

CASE 1146: Neil H. Wills application for
order excepting certain oil wells from Rule
502 in connection with capacity water flood
program.

Case No.

1146

Application, Transcript,
Small Exhibits, Etc.

OIL CONSERVATION COMMISSION

P. O. BOX 571

SANTA FE, NEW MEXICO

October 16, 1956

C
O
P
Y

Mr. Jack M. Campbell
Campbell & Russell
P. O. Box 721
Roswell, New Mexico

Dear Sir:

On behalf of your client, Neil H. Wills, we enclose two copies of Order R-899 issued October 15, 1956, by the Oil Conservation Commission in Case 1146, which was heard on September 13th.

Very truly yours,

A. L. Porter, Jr.
Secretary-Director

jh
encls.

Before the
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

In the Matter of:

Case No. 1146

Transcript of Proceedings

September 13, 1956

DEARNLEY-MEIER AND ASSOCIATES
COURT REPORTERS
605 SIMMS BUILDING
TELEPHONE 3-6691
ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 13, 1956

IN THE MATTER OF:

Application of Neil H. Wills for an order
excepting certain oil wells in the Russell
Pool, Eddy County, New Mexico, from the pro-
visions of Rule 502 of the New Mexico Oil
Conservation Commission Rules and Regulations
in connection with a capacity water flood pro-
gram. Applicant, in the above-styled cause,
seeks an order granting permission to produce
at capacity certain oil wells located in
Sections 12, 13 and 14, Township 20 South,
Range 28 East, Russell Pool, Eddy County, New
Mexico, in connection with a capacity water
flood program in said pool which was authori-
zed by Commission Order R-263.

Case No. 1146

BEFORE:

Mr. E. S. (Johnny) Walker
Mr. A. L. Porter

TRANSCRIPT OF HEARING

MR. PORTER: The next case on the docket is Case Number 1146.

MR. GURLEY: Application of Neil H. Wills for an order
excepting certain oil wells in the Russell Pool, Eddy County, New
Mexico, from the provisions of Rule 502 of the New Mexico Oil
Conservation Commission Rules and Regulations in connection with a
capacity water flood program. Applicant seeks an order granting
permission to produce at capacity certain oil wells located in
Sections 12, 13 and 14, Township 20 South, Range 28 East, Russell
Pool, Eddy County, New Mexico, in connection with a capacity water
flood program in said pool which was authorized by Commission Order
R-263.

MR. CAMPBELL: Jack M. Campbell, Campbell and Russell, Roswell, New Mexico, appearing on behalf of the applicant. I have one witness, Mr. Neil H. Wills, to be sworn.

(Witness sworn.)

(Marked Wills Exhibit No. 1,
for identification.)

N E I L H. W I L L S ,

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

DIRECT EXAMINATION

By MR. CAMPBELL:

Q Will you state your name, please?

A Neil Wills.

Q Where do you live, Mr. Wills?

A Carlsbad, New Mexico.

Q Are you the operator of the secondary recovery program, water flooding, in the Russell Oil Pool in Eddy County, New Mexico?

A I am.

Q Are you acquainted with the application in Case Number 1146?

A I am.

Q This case?

A I am.

Q Will you state to the Commission briefly what you are seeking by your application?

A To be able to produce the water flood oil under an allowable that is appropriate. In other words, the allowable will have to be increased over the present allowable in order to continue producing.

Q Mr. Wills, referring to Exhibit 1, which I have handed you, will you state to the Commission what that is?

A This is a map of the Russell Field showing the producing oil wells and the water injection wells, and also has some additional data on the left-hand side pertaining to the water flood and also some additional information in the left-hand corner pertaining to production.

Q Mr. Wills, referring to the data that you mentioned, on the left-hand side of the Exhibit 1, will you state for the record here when this pool was discovered?

A In March, 1942.

Q At that time, or some seven years later, in May, 1949, a gas pressuring program was instituted?

A That is right.

Q When was that abandoned?

A Last month.

Q When was your water flood started?

A The pilot water flood was started in April of 1953.

