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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

6 November 1985

EXAMINER HEARING

IN THE MATTER OF:

Disposition of cases without testi-
mony from the docket for 6 November,
1985.

CASES 8741,
8672, 8685,
8744, 8746,
8736, 8737,
8689, 8739.
8735

*Transcript in
Case 8741*

BEFORE: David Catanach, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation
Division:

Jeff Taylor
Legal Counsel to the Division
Oil Conservation Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

4 December 1985

EXAMINER HEARING

IN THE MATTER OF:

The disposition of cases called in
which no testimony was presented.

CASE 8751
8773, 8774,
8753, 8775,
8744, 8766

BEFORE: David R. Catanach, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division: Jeff Taylor
Attorney at Law
Legal Counsel to the Division
Energy and Minerals Dept.
Santa Fe, New Mexico 87501

For the Applicant:

1 STATE OF NEW MEXICO
2 ENERGY AND MINERALS DEPARTMENT
3 OIL CONSERVATION DIVISION
4 STATE LAND OFFICE BLDG.
5 SANTA FE, NEW MEXICO

6
7
8 18 December 1985

9 EXAMINER HEARING

10 IN THE MATTER OF:

11 Application of Union Texas Petroleum Corporation for downhole commingling, Rio Arriba County, New Mexico. CASE 8744

12
13
14 BEFORE: Michael E. Stogner, Examiner

15
16
17 TRANSCRIPT OF HEARING

18
19 A P P E A R A N C E S

20 For the Division: Jeff Taylor
21 Attorney at Law
22 Legal Counsel to the Division
Energy and Minerals Dept.
Santa Fe, New Mexico 87501

23 For Union Texas: William F. Carr
24 Attorney at Law
25 CAMPBELL & BLACK P. A.
P. O. Box 2208
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I N D E X

MIKE PIPPIN

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MR. TAYLOR: The application of Union Texas Petroleum Corporation for downhole commingling, Rio Arriba County, New Mexico.

MR. STOGNER: Call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr with the law firm Campbell & Black, P. A., of Santa Fe.

We represent Union Texas Petroleum Corporation and we have one witness.

MR. STOGNER: Are there any other appearances?

Will the witness please stand and be sworn?

(Witness sworn.)

MR. CARR: May it please the Examiner, on November 21 of this year you heard Case 8768. That was on the application of Union Texas Petroleum Corporation for an order extending the West Lindrith Gallup-Dakota Oil Pool and at the same time contracting the Otero-Gallup Oil Pool.

Following the filing of the ap-

1 plication it was discovered that if that application had
2 been granted a portion of the Otero-Gallup Oil Pool would
3 have been separated from the remainder of the pool; it would
4 have been noncontiguous and therefore, at the time of the
5 hearing, and after conferring with the Aztec Office of the
6 Division, two 160-acre tracts were deleted from that appli-
7 cation.

8 The case before you here today
9 is seeking downhole commingling authority in those two 160-
10 acre tracts.

11 MR. STOGNER: What case did you
12 allude to?

13 MR. CARR: That was Case 8768.
14 No order has been entered in that case, and this is really a
15 companion to it. The ad was not broad enough to include
16 this at the November 21 hearing.

17 MR. STOGNER: Thank you, Mr.
18 Carr. I'll take administrative notice of Case Number 8768.
19 An order should be forthcoming in the next day or two on
20 that.

21 MR. CARR: Thank you.

22 MR. STOGNER: Please continue.
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MIKE PIPPIN,

being called as a witness and being duly sworn upon his
oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. CARR:

Q Would you please state your name and
place of residence?

A Mike Pippin, P-I-P-P-I-N, Farmington, New
Mexico.

Q By whom are you employed and in what ca-
pacity?

A By Union Texas Petroleum as a petroleum
engineer.

Q Have you previously testified before this
Division and had your credentials as a petroleum engineer
accepted and made a matter of record?

A Yes, I have.

Q Are you familiar with the applicaiton
filed in this case on behalf of Union Texas Petroleum Cor-
poration?

A Yes.

Q Are you familiar with the subject area?

