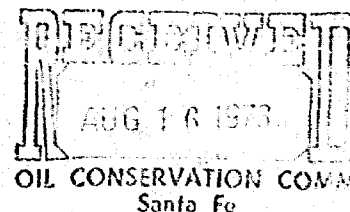
Union Oil and Gas Division: Central Region

Union Oil Company of California
500 North Marienfeld, Midland, Texas 79701
Telephone (915) 682-9731

union

Midland District

August 14, 1973



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

Gentlemen:

Catclaw Draw Morrow Gas Pool
Rules Review, Case 4548 (Reopened)

Union Oil Company of California is a non-operating working interest owner in wells in the Catclaw Draw Morrow Gas Pool. This is to advise that we support the adoption of permanent rules establishing 640 acre proration units. We believe that Morrow performance in the area indicates that development on 640 acre proration units will adequately produce reserves thereunder, prevent economic waste, protect correlative rights, and, consequently, is the most practical spacing for field development.

Accordingly, we respectfully join in the request for the establishment of 640 acre proration units in this field.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

John Tyler
John Tyler

Acting District Operations Manager

HRW:rb

cc: Hannagan Petroleum Co.

A large, stylized handwritten signature, likely of John Tyler, written in dark ink.

Telegram western union Telegram

RECEIVED
AUG 21 1973

OIL CONSERVATION COMM
Santa Fe

1973 AUG 21 AM 8:11

IPMFEKA SANA
2-127776E233 08/21/73
ICS IPMBN02 CSP

9156828631 TDBN MIDLAND TX 58 08-21 0856A EST
PMS NEW MEXICO OIL CONSERVATION COMMISSION, FONE
ATTN A L PORTER JR PO BOX 20888
SANTA FE NM 87501

RE EXAMINER HEARING AUGUST 22 1973 CASE 4548 RULES REVIEW FOR
CATCLAW DRAW MORROW GAS POOL EDDY COUNTY NEW MEXICO ATLANTIC
RICHFIELD, AS OPERATOR OF ONE WELL IN CATCLAW DRAW MORROW GAS
POOL AND WORKING INTEREST OWNER IN TWO OTHERS, SUPPORT CONTINUATION
OF THE SPECIAL POOL RULES FOR THE CAPTIONED FIELD, AS PROPOSED
BY HANAHAN PETROLEUM CORPORATION
J R RHOTENBERRY

0859 EST

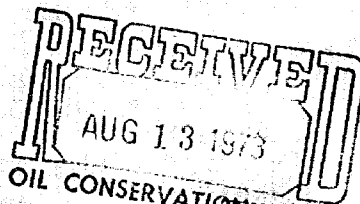
IPMFEKA SANA

PRODUCING DEPARTMENT
CENTRAL UNITED STATES
MIDLAND DIVISION



PETROLEUM PRODUCTS

August 10, 1973



OIL CONSERVATION CORP. INC.
Santa Fe P. O. BOX 3109
MIDLAND, TEXAS 79701

CASE 4548 (REOPENED)
SPECIAL RULES AND REGULATIONS
CATCLAW DRAW - MORROW GAS POOL
EDDY COUNTY, NEW MEXICO

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

Attention: Mr. Elvis A. Utz

Gentlemen:

Texaco Inc., as an operator in the Catclaw Draw
Morrow Gas Pool, Eddy County, New Mexico, concurs and supports
Hanagan Petroleum Corporation's request that the existing
temporary pool rules establishing 640 acre spacing be adopted
as permanent rules for the pool.

Yours very truly,

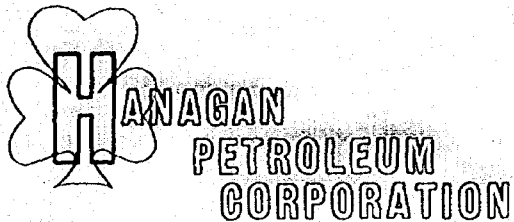
Darrell Smith
Division Manager

By R. G. Brown
R. G. Brown
Assistant to Division Manager

GRW:MIS

cc: Hanagan Petroleum Corporation
P. O. Box 1737
Roswell, New Mexico

RLH

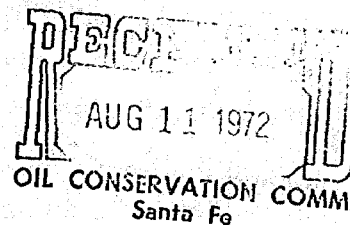


August 10, 1972

DOCKET MAILED

Date 8-9-73

PHONE 505 - 623-5053
J. P. WHITE BUILDING
POST OFFICE BOX 1737
ROSWELL, NEW MEXICO



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

Attn: Mr. Pete Porter

Re: Hanagan Petroleum Corporation
#1-Y Catclaw Draw Unit
Catclaw Draw Morrow Field
SE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 26, T-21-S, R-25-E
Eddy County, New Mexico (NMOCC Order No. 4548)

File
set for re-opening in Aug 73

Dear Sir:

This is to notify you that the first gas production from the captioned began at 2:30 P.M., MST, August 8, 1972; said initial delivery was made to Llano, Inc., transporter, P. O. Box 1320, Hobbs, New Mexico 88240.

Proper transporter forms have heretofore been filed with your Artesia office and we have received copies of notification to you by Llano, Inc. that connection for the purchase of gas was made on August 8, 1972, as to the captioned and as to Hanagan Petroleum Corporation #2 Catclaw Draw Unit, SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 23, T-21-S, R-25-E.

Very truly yours,

HANAGAN PETROLEUM CORPORATION

Robert G. Hanagan
Robert G. Hanagan

RGH:ab

cc: New Mexico Oil Conservation Commission
P. O. Drawer DD
Artesia, New Mexico 88210

DOCKET MAILED

Date 1-27-73

DOCKET: EXAMINER HEARING - THURSDAY - AUGUST 9, 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 Daniel S. Nutter, Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas for September, 1973, from seventeen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico;
- (2) Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for September, 1973.

CASE 4933: (Readvertised)

Application of Texaco Inc. for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Delaware formation through the perforated interval from 4280 feet to 4288 feet in its R. T. Wilson Federal Well No. 5 located in Unit J of Section 24, Township 26 South, Range 31 East, North Mason-Delaware Pool, Eddy County, New Mexico.

CASE 5040: Application of Wallen Production Company for a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project by the injection of water into the Yates Seven-Rivers formation in its Federal Well No. 2 located in Unit C of Section 20, Township 20 South, Range 34 East, North Lynch Yates-Seven Rivers Pool, Lea County, New Mexico.

CASE 5041: Application of W. T. Wynn for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Kaiser Lake Unit Area comprising 960 acres, more or less, of federal and fee lands in Township 18 South, Ranges 26 and 27 East, Eddy County, New Mexico.

CASE 4789: (Reopened)

In the matter of Case No. 4789 being reopened pursuant to the provisions of Order No. R-4375, which order established special rules and regulations for the Many Gates-Abo Pool, Chaves County, New Mexico, including a provision for 80-acre proration units. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing.

CASE 4548: (Reopened)

In the matter of Case No. 4548 being reopened pursuant to the provisions of Order No. R-4157, which order established special rules and regulations for the Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico, including a provision for 640-acre proration units. All interested parties may appear and show cause why said pool should not be developed on 320-acre spacing.

CASE 4745: (Reopened)

In the matter of Case No. 4745 being reopened pursuant to the provisions of Order No. R-4365, which order established special rules and regulations for the Penasco Draw San Andres-Yeso Pool, Eddy County, New Mexico, including a provision for classification of oil wells and gas wells, the spacing thereof, and a limiting gas-oil ratio of 3000 to 1. All interested parties may appear and show cause why said pool rules should remain in effect.

CASE 5042: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Everett D. Burgett and Fireman's Fund American Insurance Companies and all other interested parties to appear and show cause why the Pure State Wells Nos. 1, 2, 3, and 7 located in Units J, J, O, and O, respectively, of Section 15, Township 21 South, Range 27 East, Eddy County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 5043: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Kent Shannon and American Employers' Insurance Company and all other interested parties to appear and show cause why the Chaparral Tejano Well No. 1 located in Unit D of Section 10, Township 7 South, Range 26 East, Chaves County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 5044: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Sycor Newton, Peru Milling Company, R. E. Deming and Aetna Life and Casualty Company and all other interested parties to appear and show cause why the State L 6350 Well No. 1 located in Unit M of Section 10, Township 23 South, Range 11 West, Luna County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 5045: Application of Southern Union Production Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to re-enter the Wilson Federal Well No. 1 at an unorthodox location 2310 feet from the North line and 990 feet from the East line of Section 13, Township 22 South, Range 24 East, Eddy County, New Mexico, and to deepen said well to the Morrow formation, the N/2 of said Section 13 to be dedicated to the well.

CASE 5036: (Continued from the July 25, 1973, Examiner Hearing)

Application of The Wil-Mc Oil Corporation for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water in the San Andres formation in the perforated interval from 4208 feet to 4282 feet in its Champlin State Well No. 1 located in Unit M of Section 3, Township 8 South, Range 33 East, Chaveroo-San Andres Pool, Chaves County, New Mexico.

J. O. SETH (1883-1963)

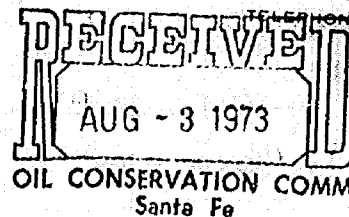
A. K. MONTGOMERY
WM. R. FEDERICI
FRANK ANDREWS
FRED C. HANNAHS
RICHARD S. MORRIS
SUMNER G. BUELL
SETH D. MONTGOMERY
FRANK ANDREWS III

OWEN M. LOPEZ
JEFFREY R. BRANNEN
JOHN BENNETT POUND

MONTGOMERY, FEDERICI, ANDREWS, HANNAHS & MORRIS
ATTORNEYS AND COUNSELORS AT LAW
350 EAST PALACE AVENUE
SANTA FE, NEW MEXICO 87501

August 2, 1973

POST OFFICE BOX 2307
AREA CODE 505
TELEPHONE 982-3876



New Mexico Oil
Conservation Commission
Post Office Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. Elvis A. Utz, Examiner

Re: Case No. 4548 (reopened), Special Rules
and Regulations for the Catclaw Draw-
Morrow Gas Pool, Eddy County, New Mexico

Gentlemen:

At the request of Hanagan Petroleum Corporation, the applicant for the special pool rules in the original hearing in the subject case, a continuance is requested of the subject case from August 9, 1973, to the last examiner hearing in the month of August, 1973, which we understand will be scheduled for August 22.