Q Can you state from that data on the Exhibit, what the present status of the water flood is, how many barrels were produced prior to the water flooding and how many have been produced to date?

A Prior to the water flooding, on 11-1-52, there has been 826,000 barrels of oil produced, which on a basis of 400 acres, would be 2,067 barrels per acre. At this time, August 1st, there has been 990,000 barrels produced, or 2,480 barrels per acre.

Q What is your present rate of water injection?

A 1,830 barrels for the month of July, per day.

Q Referring to the plat showing the wells in the pool, how many 40-acre oil proration units are included in the pool?

A There are 15 units involved.

Q And these units include both producing wells and injection wells, is that correct?

A That is right.

Q As reflected on this plat?

A That is right.

Q Are there some of the wells that under your water flooding program are able to produce for the unit on which they are located, in excess of the normal top unit allowable?

A That is right.

Q Are there other wells that are not able to produce that amount?

A Yes.

Q What you are seeking here is the authorization to produce the units at their capacity under the water flooding program, is that correct?

A That is right.

MR. CAMPBELL: I believe that's all the questions I have. I might state for the Commission, that it's my understanding that this is the first request of this nature in New Mexico; although we have several water flooding projects none of them have apparently been in the situation where they can produce beyond the normal unit allowable from any portion of the area covered by the project. So far as we are concerned, at the present time, and based upon what is now the daily allowable, and what has been the average

daily allowable over the past several months, we would have no objection if the Commission sees fit to permit it, to allowing the pool to produce not in excess of the 15 normal unit allowables, which I understand is the procedure followed in some of the other states. However, we would want to reserve the right to come back in in the event the water flooding project proved more successful than it now appears, or in the event the allowable was reduced, we might want to come back in and seek permission of the Commission, in order to obtain the greatest benefit from the water flooding project, to be permitted to produce these units at their capacity, because if that is not done, as the Commission and staff know, the water flooding program is relatively ineffective.

MR. PORTER: Anyone else have a question of Mr. Wills? Mr. Mankin?

CROSS EXAMINATION

By MR. MANKIN:

Q Mr. Wills, referring to your exhibit, the water input wells are shown by blocked in wells, is that correct?

A That is correct.

Q How many input wells are there?

A 19.

Q 19 input wells, all being water input wells?

A That is right.

Q How many producers?

A It's on the map.

Q You show 20, is that correct?

A For the month of August, I believe there were 20 producing,

and nine shut-in. The nine wells shut in are for the most part wells that were formerly gas input wells, that are now being converted to oil wells. I think, some of those --

Q So there will either be approximately 27 producing wells --

A 29 there could be. Two of the wells are very scratchy and possibly I left them off, not showing any production for the month.

Q You show on your plat an effective area of pilot flood. Is that where you have started getting fill-up, and as a result getting good results?

A In 1953 and '54, yes, that was the original area of the pilot flood. The whole field is in a flood now. The complete field is being flooded now.

Q What percentage of fill-up do you expect that you have?

A Well, I can give our engineer's report, Cable Engineering of Wichita Falls, our engineer, and they furnished us a monthly report, which will show you all those figures by wells.

Q Just roughly?

A It is very difficult, they vary so much. They vary at the present time from 27 percent to 403.

Q What wells at the present are producing within a unit greater than 39 barrels per day?

A I don't know as there is any wells, but the total of all the wells in the unit is in excess.

Q The wells in a particular unit is what I mean, which ones?

A Unit G of Section 13 produced 2263 barrels last month, which is almost twice the allowable. Unit B of Section 13 will produce in excess of the allowable this month. Unit K of Section 13 produced

in excess of the allowable last month, a very small amount over the allowable.

Q So there is three units at the present time that is capable and have produced greater than the unit allowable for that unit?

A That is right.

Q In other words, the flood is more effective in those three units than any other portion of the pool?

A Those are the center units of the field. The field is a narrow affair, and naturally we expect to get most of the oil from the center units, the water forcing in in all directions.

Q In Unit M there has been no exceeding of the unit allowable?