A Yes.

MR. CARR: Are the witness'

1 qualifications acceptable?

2 MR. STOGNER: Mr. Pippin is so
3 qualified.

4 Q Mr. Pippin, will you briefly state what
5 Union Texas seeks with this application?

6 A By this application Union Texas Petroleum
7 Corporation is requesting an order from the New Mexico Oil
8 Conservation Division to give us blanket approval to com-
9 mingle Gallup and Dakota production on approximately 320 ac-
10 res of our Jicarilla L and N Leases, located in Rio Arriba
11 County, New Mexico.

12 Q Would you refer to what has been marked
13 for identification as Union Texas Exhibit Number One, iden-
14 tify this and review it for Mr. Stogner?

15 A Exhibit Number One is our Gallup forma-
16 tion map. It's a map showing the UTPC acreage, which is
17 shaded, in Rio Arriba County, New Mexico.

18 The area enclosed in blue hatching is the
19 Otero-Gallup Pool.

20 The area enclosed in red is the existing
21 West Lindrithd Gallup-Dakota Oil Pool.

22 The Basin Dakota is all the remaining
23 area on the map not already in the Dakota -- the West Lin-
24 drith Gallup-Dakota Oil Pool.

25 The area proposed in green is our pro-

1 posed area of blanket downhole comingling of the Gallup and
2 Dakota.

3 Also represented on this Gallup map are
4 all the Gallup wells, the Gallup-Dakota duals, the Gallup-
5 Dakota commingled wells. Those commingled Gallup-Dakota
6 wells in West Lindrith Gallup-Dakota Pool were approved by
7 Commission order R-4314, Case 4703, on July 1st of 1972, and
8 the seven UTP, I should say the six UTP commingled Gallup-
9 Dakota wells were approved by Commission order R-5354, Case
10 5833, on January 17th of '77.

11 We do have one well that is approved for
12 comingling, the Jicarilla N No. 2, located in Unit letter N
13 of Section 3, Township 24 North, Range 5 West. We were un-
14 able to commingle this due to different pipeline dedications
15 for the respective zones.

16 The offsetting wells and leases are shown
17 and the ownership of each is indicated on the map, and all
18 this acreage is Indian or Federal.

19 Q Are you familiar with the rules governing
20 the West Lindrith Gallup-Dakota Pool?

21 A Yes, I am. They provide for 160-acre
22 drilling blocks and they basically treat the Gallup and Da-
23 kota as one pool; therefore the Gallup and Dakota formations
24 are commingled.
25

1 Q And they're also commingled -- that is to
2 the east of the subject area. They are also commingled pur-
3 suant to a prior Division order to the west of the proposed
4 area.

5 A That is correct.

6 Q Would you now go to UTP Exhibit Number
7 Two, identify this, and review it, please?

8 A Exhibit Number Two is our Dakota forma-
9 tion map. It's the same as our Exhibit Number One except
10 that it shows the Dakota wells instead of Gallup.

11 Q Will you now go to Exhibit Number Three
12 and identify that?

13 A Exhibit Number Three is our cross section
14 index map; otherwise it is the same as Exhibits One and Two.
15 The cross section we will be looking at later is indicated
16 as A-A' on this index map.

17 Q And this is the same index map that was
18 used in the prior hearing, is that correct?

19 A Yes.

20 Q And you will not be offering in this
21 hearing a cross section B-B'?

22 A No, I will not.

23 Q Is the ownership common in the Gallup and
24 Dakota formations under all the acreage which is the subject
25 of today's application?

1 A Yes, it is.

2 Q Would you refer to Union Texas Exhibit
3 Number Four, which is your structure map and review this for
4 Mr. Stogner?

5 A Exhibit Number Four is a map of the same
6 UTPC acreage in Rio Arriba County, New Mexico. It indicates
7 the structure using the top of the Dakota as datum.

8 Although structure is not real important
9 in making a well in this area of the San Juan Basin, the map
10 indicates that UTPC acreage and neighboring West Lindrith
11 Gallup Dakota acreage are not separated structurally in any
12 way.