This continuance is requested in order to provide additional time to Hanagan Petroleum Corporation for preparation of evidence to be presented at the hearing. Hanagan Petroleum Corporation will endeavor to notify the other operators in the pool of its request for this continuance.

Very truly yours,

RSM:alb
5086-72-6

cc: Hanagan Petroleum Corporation

DOCKET MAILED

Date 8-9-73



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**

June 21, 1971

Mr. Richard Morris
Montgomery, Federici, Andrews,
Hannahs & Morris
Attorneys at Law
Post Office Box 2307
Santa Fe, New Mexico

Re: Case No. 4548

Order No. R-4157

Applicant:

Hanagan Petroleum Corporation

DOCKET MAILED

Date _____

7-27-73

DOCKET MAILED

Box 1

8-9-73

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

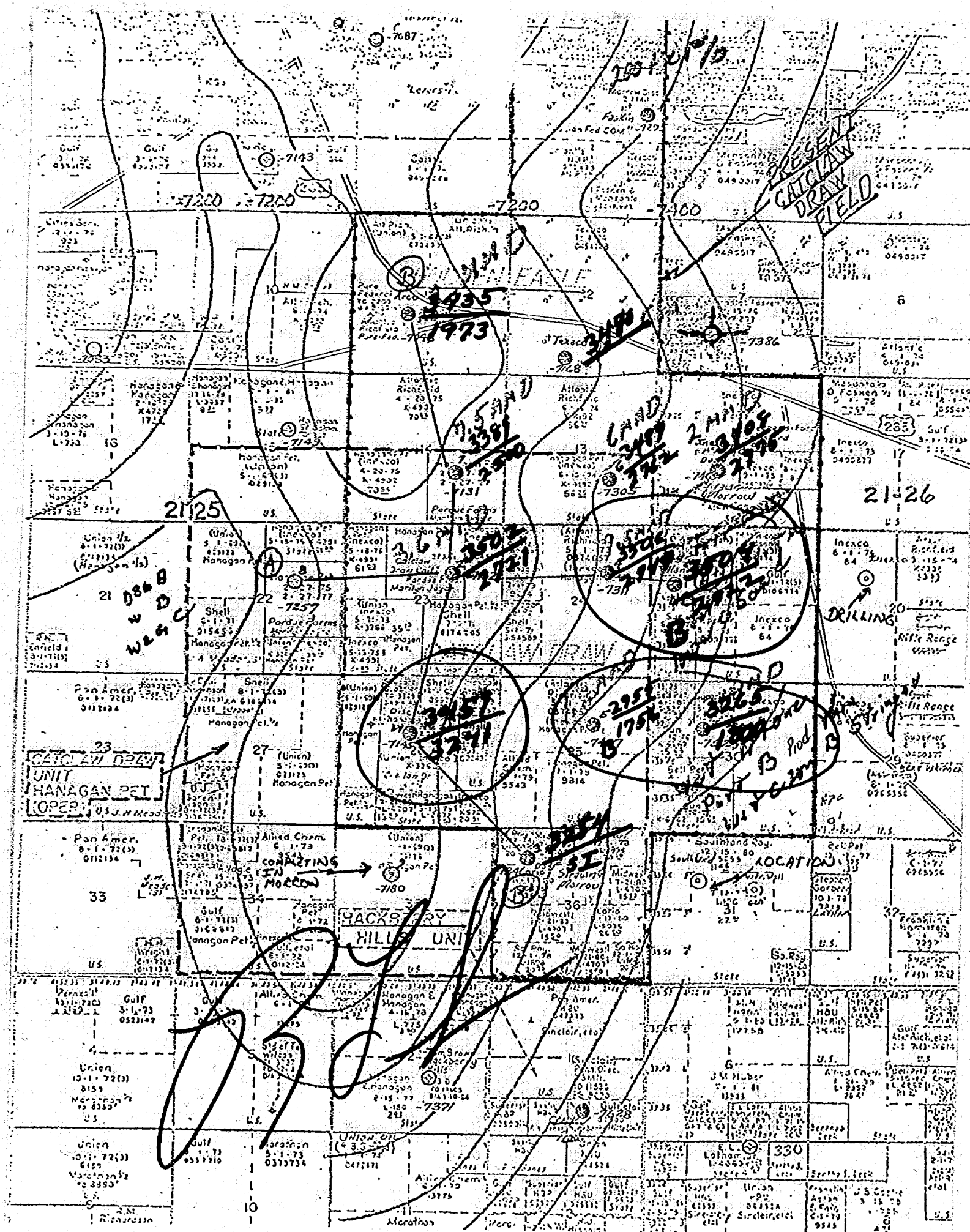
Case 4548 - Reopened

Submitted by
Honyan Det. Co

Area - Fire Fed - 11-21-25 - (2/4/66) ^{Conf.} Only SITP 3425 - ^{Conf.} Recd 1913 - ^{Conf.} Only 10/31/72
 Fashu Gordon - 1-21-25 - (7/25/70) - ~~ITP~~ - SITP retained - Only 3411-DSI 4436-4437
 HPC - #11000 - 26-21-25 - (5/11/71) - Only SITP 3459 - Recd 3241 - Only BHP DSI 4414-4415
 " - #2 " - 23-21-25 - (10/28/71) - Only SITP 3502 - Recd 2721 - Only BHP DSI 4304-4305
 HPC - Also Det - 19-21-26 - (6/1/72) - Only SITP 3504 - Recd 2722 - By BHP DSI 4472
 HPC - 3000 - 36-21-25 - (8/1/72) - " 3254 - ~~det~~ - BHP DSI 4411-4413
 HPC - 4 " - 24-21-25 - (8/1/72) - " 3506 - Recd 2747 - " 4418-4419
 HPC - 5 " - 25-21-25 - (10/28/72) - " ^{BHP} ~~from~~ " 2955 - Recd 1756 - BHP DSI 4130-4325
 * Inexco - 30500002 - 30-21-26 - (2/24/73) - " ^{BHP} ~~from~~ - Only SITP 3265 - Recd 1808 - ^{BHP} ~~from~~ DSI 4386
 HPC - 6000 - 13-21-25 - (10/8/72) - Only SITP 3487 - Recd 2762 - BHP DSI 4358-4400
 HPC - 7000 - 14-21-25 - (12/14/72) - Only SITP 3389 - Recd 2500 - BHP DSI 4376-4389
 (#7 - ^{large} ~~shows drainage for~~ ^{found} Cat #2 & Area Fed.
 with 169 pressure & bottom hole pressure shown)
 Inpho Main - 18-21-26 - (8/1/72) Only SITP 3408 - Recd 2975 Only BHP 4254-4438
 Teford Lewis - 12-21-26 - (8/1/72) Only SITP 3476 - Recd 4439 - Only BHP 4359-4390
~~Inpho Main - 30-21-26 - (2/24/73) Only SITP 3476 - Recd 4439 - Only BHP 4359-4390~~

[Handwritten signature]

Dec 72
 Dec 72
 Oct 72
 Dec 72
 Oct 72
 May 72
 May 72
 Sep 72





OIL CONSERVATION COMMISSION

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

September 17, 1973

I. R. TRUJILLO
CHAIRMAN

**LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER**

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

Mr. Richard S. Morris
Montgomery, Federici, Andrews,
Hannahs & Morris
Attorneys at Law
Post Office Box 2307
Santa Fe, New Mexico

Re: CASE NO. 4548
ORDER NO. R-4157-A

Applicant:
Hanagan Petroleum

DOCKET MAILED

Dear Sir:

Date _____

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	<u>x</u>
Artesia OCC	<u>x</u>
Aztec OCC	<u> </u>

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. 4548
Order No. R-4157-A

IN THE MATTER OF CASE NO. 4548 BEING
REOPENED PURSUANT TO THE PROVISIONS OF
ORDER NO. R-4157, WHICH ORDER ESTABLISHED
SPECIAL RULES AND REGULATIONS FOR THE
CATCLAW DRAW-MORROW GAS POOL, EDDY
COUNTY, NEW MEXICO, INCLUDING A PROVI-
SION FOR 640-ACRE PRORATION UNITS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 22, 1973,
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 13th day of September, 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 by Order No. R-4157, dated June 21, 1971, special
rules and regulations were promulgated for the Catclaw Draw-
Morrow Gas Pool, Eddy County, New Mexico, establishing 640-acre
spacing units.

(3) That pursuant to the provisions of Order No. R-4157,
this cause was reopened to allow the operators in the subject pool
to appear and show cause why the Catclaw Draw-Morrow Gas Pool
should not be developed on 320-acre spacing units.

(4) That the Catclaw Draw-Morrow Gas Pool is not now fully
developed and defined.

(5) That at least two separate zones in the Morrow formation
are productive from wells completed in said pool.

(6) That shut-in pressures tend to show communication
between the majority of the wells in the pool but some pressures
do not show such communication.

-2-
Case No. 4548
Order No. R-4157-A

(7) That the special pool rules for the Catclaw Draw-Morrow Gas Pool should not be made permanent at this time but should be continued on a temporary basis for an additional period of one year.

(8) That this case should be reopened at an examiner hearing in September, 1974, at which time the operators in the subject pool should appear and show cause why the Catclaw Draw-Morrow Gas Pool should not be developed on 320-acre spacing.

IT IS THEREFORE ORDERED:

(1) That the temporary special pool rules for the Catclaw Draw-Morrow Gas Pool are hereby continued in full force and effect.

(2) That this case shall be reopened at an examiner hearing in September, 1974, at which time the operators in the subject pool may appear and present additional testimony to show cause why the Catclaw Draw-Morrow Gas Pool should not be developed on 320-acre spacing units.

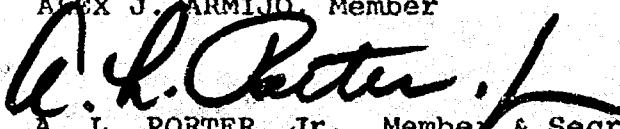
(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.


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: EXAMINER HEARING - WEDNESDAY - AUGUST 22, 1973

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

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

CASE 4548: (Reopened) (Continued from the August 9, 1973, Examiner Hearing)

In the matter of Case No. 4548 being reopened pursuant to the provisions of Order No. R-4157, which order established special rules and regulations for the Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico, including a provision for 640-acre proration units. All interested parties may appear and show cause why said pool should not be developed on 320-acre spacing.