A Unit M?

Q Yes.

A No.

Q What is the reason for that?

A We are having trouble in the south end, getting water in the ground. That is probably the 27 percent fill-up in the south end. We are having trouble in the south end to get water in the wells, therefore, we are going to have to possibly do some additional drilling of water input wells.

Q Is the condition of sand such that it is tight?

A That is right.

Q In the south end and the north end it seems to be more susceptible to flooding?

A That is right.

Q At this time, are you requesting that the unit be exceeded for those three units only, Unit B, G and K?

MR. CAMPBELL: I can answer. That is what we are requesting is a pool order that this pool will be permitted to produce not in excess of the number of proration units in that pool which are productive. We can't tell what the effect from month to month of this flooding may be. We'd be coming back here every month to make adjustments in the event of applying the order to particular wells, or units at this time. The authorization we are seeking is just to make legal the production of these wells on the water flooding program at their capacity, which is the only way they can be produced under this program.

Q (By MR. MANKIN) I would like to ask you, are you not aware that in the State of New Mexico, water flooding, or any other type of production is on a unit basis, rather than a lease basis?

A I am aware of it, yes.

Q What you are requesting here is to disregard the units for the water flood, and get capacity for the maximum from each unit in the entire pool?

MR. CAMPBELL: We are not ignoring it. We are simply saying that we want to get authority to produce not in excess of the top unit allowable for the 15 units, and be permitted to produce that from whatever units the water flooding and nature provides. Of course, the production will not even approach 15 top unit allowables, but, I suppose in the sense it is ignoring the unit. In another sense it is not. We don't care what type of order the Commission desires to enter. We want an order that will make legal the production from these units of the capacity that the wells on the units will produce under the water flooding program, in order to

prevent waste and to recover oil that would otherwise not be recovered.

MR. PORTER: In other words, Mr. Campbell, to produce all or any part of the oil from any unit?

MR. CAMPBELL: That is correct.

Q (By MR. MANKIN) Mr. Wills, is it not true that some of these units, some of these oil wells within a unit are presently producing a great capacity of water?

A No, the producing wells are making a lot of water?

Q Yes.

Q No.

Q There are none of them flooded out then?

A No.

Q So, what you are requesting is for the entire units to have an allowable multiplied by the units, times the allowable, for the entire number of units that you have, rather than pinpointing a specific thing?

A That is Mr. Campbell's idea. I just don't know the Commission's wishes on it.

MR. CAMPBELL: The Commission is aware of what we need and want to do. The type of order they choose to enter, of course, is up to them. The type of order I mentioned is being used in some states. It is my understanding it is. In some states they have even issued orders permitting production at their capacity in order, regardless of the number of units involved, in order to make the effective production. We don't want to be in the position of producing oil that is not legally productive.

Q How many units?

A 15 units. One unit in Section 12, one in 14, and 13 in Section 13.

Q At this time are you requesting an allowable which will exceed what the entire allowable would be for the 15 units times the top unit allowable?

A No, we are not.

MR. CAMPBELL: No, sir.

Q You think that would take care of your problem for the immediate future?

A We feel it will and may take care of the problem indefinitely unless the allowable, if the allowable goes to, for instance, to 30 barrels a day.

Q And goes as it is, in the neighborhood of 30 --

A (Interrupting) Or 40.

Q You feel that it will be sufficient?

A Will be sufficient, of course, we don't know yet.

Q Are there other operators in the pool?

A No.

Q None in the immediate area?

A Yes, in the immediate area. On the map, in Section 23, the well noted as the Number 1 Vickers is a producing oil well, owned by -- I don't know. It is being managed by an attorney in Carlsbad. I don't know who owns it. That is producing 200 feet below the Russell sand.

Q That would not be effected.. Is there any other wells in this area that would be effected?

A The two wells in Section, Unit B of Section 23 have been shut in for years. I don't know who owns those. They have been shut in for a long time. They would be the only three wells in the immediate area that could possibly be effected. I don't know the owners of that. They changed so many times/ ^{since} they were drilled.