13 Q Will you go to your cross section, now,
14 which is Exhibit Number Five, and review that for the Exam-
15 iner?

16 A Exhibit Five is a cross section from the
17 Jicarilla L No. 4, through the Jicarilla L No. 6-E, the lat-
18 ter being in the area that we wish to blanket commingle.

19 This exhibit indicates both the Gallup
20 and Dakota formations to be the same continuous zone
21 throughout the length of this cross section.

22 Q And this cross section extends into areas
23 in which the downhole commingling has previously been ap-
24 proved?

25 A Under the Commission --

1 Q This cross section extends not only from
2 the subject acreage but in some acreage for which downhole
3 commingling authority has already been granted by Commission
4 order.

5 A Yes, that is correct.

6 Q Would you now go to Union Texas Exhibit
7 Number Six and review that, please?

8 A Exhibit Six is a composite production
9 curve of the six UTPC wells commingled by Commission Order
10 R-6354 in July, 1977.

11 Please note the production increase in
12 July of 1977 when these wells were all physically
13 commingled.

14 Q Will you now go to Exhibit Seven-A?

15 A Exhibit Seven-A is the Dakota production
16 curve in the Jicarilla N No. 2, which, as previously stated,
17 is approved for commingling but we have not commingled the
18 well. This is a dual Gallup-Dakota well.

19 This exhibits shows the Dakota production
20 and indicates that it has a consistent decline rate with the
21 exception of the pipeline curtailments in late 1982 and
22 1983.

23 Q Will you now go to Exhibit Seven-B?

24 A Exhibit Seven-B shows the Gallup
25 production in the same dual well, Jicarilla N No. 2. In-

1 individual Gallup and Dakota production in the same time per-
2 iod for the Jicarilla L No. 6. The Dakota produced consis-
3 tently before commingling but the Gallup was very erratic,
4 the Gallup curve being at the bottom of the page. We are
5 producing more hydrocarbons more efficiently now due to the
6 commingle.

7 The next set of curves is basically the
8 same. They are for the Jicarilla N No. 1. The composite
9 Dakota-Gallup curve is first. Again note the increase in
10 July of '77 when the wells were commingled.

11 On the next page we have the individual
12 Gallup and Dakota production curves, the top curve being
13 Dakota, it's consistence before that commingling. The bot-
14 tom curve shows very inconsistence Gallup production before
15 commingling, and the curve becomes consistent after the com-
16 mingle, showing the increased efficiency, increased produc-
17 tion.

18 I won't go through all of these curves
19 and I don't want to give the impression that the advantages
20 of commingling are always as obvious as they appear in these
21 two wells.

22 Q But in your opinion does the Gallup as a
23 rule perform better if commingled with Dakota production in
24 this area?

25 A Yes, it does.

1 Q Would you now go to Union Texas Exhibit
2 Nine, identify this, and review the information contained
3 thereon?

4 A Exhibit Number Nine shows production
5 figures from all Gallup and/or Dakota wells in the six sec-
6 tions that UTPC operates wells in in the immediate area near
7 this application.

8 This totally includes all of our Jicaril-
9 la L and N Lease wells and the proposed area of the com-
10 mingle.

11 Please note the average Gallup production
12 from the area to be only 21-1/2 MCF per day and 1.2 barrels
13 of oil per day. If drilled as a straight up Gallup well,
14 this would be an uneconomical well.

15 The average Dakota production, 84 MCF a
16 day and 1-1/2 barrels of oil per day, would be a marginal
17 well at best.

18 What we hope to do when we commingle,
19 we'll have both of these productions together and they'll
20 create a more economical well for us.

21 Q Will you go to Exhibit Number Ten,
22 please?

23 A Exhibit Number Ten shows some physical
24 properties of the oil and gas produced in the UTP wells
25 which are open in both the Gallup and the Dakota. This ex-

1 hibit shows gas/oil ratios and the bottom hole pressure from
2 these wells, using the top of the Dakota as a datum. No
3 problems due to commingling are anticipated since six of the
4 wells, six of these wells are now producing commingled and
5 have since July of '77.