CASE 5046: Application of David Fasken for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a gas well at an unorthodox location 660 feet from the South and West lines of Section 7, Township 18 South, Range 26 East, West Atoka-Morrow Gas Pool, Eddy County, New Mexico, to which well the S/2 of said Section 7 would be dedicated.

CASE 5047: Application of Chace Oil Company for the amendment of Order No. R-4555, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of the special rules and regulations for the South Lindrith Gallup-Dakota Pool, Rio Arriba County, New Mexico, as promulgated by Order No. R-4555, to provide for the classification of oil wells and gas wells, the assignment of 320-acre units to gas wells, and to provide for approval of unorthodox locations for wells drilled as oil wells but classified as gas wells upon completion.

CASE 5048: Application of Roger C. Hanks for creation of a pool and special rules therefor, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of the South Dagger Draw-Upper Pennsylvanian Pool for his Preston Federal Well No. 1 located in Unit L of Section 35, Township 20 South, Range 24 East, Eddy County, New Mexico. Applicant further seeks the promulgation of special rules for said pool, including a provision for 320-acre spacing for all wells in said pool, for the classification of oil wells and gas wells, for a limiting gas-oil ratio of 8,000 to 1, and for the assignment of a depth bracket allowable for oil wells of 267 barrels of oil per day.

CASE 5049: Application of Mobil Oil Corporation for a triple completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the triple completion (conventional) of its Federal "LL" Well No. 1 located in Unit N of Section 13, Township 23 South, Range 26 East, South Carlsbad Field, Eddy County, New Mexico, to produce gas from the Canyon, Atoka, and Morrow formations through three strings of tubing.

CASE 5050: Application of Read and Stevens, Inc. for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority

(Case 5050 continued from Page 1)

to dispose of produced salt water into the Montoya formation in the perforated interval from 6225 feet to 6245 feet in its Federal "I," Well No. 1, located in Unit B of Section 21, Township 6 South, Range 27 East, Haystack-Cisaco Pool, Chaves County, New Mexico.

CASE 5051: Application of Hillin Production Company for special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Winchester-Morrow Gas Pool, Eddy County, New Mexico, including a provision for 320-acre spacing and specified well locations.

CASE 5052: Application of Atlantic Richfield Company for a non-standard gas proration unit and simultaneous well dedication, 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, E/2 NE/4, SW/4 NE/4, and NE/4 SE/4, of Section 35, Township 23 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be simultaneously dedicated to its J. P. Combest Wells Nos. 1 and 4 located in Units H and E, respectively, of said Section 35.

CASE 5053: Southeast nomenclature case calling for the creation, extension and contraction of certain pools in Eddy and Lea Counties, New Mexico.

(a) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Atoka production and designated as the Burton Flat-Atoka Gas Pool. The discovery well is the Monsanto Company Miller Federal No. 1 located in Unit G of Section 3, Township 21 South, Range 27 East, NMPM. Said pool described as:

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

(b) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Strawn production and designated as the Burton Flat-Strawn Gas Pool. The discovery well is the Monsanto Company, Burton Flat Deep Unit No. 3 located in Unit V of Section 3, Township 21 South, Range 27 East, NMPM. Said pool would comprise:

TOWNSHIP 21 SOUTH, RANGE 27 EAST, NMPM
Section 3: S/2

(c) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Canyon production and designated as the Carlsbad-Canyon Gas Pool. The discovery well is the Morris R. Antweil Randall No. 1 located in Unit K of Section 21, Township 22 South, Range 27 East, NMPM. Said pool would comprise:

TOWNSHIP 22 SOUTH, RANGE 27 EAST, NMPM
Section 21: S/2

(d) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Happy Valley-Morrow

(Case 5053 continued from Page 2)

Gas Pool. The discovery well is The Superior Oil Company State Q Com No. 1 located in Unit L of Section 34, Township 21 South, Range 26 East, NMPM. Said pool would comprise:

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM
Section 34: W/2

(e) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the LaHuerta-Morrow Gas Pool. The discovery well is the Cities Service Oil Company Cawley A Com No. 1 located in Unit K of Section 28, Township 21 South, Range 27 East, NMPM. Said pool would comprise:

TOWNSHIP 21 SOUTH, RANGE 27 EAST, NMPM
Section 28: S/2

(f) Extend the East Empire Yates-Seven Rivers Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM
Section 28: NE/4 SE/4

(g) Extend the Fowler-Devonian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM
Section 10: SE/4

(h) Extend the Hat Mesa-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 32 EAST, NMPM
Section 1: S/2
Section 2: All

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

TOWNSHIP 19 SOUTH, RANGE 34 EAST, NMPM
Section 24: SE/4

(j) Extend the Parrish Ranch-Upper Pennsylvanian Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 24 EAST, NMPM
Section 13: E/2 SE/4

TOWNSHIP 19 SOUTH, RANGE 25 EAST, NMPM
Section 18: N/2 S/2 and SE/4 NE/4

(Case 5053 continued from Page 3)

(k) Extend the Penasco Draw San Andres-Yeso Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 25 EAST, NMPM
Section 32: W/2

TOWNSHIP 19 SOUTH, RANGE 25 EAST, NMPM
Section 5: W/2 NW/4 and NE/4 NW/4

(l) Extend the Rock Tank-Lower Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 24 EAST, NMPM
Section 11: E/2, E/2 SW/4, S/2 SE/4 NW/4
and NE/4 SE/4 NW/4

(m) Extend the Round Tank-Queen Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 15 SOUTH, RANGE 28 EAST, NMPM
Section 36: NE/4

(n) Extend the Shugart Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM
Section 12: SE/4 SE/4
Section 13: E/2 NE/4

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

TOWNSHIP 19 SOUTH, RANGE 28 EAST, NMPM
Section 34: E/2

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM
Section 2: N/2

(p) Contract the vertical limits of the Townsend Pennsylvanian Pool in Lea County, New Mexico, to include the Cisco formation only and redesignate said pool the Townsend-Cisco Pool comprising:

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

CASE 4745: (Reopened) (Continued from the August 9, 1973, Examiner Hearing)

In the matter of Case No. 4745 being reopened pursuant to the provisions of Order No. R-4365, which order established special rules and regulations for the Penasco Draw San Andres-Yeso Pool, Eddy County, New Mexico, including a provision for classification of oil wells and gas wells, the spacing thereof, and a limiting gas-oil ratio of 3000 to 1. All interested parties may appear and show cause why said pool rules should remain in effect.

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. 4548
Order No. R-4157

NOMENCLATURE

APPLICATION OF HANAGAN
PETROLEUM CORPORATION FOR
A NEW GAS POOL AND FOR
SPECIAL POOL RULES, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 10:30 a.m. on June 16, 1971, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 21st day of June, 1971, 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, Hanagan Petroleum Corporation, seeks the creation of a new gas pool for Morrow production in Eddy County, New Mexico, and the promulgation of special rules and regulations governing said pool, including a provision for 640-acre spacing units.

(3) That the Hanagan Petroleum Corporation Catclaw Draw Unit Well No. 1-Y, located in Unit F of Section 26, Township 21 South, Range 25 East, NMPM, Eddy County, New Mexico, having its top perforations at 10,202 feet, has discovered a separate common source of supply which should be designated the Catclaw

-2-

CASE NO. 4548

Order No. R-4157

Draw-Morrow Gas Pool; that the vertical limits of said pool should be the Morrow formation as found in the interval from 10,186 feet to 10,570 feet on the log of the aforesaid Catclaw Draw Unit Well No. 1-Y; and that the horizontal limits of said pool should be all of said Section 26.

(4) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 640-acre spacing units should be promulgated for the Catclaw Draw-Morrow Gas Pool.

(5) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(6) That special rules and regulations should be established for a temporary period to expire one year from the date that a pipeline connection is first obtained for a well in the pool; that during this temporary period all operators in the subject pool should gather all available information relative to drainage and recoverable reserves.

(7) That this case should be reopened at an examiner hearing one year from the date that a pipeline connection is first obtained for a well in the Catclaw Draw-Morrow Gas Pool, at which time the operators in the subject pool should appear and show cause why the Catclaw Draw-Morrow Gas Pool should not be developed on 320-acre spacing units.

(8) That the first operator to obtain a pipeline connection for a well in the Catclaw Draw-Morrow Gas Pool should notify the Commission in writing of such fact, and that the Commission should thereupon issue a supplemental order designating an exact date for reopening this case.

IT IS THEREFORE ORDERED:

(1) That a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production, is hereby created and designated the Catclaw Draw-Morrow Gas Pool, with vertical limits comprising the Morrow formation as found in the interval from

-3-

CASE NO. 4548

Order No. R-4157

10,186 feet to 10,570 feet on the log of the Hanagan Petroleum Corporation Catclaw Draw Well No. 1-Y, located in Unit F of Section 26, Township 21 South, Range 25 East, NMPM, Eddy County, New Mexico, and horizontal limits comprising the following-described area:

EDDY COUNTY, NEW MEXICO
TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM
Section 26: All

(2) That temporary Special Rules and Regulations for the Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
CATCLAW DRAW-MORROW GAS POOL

RULE 1. Each well completed or recompleted in the Catclaw Draw-Morrow Gas Pool or in the Morrow formation within one mile thereof, and not nearer to or within the limits of another designated Morrow gas pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 640 acres, more or less, consisting of a governmental section.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit and the unorthodox size or shape of the unit is necessitated by a variation in the legal subdivision of the United States Public Land Surveys, or the following facts exist and the following provisions are complied with:

- (a) The non-standard unit consists of quarter-quarter sections or lots that are contiguous by a common bordering side.
- (b) The non-standard unit lies wholly within a governmental section and contains less acreage than a standard unit.

-4-

CASE NO. 4548
Order No. R-4157

- (c) The applicant presents written consent in the form of waivers from all offset operators and from all operators owning interests in the section in which the non-standard unit is situated and which acreage is not included in said non-standard unit.
- (d) In lieu of paragraph (c) of this rule, the applicant may furnish proof of the fact that all of the aforesaid operators were notified by registered or certified mail of his intent to form such non-standard unit. The Secretary-Director may approve the application if no such operator has entered an objection to the formation of such non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well shall be located no nearer than 1650 feet to the outer boundary of the section and no nearer than 330 feet to any governmental quarter-quarter section line.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proration unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all operators offsetting the proration unit or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Catclaw Draw-Morrow Gas Pool or in the Morrow formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Artesia District Office of the Commission in writing of the name and location of the well on or before July 15, 1971.