MR. MANKIN: That is all.

MR. PORTER: For the record, I believe our proration schedule shows that those two wells are owned by Joe Mogel.

A I believe that is right, El Paso.

MR. PORTER: I don't know the address. The other well which is also a Vickers lease is owned by Sudder Hicks.

A Sudder is out of it and the attorney in Carlsbad is operating it.

MR. PORTER: Those wells, even though they are considered by the Commission as being in the Russell Pool, are in another zone, and would not be effected by the water flood?

A I said that the Vickers Well is definitely from the lower zone. The two wells in Unit B, I don't know. They were both drilled to the lower zone, and they may have had some oil in the Russell sand, about 200 feet up the hole.

MR. PORTER: But they are shut in at this time?

A As far as I know they haven't been produced in several years. I really don't know, but I think it has been several years.

MR. PORTER: I think you answered this question, but I don't recall what you said was the present daily production figure from that pool.

A On this plat I have the production for August, 7,500 barrels

for the -- 6,000 for July, August, 7,500, for the month of September we don't know, but we expect an increase until we reach the peak in the middle of '57. That is when we anticipate the peak of the flood.

MR. PORTER: In other words, for July you were producing about 200 barrels a day, August, about 250?

A That is right.

MR. PORTER: Mr. Nutter, I believe you had a question?

MR. NUTTER: Most of them have been answered already.

By MR. NUTTER:

Q Who is your purchaser, Mr. Wills?

A Malco. Artesia Pipeline, I believe it is.

Q These other operators, their wells are completed in another zone, and they are not participants in the water flood at all?

A No.

Q In other words, you are asking for capacity/allowable for your 15 wells?

MR. CAMPBELL: 15 Units.

Q 15 units?

A We want no more allowable than necessary. We don't need the capacity allowable, but we feel, well, we can't afford to come up each month to change. We ought to have a maximum, but we don't need the maximum now because we only produced 7,500 last month. We don't need it now, but we will need it by the middle of '57.

Q Cable Engineering has probably not only given you the date that you can expect the maximum recovery, but they have given you an estimate of what the maximum recovery per day will be?

A I can't recall they have. Engineers don't get out on a limit very often. They might think, but I don't think they have told me. The figures I have shown on the plot are my ideas. I have guessed we may reach a peak of 16,000 a month, that is my idea from the

MR. PORTER: (Interrupting) 16,000 barrels a month?

A Yes, which would be less.

MR. PORTER: I think the present allowable of 3,000, it is about 585 barrels a day, would be in excess of your 16,000.

A That is right.

Q (By MR. NUTTER) You presently have an allowable of 384 barrels per day, in September?

A That was a desperation move, Malco refused to run any oil and we had to wire the Commission to get the allowable to carry us through the month. It turned out too much.

Q I wonder what is going to happen if you get the maximum recovery, if you are going to be able to sell the oil anyway? It's getting to be a problem anymore.

A I feel the Commission should help me out to sell the oil if that time arrives. If you stop water flood, I understand you don't help it.

Q You think that a maximum of 585 barrels per day would take care of you during your peak production?

A What is that figure per month?

MR. PORTER: It is over 16,000.

A It is over 16,000. I think it would.

MR. PORTER: Mr. Mankin?

By MR. MANKIN:

Q Is the present proration schedule for the month of September

accurate as to which are input wells and which are producing wells?

A I went over the last month's, and I think there are a few corrections, probably. I will be glad to notify the changes that are necessary.

Q That is what I was going to ask you, if the September schedule is not correct as to input wells and producing wells, would you be so kind as to notify the Proration Office in Hobbs of that?

A Yes.

Q My last question, Mr. Wills is in the north end of the field where the sand is in a better condition, and the flood seems to be more effective, do you envision a time when some of those will be practically flooded out, some of those oil wells?

A Yes.

Q Have to go 100 percent to water?

A Sure.

Q At that time, what would you expect in the way of allowables?

A We would start plugging.

Q In which case the 15 units might be cut down at that time?