-5-

CASE NO. 4548
Order No. R-4157

(2) That, pursuant to Paragraph A. of Section 65-3-14.5, NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the Catclaw Draw-Morrow Gas Pool shall have dedicated thereto 640 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

Failure to file new Forms C-102 with the Commission dedicating 640 acres to a well or to obtain a non-standard unit approved by the Commission within 60 days from the date of this order shall subject the well to cancellation of allowable. Until said Form C-102 has been filed or until a non-standard unit has been approved, and subject to said 60-day limitation, each well presently drilling to or completed in the Catclaw Draw-Morrow Gas Pool or in the Morrow formation within one mile thereof shall receive no more than one-half of a standard allowable for the pool.

(3) That this case shall be reopened at an examiner hearing one year from the date that a pipeline connection is first obtained for a well in the Catclaw Draw-Morrow Gas Pool, at which time the operators in the subject pool may appear and show cause why the Catclaw Draw-Morrow Gas Pool should not be developed on 320-acre spacing units.

(4) That the first operator to obtain a pipeline connection for a well in the Catclaw Draw-Morrow Gas Pool shall notify the Commission in writing of such fact, and that the Commission will thereupon issue a supplemental order designating an exact date for reopening this case.

(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


BRUCE KING, Chairman


ALEX J. ARMILLO, Member


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



Docket No. 12-71

DOCKET: REGULAR HEARING - WEDNESDAY - JUNE 16, 1971

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

- ALLOWABLE: (1) Consideration of the oil allowable for July and August, 1971;
- (2) Consideration of the allowable production of gas for July, 1971, from fifteen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico. Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba and Sandoval Counties, New Mexico for July, 1971; also presentation of purchaser's nominations for the six-month period beginning August 1, 1971, for that area.

CASE 4487: (De Novo) This case will be continued to the August 18, 1971, Regular Hearing.

Application of Pennzoil United, Inc., for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Strawn formation underlying the W/2 of Section 6, Township 23 South, Range 27 East, South Carlsbad-Strawn Gas Pool, Eddy County, New Mexico, said acreage to be dedicated to the Morris R. Antweil Joell Well No. 1 located 660 feet from the North line and 1980 feet from the West line of said Section 6. Also to be considered will be the cost of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

Upon application of Pennzoil United, Inc., this case will be heard De Novo under the provisions of Rule 1220.

CASE 4503: (De Novo)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Penroc Oil Corporation and all other interested persons to appear and show cause why the intentional deviation of Penroc Oil Corporation State Well No. 2, having a surface location 360 feet from the South line and 330 feet from the East line of Section 28, Township 17 South, Range 28 East, Empire-Abo Pool, Eddy County, New Mexico, to a bottom hole location 123 feet from the South line and 149 feet from the East line of said Section 28 should be approved and why the allowable assigned to said well should not be reduced to offset any advantage gained by said bottom hole location over other producers.

Regular Hearing
Wednesday -- June 16, 1971
-2-

Docket No. 12-71

Upon application of Amoco Production Company, this case will be heard De Novo under the provisions of Rule 1220.

THE FOLLOWING CASES WILL BE HEARD BEFORE DANIEL S. NUTTER, EXAMINER, OR ELVIS A. UTZ, ALTERNATE EXAMINER, IN THE OIL CONSERVATION COMMISSION CONFERENCE ROOM ON THE SECOND FLOOR OF THE LAND OFFICE BUILDING AT 10:30 a.m.:

- CASE 4547: Application of Hanson Oil Corporation for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers formation in the perforated interval from 4009 feet to 4036 feet in its Mescalero Ridge Unit "35" Well No. 17 located in Unit G of Section 35, Township 19 South, Range 34 East, Pearl-Seven Rivers Pool, Lea County, New Mexico.
- CASE 4548: Application of Managan Petroleum Corporation for creation of a new gas pool and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Morrow gas pool for its Catclaw Draw Unit Well No. 1-Y located in Unit F of Section 26, Township 21 South, Range 25 East, Eddy County, New Mexico. Applicant further seeks the promulgation of special rules therefor, including a provision for 640-acre spacing units.
- CASE 4549: Application of Tom L. Ingram for unorthodox gas well location, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox gas well location for his Light Well No. 1 located 1980 feet from the South line and 660 feet from the East line of Section 15, Township 8 South, Range 37 East, Bluit-San Andres Associated Pool, Roosevelt County, New Mexico, the S/2 of said Section 15 to be dedicated to the well.
- CASE 4550: Application of Roger C. Hanks for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation at approximately 10,500 feet in a well located 660 feet from the North and West lines of Section 5, Township 20 South, Range 25 East, Eddy County, New Mexico.
- CASE 4551: Application of Roger C. Hanks for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 104 of the Commission Rules and Regulations to drill a well at an unorthodox gas well location 1900 feet from the South line

Regular Hearing
Wednesday - June 16, 1971

Docket No. 12-71

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(Case 4551 continued)

and 850 feet from the West line of Section 35, Township 20 South, Range 24 East, undesignated Pennsylvanian gas pool, Eddy County, New Mexico, the S/2 of said Section 35 to be dedicated to the well.

CASE 4552: In the matter of the hearing called by the Oil Conservation Commission upon its own motion to consider the amendment of Rule 506 of the Commission Rules and Regulations by deleting therefrom the provision that all gas produced with the current oil allowable determined in accordance with Rule 506 shall be deemed to have been lawfully produced.

CASE 4554: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Henry S. Birdseye and all other interested persons to appear and show cause why the following-described wells in the Chaco Wash-Mesaverde Pool in Township 20 North, Range 9 West, McKinley County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

Santa Fe Railroad Wells Nos. 1, 2, 3, and 4 and in Unit P of Section 21; Well No. 6 in Unit M of Section 22; and Wells Nos. 5, 7, 8, 9, 11, and 12 in Units D, D, C, F, D, and F, respectively, of Section 27.

CASE 4555: Application of BTA Oil Producers for expansion of a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its BTA Vada Bond Pressure Maintenance Project, Vada Pennsylvanian Pool, by the conversion to water injection of its Bond Wells Nos. 2 and 3 located, respectively, in Units L and A of Section 5 and its Bond Well No. 4 located in Unit J of Section 4, all in Township 9 South, Range 36 East, Lea County, New Mexico. Applicant proposes to complete the above-described wells in such a manner as to cause, by means of down-hole equipment, water from the Bough "D" zone to flood the Bough "C" zone in each of the wells.

CASE 4558: Southeastern New Mexico nomenclature case calling for an order for the creation and extension of certain pools in Lea, Eddy and Chaves Counties, New Mexico.

(a) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Aid-Morrow Gas Pool. The discovery well is Pennzoil United,

Regular Hearing
Wednesday - June 16, 1971
-4-

Docket No. 12-71

(Case 4553 continued)

Inc., Aid State No. 1 located in Unit A of Section 24, Township 17 South, Range 28 East, NMPM. Said pool would comprise:

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM
SECTION 24: N/2

(b) Create a new pool in Lea County, New Mexico, classified as an oil pool for Blinebry production and designated as the East Terry-Blinebry Pool. The discovery well is Mark Production Company, Conoco Federal No. 2 located in Unit J of Section 30, Township 20 South, Range 39 East, NMPM. Said pool would comprise:

TOWNSHIP 20 SOUTH, RANGE 39 EAST, NMPM
SECTION 30: SE/4

(c) Extend the Arrowhead-Grayburg Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
SECTION 20: NW/4

(d) Extend the North Bagley-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 12 SOUTH, RANGE 33 EAST, NMPM
SECTION 5: SE/4

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

TOWNSHIP 19 SOUTH, RANGE 25 EAST, NMPM
SECTION 10: S/2

(f) Extend the Dagger Draw-Upper Pennsylvanian Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 25 EAST, NMPM
SECTION 30: W/2 W/2

(Case 4551 continued)

and 850 feet from the West line of Section 35, Township 20 South, Range 24 East, undesignated Pennsylvanian gas pool, Eddy County, New Mexico, the S/2 of said Section 35 to be dedicated to the well.

CASE 4552: In the matter of the hearing called by the Oil Conservation Commission upon its own motion to consider the amendment of Rule 506 of the Commission Rules and Regulations by deleting therefrom the provision that all gas produced with the current oil allowable determined in accordance with Rule 506 shall be deemed to have been lawfully produced.

CASE 4554: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Henry S. Birdseye and all other interested persons to appear and show cause why the following-described wells in the Chaco Wash-Mesaverde Pool in Township 20 North, Range 9 West, McKinley County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

Santa Fe Railroad Wells Nos. 1, 2, 3, and 4 and in Unit P of Section 21; Well No. 6 in Unit M of Section 22; and Wells Nos. 5, 7, 8, 9, 11, and 12 in Units D, D, C, F, D, and F, respectively, of Section 27.

CASE 4555: Application of BTA Oil Producers for expansion of a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its BTA Vada Bond Pressure Maintenance Project, Vada Pennsylvanian Pool, by the conversion to water injection of its Bond Wells Nos. 2 and 3 located, respectively, in Units L and A of Section 5 and its Bond Well No. 4 located in Unit J of Section 4, all in Township 9 South, Range 36 East, Lea County, New Mexico. Applicant proposes to complete the above-described wells in such a manner as to cause, by means of down-hole equipment, water from the Bough "D" zone to flood the Bough "C" zone in each of the wells.

CASE 4552: Southeastern New Mexico nomenclature case calling for an order for the creation and extension of certain pools in Lea, Eddy and Chaves Counties, New Mexico.