A Probably all 15 units would be plugged 100 percent water.

MR. MANKIN: I am speaking in the north end particularly.
That is all.

MR. PORTER: Anyone else have a question of Mr. Wills?

MR. CAMPBELL: I would like to offer Exhibit 1 in evidence, please.

MR. PORTER: Without objection it will be admitted. Mr. Wills, you may be excused.

(Witness excused.)

MR. PORTER: Any further statements in this case?

MR. MALONE: If it please the Commission, Ross Malone, for Gulf. Gulf is not affected by this application, but it is Gulf's experience and opinion that if an effective water flood is set up the maximum benefit can only be achieved if the total capacity of the well is produced. Short of that, Gulf feels there is substantial danger of underground waste and for that reason we recommend that the application be approved.

MR. PORTER: Any other statement? The case will be taken under advisement.

* * * * *

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) : SS.

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal, this, the 23rd day of September, 1956.

Ada Dearnley
NOTARY PUBLIC - COURT REPORTER

My Commission Expires:
June 19, 1959

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 1146
Order No. R-899

APPLICATION OF NEIL H. WILLS FOR
AN ORDER GRANTING PERMISSION TO
PRODUCE AT CAPACITY CERTAIN OIL
WELLS IN THE RUSSELL POOL SITUATED
IN SECTIONS 12, 13, AND 14, TOWNSHIP
20 SOUTH, RANGE 28 EAST, NMPM, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 o'clock a.m.
on September 13, 1956 at Santa Fe, New Mexico, before the Oil
Conservation Commission of New Mexico, hereinafter referred to
as the "Commission."

NOW, on this 15th day of October, 1956, the Commission,
a quorum being present, having considered the application, the
evidence adduced, and being fully advised in the premises,

FINDS:

(1) That due notice of the time and place of hearing
and the purpose thereof having been given as required by law, the
Commission has jurisdiction of this case and the subject matter
thereof.

(2) That the applicant was granted authority by
Commission Order R-263, dated February 10, 1953, to institute a
secondary recovery program on all of his leases in the Russell
Pool by means of water injection in the Yates Sand Reservoir.

(3) That the applicant, in accordance with the authority
granted by Order R-263, has instituted a capacity water flood
program in the Russell Pool.

(4) That no other operator has been affected by the
water flood program.

(5) That as a result of the water flood program,
certain of the applicant's wells have a producing potential in
excess of the allowable for said wells.

(6) That the curtailment of production from the
applicant's wells in the Russell Pool would result in underground
waste since the maximum ultimate recovery of oil by means of water
flooding can be achieved only if the affected wells are produced
at capacity.

IT IS THEREFORE ORDERED:

(1) That all producing oil wells in the following described area be granted an allowable equal to their capacity to produce in order to effectuate the applicant's water flood program in the Russell Pool:

TOWNSHIP 20 NORTH, RANGE 38 EAST, NMPM

Section 12: SW/4 SE/4;

Section 13: NE/4, S/2 NW/4, NE/4 NW/4, SW/4, W/2 SE/4;

Section 14: SE/4 SE/4;

all in Eddy County, New Mexico.

(2) That the Commission retain jurisdiction in this cause to amend or revoke all or any part of this order, and further, to enter any additional order or orders as it might deem necessary to prevent waste or protect correlative rights.

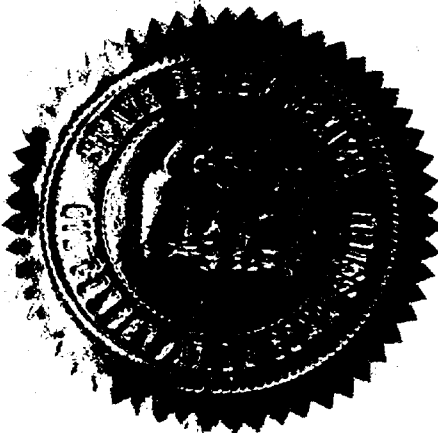
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


JOHN F. SIMMS, Chairman


E. S. WALKER, Member


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



September 13, 1956

Proclamation Office,
Box 2045,
Hobbs, New Mexico

Gentlemen:

As per your request at the hearing in Santa Fe on September 13, 1956, I list below a record of the producing wells and input wells in the Russell field, as taken from the pre-valuation schedule for September 1956. By comparing this list with the schedule, you will note that there are a few minor changes.