(a) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Aid-Morrow Gas Pool. The discovery well is Pennzoil United,

Regular Hearing
Wednesday - June 16, 1971

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-5-

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

TOWNSHIP 14 SOUTH, RANGE 29 EAST, NMPM
SECTION 23: SE/4 SE/4

TOWNSHIP 15 SOUTH, RANGE 29 EAST, NMPM
SECTION 12: NW/4 NE/4

(h) Extend the Lea-Bone Springs Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 34 EAST, NMPM
SECTION 25: SW/4

(i) Extend the South McCormack-Silurian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
SECTION 22: NW/4

(j) Extend the Power Grayburg-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 31 EAST, NMPM
SECTION 32: SW/4 SW/4

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM
SECTION 6: NW/4 NW/4

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

TOWNSHIP 9 SOUTH, RANGE 37 EAST, NMPM
SECTION 21: SE/4

(l) Extend the North Vacuum-Abo Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM
SECTION 13: NE/4
SECTION 15: S/2 SW/4
SECTION 23: W/2

(m) Extend the Northwest Vacuum-Wolfcamp Pool in Lea County, New Mexico, to include therein:

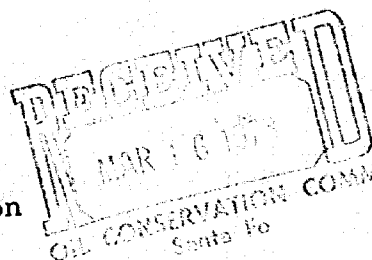
TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM
SECTION 5: NE/4

JAMES T. JENNINGS
SIM B. CHRISTY II
ROGER L. COPPLE
BRIAN W. COPPLE

LAW OFFICES OF
JENNINGS, CHRISTY & COPPLE
1012 SECURITY NATIONAL BANK BUILDING
P. O. BOX 1180
ROSWELL, NEW MEXICO 88201

TELEPHONE 622-8432
AREA CODE 505

March 15, 1973



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

Attention: Mrs. Ida Rodriguez

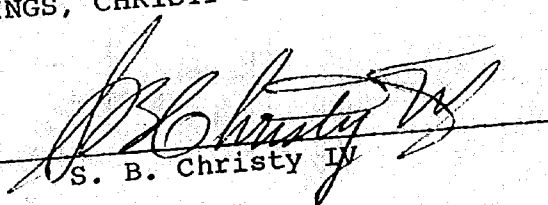
Dear Ida:

Returned herewith is the Transcript in NMOCC
Case 4548, June 16, 1971. Thank you for your
assistance.

Respectfully,

JENNINGS, CHRISTY & COPPLE

By


S. B. Christy II

SBC:jy
Encl.

BEN DONEGAN
CONSULTING GEOLOGIST
3202 CANDELARIA N.E. - TELEPHONE (505) 348-6662
ALBUQUERQUE, NEW MEXICO 87107

3-24-75

Case 4548:

Transcript Aug 22, 1973

Transcript Sep 4 1974

Ex 1, 2, 3 Hangen

Ex 2A, 2B, 2C

Ex 1, 2, Ex 3

Ex A, Ex B

Thanks,

Ben Donegan

CATCLAW DRAW FIELD (MORROW)

T21S -Rge. 25&26E

EDDY COUNTY, NEW MEXICO

SUMMARY OF RESERVES & ESTIMATED DRAINAGE AREA

Well No.	Sec. Location	Recoverable Res. MMCF	Avg. Rec. G.I.P. MCF/Ac-ft	Est. Avg. Net Pay - Over Spacing Unit	Drainage Area Acres
2	23	11.25	546	20.2'	1020
4	24	11.40	546	21.0'	994
6	13	3.95	546	14.2'	509
7	14	4.10	546	15.6'	481
9	35	10.72	546	26'	755
TOTALS...		40.42	546	19.4'	3759

AVERAGE DRAINAGE AREA PER WELL = 752 Acres.

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

TAIEXCO EXHIBIT NO. 1

CASE NO. 4548

9/4/74

CATCLAW DRAW FIELD (MORROW)
T21S - Rge. 25&26E
EDDY COUNTY, NEW MEXICO
SUMMARY OF ROCK PROPERTIES BY ZONE

Well No.	Perforated Zone					
	"C"			"D"		
	ϕ	Net Pay ft	S_w %	ϕ	Net Pay ft	S_w %
#2	12	14	34.7	11.3	12	39
#4	8.3	12	37	9.5	19	24
#6	7.3	7	40	8	4	44
#7	6.2	10	30	9	13	41.2
#9	-	-	-	-	26	-

Weighted Average Rock Properties ("C" and "D" Zones Combined).

Porosity - 9.3%

Water Saturation - 34.5%

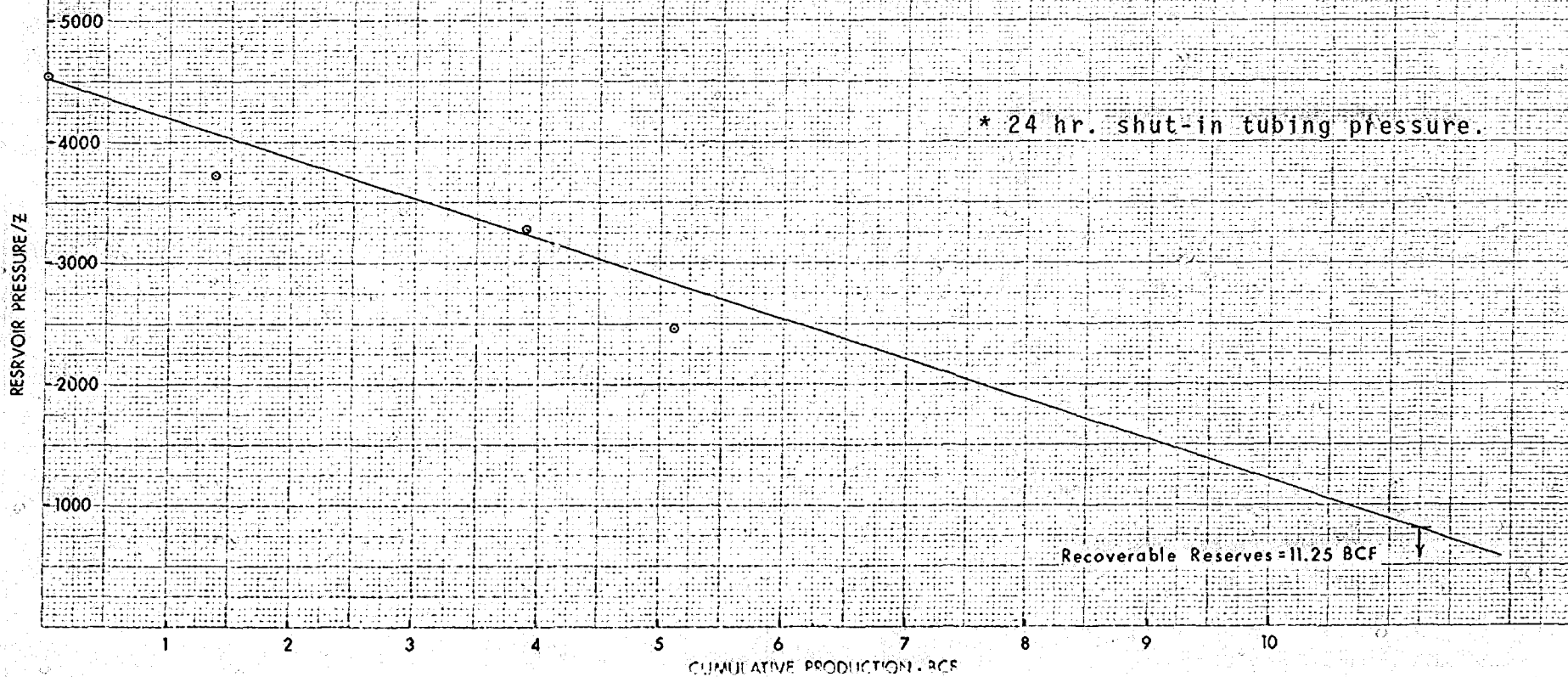
Gas - In - Place (MCF/Ac-ft) - 663.

Recoverable Gas - In - Place (MCF/Ac-ft) - 546
(Abandonment Pressure \approx 750 psig)

Orig prod: 4375

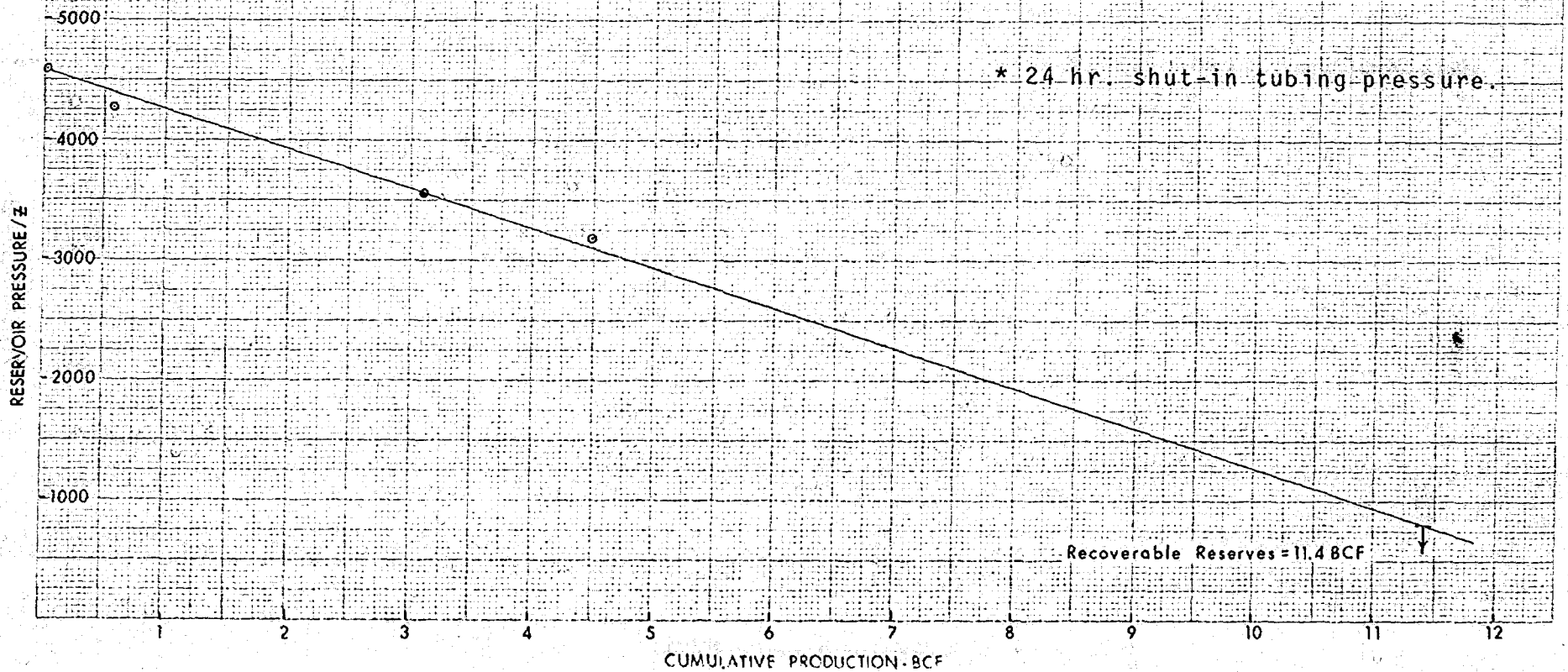
CATCLAW DRAW UNIT NO 2

Date	BHP	Cum. Prod'n	Z	BHP/Z
11-71	4397	0	.967	4547
1-73	3432	1.267 BCF	.919	3734
2-74	2952	3.904 BCF	.896	3294
* 8-74	2186	5.119 BCF	.888	2460



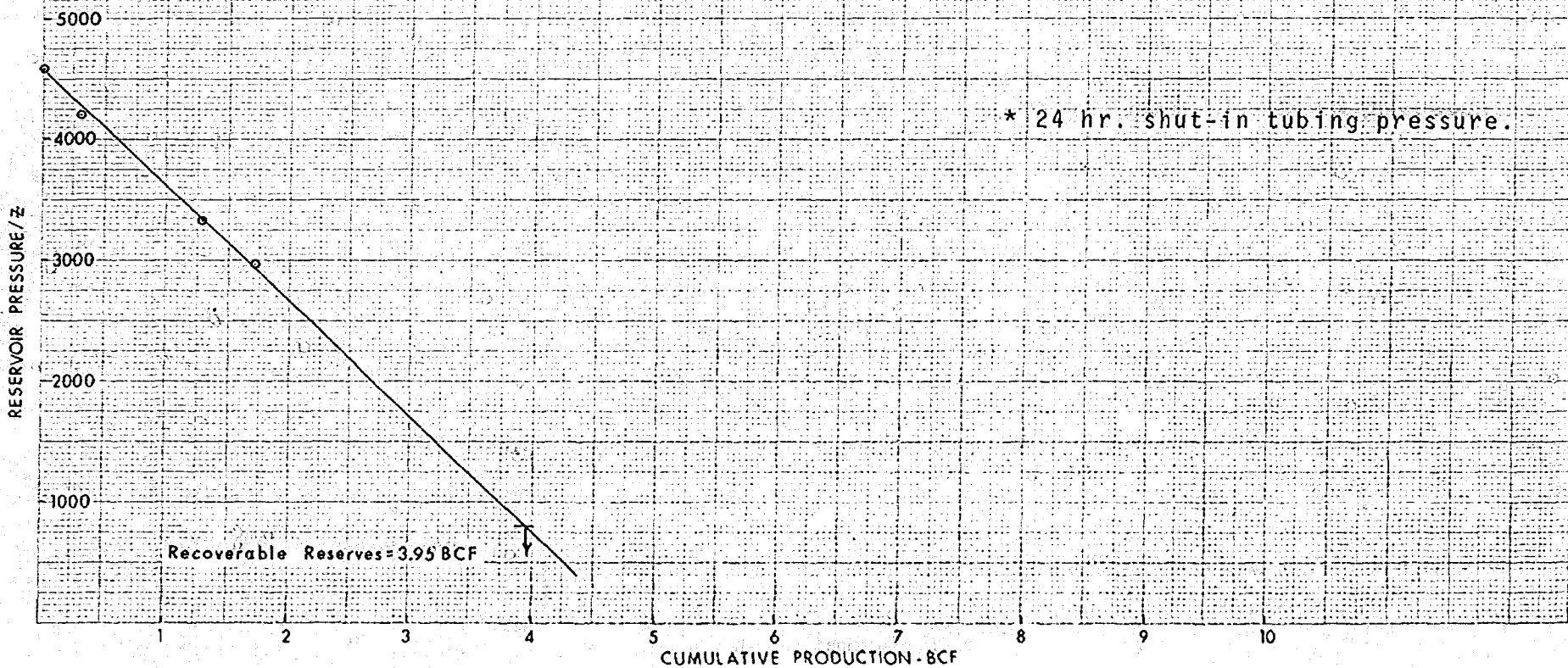
CATCLAW DRAW UNIT NO 4

Date	BHP	Cum Prod'n	Z	BHP/Z
8-72	4434	0	.97	4571
1-73	3978	.634 BCF	.934	4259
2-74	3238	3.115 BCF	.906	3574
*8-74	2787	4.494	.877	3177



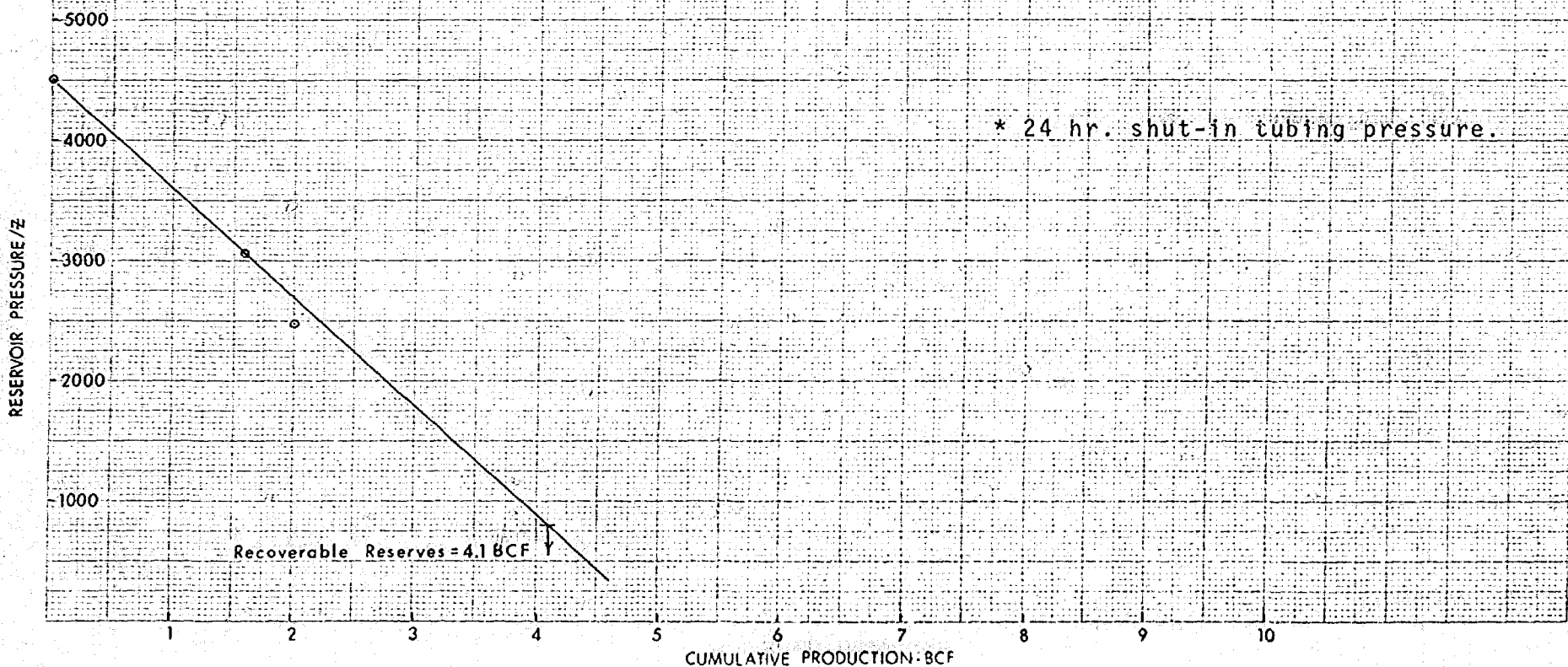
CATCLAW DRAW UNIT NO 6

Date	BHP	Cum. Prod'n	Z	BHP/Z
10-72	4428	0	.97	4565
1-73	3920	.807 BCF	.934	4197
2-74	2979	1.287 BCF	.898	3317
*8-74	2613	1.722	.883	2960