RESERVE

WILLS, HILL, H.

Crosby	1-2	O	12-20-28	20
"	"	O	"	Input
Turner	1-11	M	13-20-28	20
"	15-21	H	"	Input
"	2-19-20	K	"	39
"	12-14	K	"	Input
"	3-10	J	"	39
"	17-22	J	"	Input
"	4-10-23	J	"	39
"	8-18	F	"	Input
"	6-7	C	"	39
"	13	C	"	Input
"	7	O	"	2
Wills	1-12	L	"	20
"	10-17	L	"	Input
"	2-13-18	M	"	10
"	6-18	H	"	Input
"	7-3-20	G	"	39
"	19-21	G	"	Input
"	4	E	"	2
"	25-26-11-22	B	"	30
"	5-23	B	"	Input
"	9	A	"	Input
"	14-15	P	14-20-28	39

TOTAL

1, 1, 30 PRODUCING

cc: Oil Cons. Comm.
Santa Fe, N.M.

Very truly yours,
Neil H. Wills
Neil H. Wills P6

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. 469
ORDER No. R-263

THE MATTER OF THE APPLICATION OF
NEIL H. WILLS, ET AL, FOR APPROVAL
OF A SECONDARY RECOVERY PROGRAM
(BY WATER FLOODING) IN THE RUSSELL
POOL, EDDY COUNTY, NEW MEXICO, IN
SECTIONS 12, 13 AND 14, TOWNSHIP 20 SOUTH,
RANGE 28 EAST, NMPM.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. January 15, 1953, at Santa Fe, New Mexico, before the Oil Conservation Commission, hereinafter referred to as the "Commission."

NOW, on this 10th day of February, 1953, the Commission, a quorum being present, having considered the testimony adduced and the exhibits received at said hearing, and being otherwise fully advised in the premises;

FINDS:

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

(2) That the petitioner's request to revert to secondary recovery methods by a water injection program will tend to prevent waste and should be granted upon the condition that said program be pursued in the manner outlined at said hearing.

(3) That a secondary recovery program by water injection is of an experimental nature in this particular pool, and periodic reports should be submitted to the Commission by the petitioner disclosing its acts and doings in the matter.

IT IS THEREFORE ORDERED:

That the applicant, Neil H. Wills et al, be and hereby is given the right to institute a secondary recovery program on leases in the Russell Pool by injecting water into the Yates sand reservoir.

Case No. 469
Order No. R 263

IT IS FURTHER ORDERED, That petitioner submit quarterly reports to the Commission disclosing all of its acts and doings and setting forth therein the progress it has made by the adoption of its secondary recovery program.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

E. S. WALKER, Member

R. R. SPURRIER, Secretary

S E A L

NEIL H. WILLS

P. O. BOX 529

CARLSBAD, N. M.

August 23, 1956

Mr. A. L. Porter Jr.,
New Mexico Oil Conservation Commission,
Santa Fe, New Mexico

Dear Mr. Porter:

The New Mexico Oil Conservation Commission, order No. 263, dated February 10, 1953, granted to the undersigned permission to instigate a full capacity water flood program in the Russell Pool in Eddy County, New Mexico.

In view of the above, and in view of increased production due to said water flood, we are asking that an exception be taken to the New Mexico Oil Conservation Commission's regulation No. 502 covering the assignment of daily allowable production.

The wells which we operate in this are are the only wells which are effected by the flood program.

This type of secondary recovery is the only manner in which oil can be recovered from this formation, and to slow down or stop completely the water drive in an operation of this type would have an adverse effect on future oil recoverable. Therefore we ask that the above request be granted.

Very truly yours,

Neil H. Wills

Neil H. Wills

nmw:pb