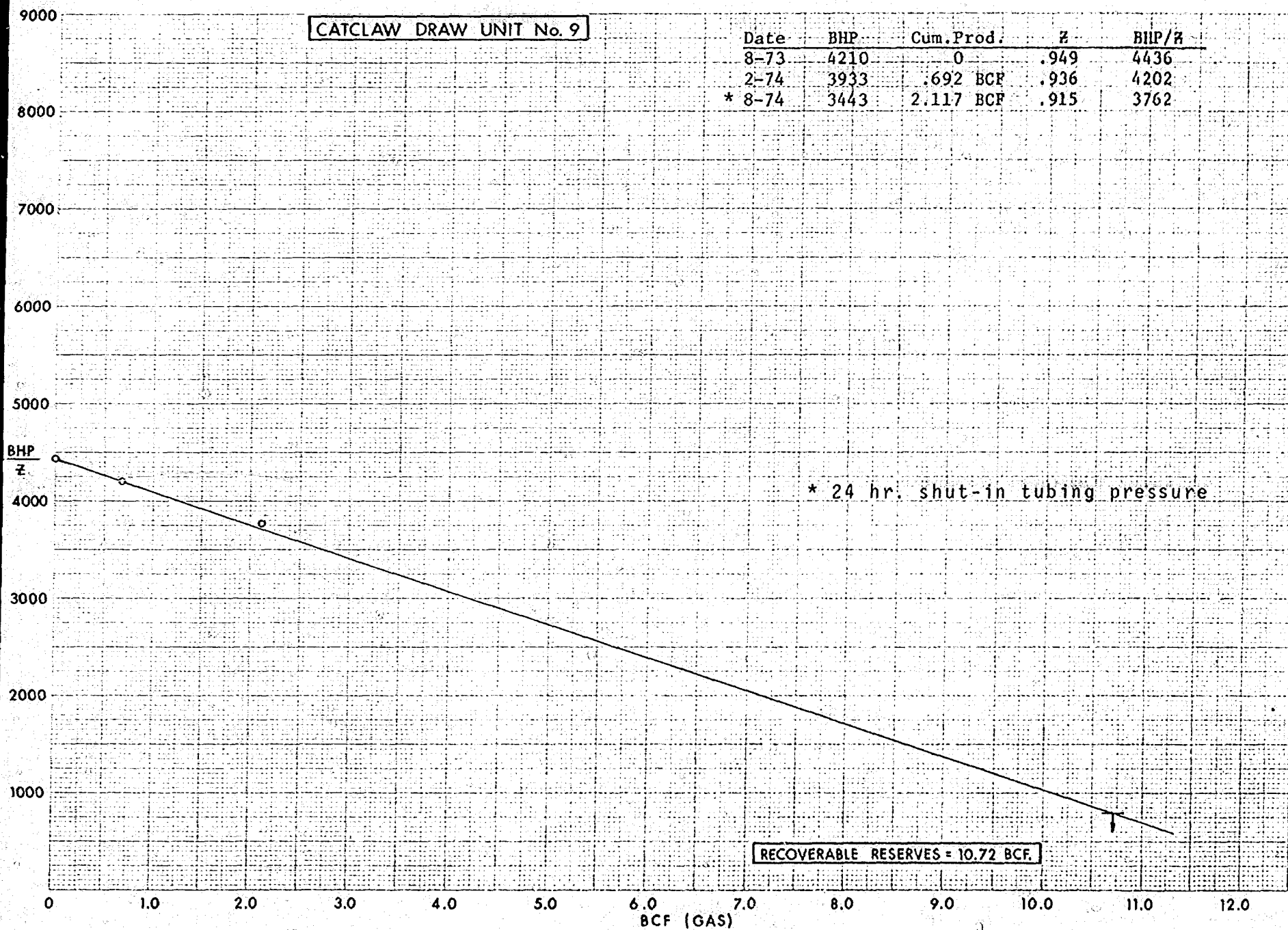
CATCLAW DRAW UNIT NO 7

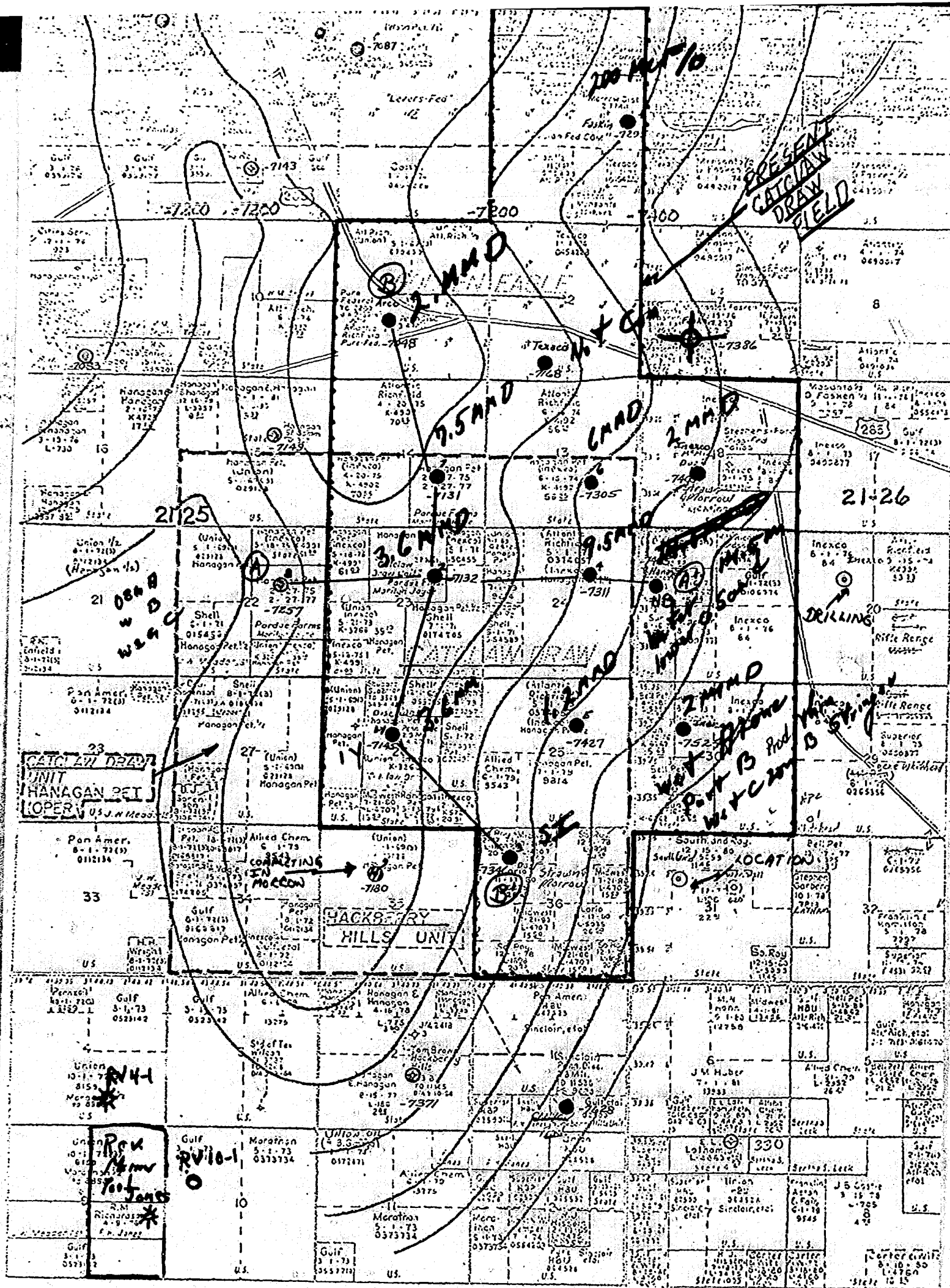
Date	BHP	Cum. Prod'n	Z	BHP/Z
11-72	4280	0	.95	4505
2-74	2737	1.572 BCF	.894	3061
* 8-74	2188	2.023	.884	2474



CATCLAW DRAW UNIT No. 9

Date	BHP	Cum. Prod.	Z	BHP/Z
8-73	4210	0	.949	4436
2-74	3933	.692 BCF	.936	4202
* 8-74	3443	2.117 BCF	.915	3762





Rd Morrow
 yel drly
 Blue Strawn
 Gn Canyon

CATCLAW DRAW MORROW FIELD
 EDDY COUNTY, NEW MEXICO

EXHIBIT NO. 1

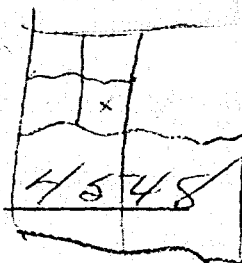
Lease Ownership Plat with Subsurface
 Structure Map Contoured on Base
 Morrow Sand

BEFORE EXAMINER STAMEN'S
 OIL CONSERVATION COMMISSION
 EXHIBIT NO. 1
 CASE NO. 4548-Responed
 Submitted by Hanagran
 Hearing Date 8-22-73

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION OF HANAGAN PETROLEUM CORPORATION FOR ESTABLISHMENT OF THE CATCLAW DRAW-MORROW GAS POOL AND FOR PROMULGATION OF SPECIAL RULES AND REGULATIONS THEREIN, EDDY COUNTY, NEW MEXICO.

Case No.



A P P L I C A T I O N

Comes now Hanagan Petroleum Corporation, by its attorneys, and applies to the New Mexico Oil Conservation Commission for establishment of a new gas pool in Eddy County, New Mexico, to be designated the CATCLAW DRAW-MORROW GAS POOL, and for the promulgation of special rules and regulations therein, to provide for 640 acre spacing and proration units, and in support of its application states:

1. The applicant Hanagan Petroleum Corporation is the operator of the Catclaw Draw unit comprising 6,720 acres of state, federal and fee lands in Sections 13, 14, 15, 22-27 and 34-36, T. 21 S., R. 25 E., Eddy County, New Mexico, the agreement covering which was approved by the Commission by its Order No. R-4081 dated December 17, 1970, in Case No. 4476.
2. Applicant has drilled and completed its Catclaw Draw unit Well No. 1-Y located 1986 feet from the north line and 2310 feet from the west line of Section 26, T. 21 S., R. 25 E. Eddy County, New Mexico, which well produces gas and associated hydrocarbons from the Morrow formation.
3. Based upon the information presently available from the aforesaid well, it appears that a new Morrow gas pool should be created and established by the Commission, which applicant proposes be designated the Catclaw Draw-Morrow Gas Pool, comprising all of Section 26, T. 21 S., R. 25 E., Eddy County, New

DOCKET MARKED

Date 2-3-71

Mexico, and such additional acreage as the Commission may determine at this time to be properly included within the horizontal limits of the pool.

4. Based upon the information presently available from the aforesaid well, one well completed within the proposed new gas pool can efficiently and economically drain and develop an area of at least 640 acres. Accordingly, applicant proposes that the Commission establish temporary special rules and regulations for the proposed Catclaw Draw-Morrow Gas Pool providing for standard spacing and proration units of 640 acres, the same being a single governmental section. Applicant further proposes that the special rules and regulations provide for the drilling of each well in said pool no nearer than 1650 feet to the outer boundary of the section on which the well is located and no nearer than 330 feet to any governmental quarter-quarter section line.

5. Approval of this application will prevent the economic loss caused by the drilling of unnecessary wells, will avoid the augmentation of risk arising from the drilling of an excessive number of wells, will prevent reduced recovery which might result from the drilling of too few wells and otherwise will prevent waste and protect correlative rights.

WHEREFORE, applicant requests that this application be set for hearing before the Commission or one of its examiners and that the Commission enter its order approving this application.

MONTGOMERY, FEDERICI, ANDREWS,
HANNAHS & MORRIS

By Richard J. Morris
Box 2307
Santa Fe, New Mexico 87501
Attorneys for applicant Hanagan Petroleum
Corporation

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. 4548

Order No. R-4157-B

IN THE MATTER OF CASE NO. 4548
BEING REOPENED PURSUANT TO THE
PROVISIONS OF ORDER NO. R-4157-A
WHICH ORDER CONTINUED IN EFFECT FOR
ONE YEAR THE SPECIAL TEMPORARY SPECIAL
RULES AND REGULATIONS FOR THE
CATCLAW DRAW-MORROW GAS
POOL, EDDY COUNTY, NEW MEXICO

AND:

IN THE MATTER OF CASE NO. 4548
BEING REOPENED ON THE MOTION OF
THE OIL CONSERVATION COMMISSION TO
CONSIDER THE AMENDMENT OF THE SPECIAL
POOL RULES FOR THE CATCLAW-MORROW DRAW-
MORROW GAS POOL, EDDY COUNTY, NEW MEXICO,
TO LIMIT THE APPLICABILITY OF SAID SPECIAL
RULES TO THE CONFINES OF THE POOL'S
HORIZONTAL LIMITS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

These causes (at 9 a.m. September 4, 1974, and)
This cause came on for hearing, at 9 a.m. on October 2, 1974,
respectively, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter

NOW, on this day of October, 1974, the Commission,
a quorum being present, having considered the testimony, the records,
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 by Order No. R-4157, dated June 21, 1971,
Temporary special rules and regulations were established
for the Catclaw Draw-Morrow Gas Pool, Eddy County,
New Mexico, establishing 640-acre spacing units.

(3) That by Order No. R-4157-A, dated September 13,
1973, said temporary special rules and regulations were
extended for a period of one year.

(4) That by Order No. R-1670-O, dated January 15, 1974, the Special Pool Rules for the Catclaw Draw-Morrow Gas Pool were amended to provide for the prorationing of gas in said pool, and Special Rules 1, 2, 8(A), 8(B), 9, 25, and 26 were promulgated, the pool also being subject to the General Rules for Prorated Gas Pools in Southeast New Mexico, as promulgated by Order No. R-1670.

(5) That pursuant to the provisions of Order No. R-4157-A, this cause was reopened to allow the operators in the Catclaw Draw-Morrow Gas Pool to appear and show cause why said pool should not be developed on 320-acre spacing.

(6) That the available pressure and reservoir information tends to support the conclusion that effective drainage is occurring within the sand lenses of the Morrow formation on 640-acre spacing in the Catclaw Draw-Morrow Gas Pool, and that to prevent waste and protect correlative rights, 640-acre spacing ~~units~~ and proration units should be continued for said pool, at least in the foreseeable future.

(7) That the engineering and geological information available indicates that the productive limits of the Catclaw Draw-Morrow Gas Pool have been effectively defined in practically all directions, with the possible exception being to the Southwest.

(8) That the drilling of Pennsylvanian gas wells on the standard Southeast New Mexico spacing of 320 acres is occurring in lands offsetting the established limits of the Catclaw Draw-Morrow Gas Pool but outside the productive limits of said pool.

(9) That to avoid conflicts of spacing patterns and violation of correlative rights, the pool rules for the Catclaw Draw-Morrow Gas Pool, including 640-acre spacing units and prorationing of gas, should be limited to the established productive limits of the pool, and not, as is often the case in other pools, to the pool limits and to lands outside said limits but within one mile thereof.

(10) That Rule 1 of the Special Rules and Regulations for the Catclaw Draw-Morrow Gas Pool, as promulgated by Order No. R-4157, and as amended by Order No. R-1670-0, should be amended to read in its entirety as follows:

"RULE 1. Each well completed or recompleted in the Catclaw Draw-Morrow Gas Pool, as defined by the Commission, shall be spaced, drilled, operated, and prorated in accordance with the rules for the Catclaw Draw-Morrow Gas Pool as set forth herein."

IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations governing the Catclaw Draw-Morrow Gas Pool, as promulgated by Order No. R-4157, and as amended by Order No. R-1670-O, are hereby continued in full force and effect until further order of the Commission, provided however that Rule 1 of said Special Rules ~~shall be~~ is hereby amended to read in its entirety as follows:

"RULE 1. Each well completed or recompleted in the Catclaw Draw-Morrow Gas Pool, as defined by the Commission, shall be spaced, drilled, operated, and prorated in accordance with the ~~spacing~~ rules for the Catclaw Draw-Morrow Gas Pool as set forth herein."

(2) That jurisdiction etc.

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. 4548

Order No. R-~~4157~~

IN THE MATTER OF CASE NO. 4548 BEING
REOPENED PURSUANT TO THE PROVISIONS OF
ORDER NO. R-4157, WHICH ORDER ESTABLISHED
SPECIAL RULES AND REGULATIONS FOR THE
CATCLAW DRAW-MORROW GAS POOL, EDDY
COUNTY, NEW MEXICO, INCLUDING A PROVISION FOR
640-ACRE PRORATION UNITS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 22, 1973,
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this day of August, 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 by Order No. R-4157, dated June 21, 1971, special
rules and regulations were promulgated for the Catclaw Draw-
Morrow Gas Pool, Eddy County, New Mexico, establishing 640-acre
spacing units.

(3) That pursuant to the provisions of Order No. R-4157, this cause was reopened to allow the operators in the subject pool to appear and show cause why the Catclaw Draw-Morrow Gas Pool should not be developed on 320-acre spacing units.

(4) That the Catclaw Draw-Morrow Gas Pool is not now fully developed and defined.

(5) That at least two separate zones in the Morrow formation are productive from wells completed in said pool.

(6) That shut-in pressures tend to show communication between the majority of the wells in the pool but some pressures do not show such communication.

(7) That the special pool rules for the Catclaw Draw-Morrow Gas Pool should not be made permanent at this time but should be continued on a temporary basis for ^{an additional} A period of one year.

(8) That this case should be reopened at an examiner hearing in September, 1974, at which time the operators in the subject pool should appear and show cause why the Catclaw Draw-Morrow Gas Pool should not be developed on 320-acre spacing.

IT IS THEREFORE ORDERED:

(1) That the temporary special pool rules for the Catclaw Draw-Morrow Gas Pool are hereby continued in full force and effect.

(2) That this case shall be reopened at an examiner hearing in September, 1974, at which time the operators in the subject pool may appear and present additional testimony to show cause why the Catclaw Draw-Morrow Gas Pool should not be developed on 320-acre spacing units.

(3) 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.

DRAFT

GMH/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. 4548

Order No. R- 4157

APPLICATION OF HANAGAN
PETROLEUM CORPORATION FOR
A NEW GAS POOL AND FOR
SPECIAL POOL RULES, EDDY
COUNTY, NEW MEXICO.

Nomenclature

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 10:30 a.m. on June 16, 1971,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this day of June, 1971, 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, Hanagan Petroleum Corporation,
seeks the creation of a new gas pool for Marrow production
in Eddy County, New Mexico, and the promulgation of special
rules and regulations governing said pool, including a provision
for 640-acre spacing units.

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(3) That the Hanagan Petroleum Corporation Catclaw Draw Unit Well No. 1-Y, located in unit F of Section 26, ~~At~~ Township 21 South, Range 25 East, NMPM, Eddy County, New Mexico, having its top perforations at 10202 feet, has discovered a separate common source of supply which should be designated the Catclaw Draw-Murray Gas Pool; that the vertical limits of said pool should be the ~~zone of the~~ Murray formation as found in the interval from 10186 feet to ¹⁰⁵⁷⁰~~10509~~ feet on the log of the aforesaid Catclaw Draw Unit Well No. 1-Y; and that the horizontal limits of said pool should be all of said Section 26.

(4) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 640-acre spacing units should be promulgated for the Catclaw Draw-Murray Gas Pool.

(5) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(6) That special rules and regulations should be established for a temporary period to expire one year from the date that a pipeline connection is first obtained for a well in the pool; that during this temporary period all operators in the subject pool should gather all available information relative to drainage and recoverable reserves.

(7) That this case should be reopened at an examiner hearing one year from the date that a pipeline connection is first obtained for a well in the Catclaw Draw-Mallaw Gas Pool, at which time the operators in the subject pool should appear and show cause why the Catclaw Draw-Mallaw Gas Pool should not be developed on 320-acre spacing units.

(8) That the first operator to obtain a pipeline connection for a well in the Catclaw Draw-Mallaw Gas Pool should notify the Commission in writing of such fact, and that the Commission should thereupon issue a supplemental order designating an exact date for reopening this case.

IT IS THEREFORE ORDERED:

(1) That a new pool in Eddy County, New Mexico, classified as a gas pool for Mallaw production, is hereby created and designated the Catclaw Draw-Mallaw Gas Pool, with vertical limits comprising the zone of the Mallaw formation as found in the interval from 10,186 feet to 10,570 feet on the log of the Hanagan Petroleum Corporation Catclaw Draw Well No. 1-Y, located in Unit F of Section 26, Township 21 South, Range 25 East, NMPM, Eddy County, New Mexico, and horizontal limits comprising the following-described area:

EDDY COUNTY, NEW MEXICO
TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM
Section 26: All

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(2) That temporary Special Rules and Regulations for the Catlow Draw - Marrow Gas Pool, Eddy County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
Catlow Draw - Marrow GAS POOL

RULE 1. Each well completed or recompleted in the Catlow Draw - Marrow Gas Pool or in the ~~zone of~~ the Marrow formation within one mile thereof, and not nearer to or within the limits of another designated Marrow gas pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 640 acres, more or less, consisting of a governmental section.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit and the unorthodox size or shape of the unit is necessitated by a variation in the legal subdivision of the United States Public Land Surveys, or the following facts exist and the following provisions are complied with:

- (a) The non-standard unit consists of quarter-quarter sections or lots that are contiguous by a common bordering side.

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- (b) The non-standard unit lies wholly within a governmental section and contains less acreage than a standard unit.
- (c) The applicant presents written consent in the form of waivers from all offset operators and from all operators owning interests in the section in which the non-standard unit is situated and which acreage is not included in said non-standard unit.
- (d) In lieu of paragraph (c) of this rule, the applicant may furnish proof of the fact that all of the aforesaid operators were notified by registered or certified mail of his intent to form such non-standard unit. The Secretary-Director may approve the application if no such operator has entered an objection to the formation of such non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well shall be located no nearer than 1650 feet to the outer boundary of the section and no nearer than 330 feet to any governmental quarter-quarter section line.

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RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the ~~proposed location~~ ^{production unit} shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all operators offsetting the ~~proposed location~~ ^{production unit} or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Catalan Draw - Morrow Gas Pool or in the zone of the Morrow formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Artesia District Office of the Commission in writing of the name and location of the well on or before July 15, 1971.

(2) That, pursuant to Paragraph A. of Section 65-3-14.5, NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the Catalan Draw - Morrow Gas Pool shall have dedicated

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thereto 640 acres in accordance with the foregoing pool rules;
or, pursuant to Paragraph C. of said Section 65-3-14.5, existing
wells may have non-standard spacing or proration units established
by the Commission and dedicated thereto.

Failure to file new Forms C-102 with the Commission
dedicating 640 acres to a well or to obtain a non-standard unit
approved by the Commission within 60 days from the date of this
order shall subject the well to cancellation of allowable. Until
said Form C-102 has been filed or until a non-standard unit has
been approved, and subject to said 60-day limitation, each well
presently drilling to or completed in the Catchew Draw-Morrow
Gas Pool or in the zone of the Morrow
formation within one mile thereof shall receive no more than
one-half of a standard allowable for the pool.

(3) That this case shall be reopened at an examiner hearing
one year from the date that a pipeline connection is first
obtained for a well in the Catchew Draw-Morrow Gas Pool,
at which time the operators in the subject pool may appear and
show cause why the Catchew Draw-Morrow Gas Pool
should not be developed on 320-acre spacing units.

(4) That the first operator to obtain a pipeline connection
for a well in the Catchew Draw-Morrow Gas Pool shall notify
the Commission in writing of such fact, and that the Commission
will thereupon issue a supplemental order designating an exact
date for reopening this case.

(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.

CASE 4549: Application of TOM L.
INGRAM FOR UNORTHODOX GAS WELL
LOCATION, ROOSEVELT COUNTY.