6 Q Will you now go to Exhibit Number Eleven,
7 identify this, and review it for Mr. Stogner?

8 A Exhibit Eleven is analyses of water sam-
9 ples from both Gallup and Dakota producing strings from the
10 dual Gallup-Dakota Well Jicarilla N No. 2.

11 This shows that Dakota and Gallup waters
12 in this well are compatible; that is, there should be no de-
13 trimental effects when they're mixed, such as a precipitate.

14 This is consistent with what we have ob-
15 served since July of '77 in our six commingled wells.

16 Q Will you now go to your gas analysis, Ex-
17 hibit Number Twelve, and review that?

18 A Exhibit Twelve shows gas analyses from
19 both Gallup and Dakota gas from gas samples taken from the
20 dual well, Jicarilla N No. 2. Results indicated that the
21 gases are very similar in both BTU and gravity.

22 Q Will you now go, finally, to UTP Exhibit
23 Thirteen?

24 A Exhibit Thirteen is an analysis of both
25 Gallup and Dakota oil from samples taken from the dual well,

1 Jicarilla N No. 2. There were no detrimental effects when
2 the oils were mixed, such as a precipitate. This again is
3 consistent with what we have observed since July of 1977 in
4 the six commingled wells in the area.

5 Q Now, Mr. Pippin, based on your experience
6 in the area, if I understand your testimony it is that there
7 are no compatibility problems that result from downhole com-
8 mingling of oil or water in any of the wells in this area in
9 which Gallup and Dakota production is commingled.

10 A That is correct.

11 Q Are the Dakota and Gallup zones in this
12 area capable of flowing or are they being artificially lif-
13 ted?

14 A They are flowing right now but it is pos-
15 sible in the future we may have to install artificial lift.

16 Q Do you anticipate any cross flow between
17 the Dakota and the Gallup if the application is granted?

18 A No, I do not.

19 Q Are reservoir characteristics of the
20 pools in the subject area such that underground waste will
21 not be caused by downhole commingling?

22 A That is correct.

23 Q Do you believe if the application is
24 granted it will result in increased recovery of hydrocar-
25 bons?

1 A Yes, it will.

2 Q Will the value of the commingled produc-
3 tion exceed the value of the sum of the individual zones?

4 A Yes.

5 Q Will economic savings result by granting
6 of this application?

7 A Yes, it will.

8 Q In your opinion will granting the appli-
9 cation be in the best interest of conservation, the preven-
10 tion of waste, and the protection of correlative rights?

11 A Yes, it will.

12 Q Were Exhibits One through Thirteen, in-
13 cluding Seven-A and Seven-B, were they prepared by you or
14 compiled under your direction?

15 A Yes, they all were.

16 MR. CARR: At this time, Mr.
17 Stogner, we would offer into evidence Union Texas Exhibits
18 One through Thirteen.

19 MR. STOGNER: Exhibits One
20 through Thirteen will be admitted into evidence.

21 MR. CARR: That concludes my
22 direct examination of Mr. Pippin.

23 MR. STOGNER: Are there any
24 questions of Mr. Pippin?

25 Mr. Chavez, please identify

1 yourself.

2 MR. CHAVEZ: Frank Chavez,
3 Supervisor, OCD Office in Aztec.

4

5 QUESTIONS BY MR. CHAVEZ:

6 Q Mr. Pippin, do you have a recommended al-
7 location of production for the different zones in the two
8 wells which are the subject of your application?

9 A I have estimated two different alloca-
10 tions for it, but I would recommend that yourself and I get
11 together and talk it over basically after a production test
12 has been obtained from each individual new Gallup-Dakota
13 well and we initially agree on allocation.

14 I have an exhibit here I could enter and
15 I've calculated an allocation both by current production
16 rates from Gallup-Dakota wells and by their cumulatives.

17 Q Okay. On your Exhibit Number Seven-A,
18 you indicated that there were pipeline curtailments that oc-
19 curred during '82, 1982 and 1983. Do you expect those pipe-
20 line curtailments to continue after commingling?

21 A That is possible, although it does appear
22 that in '84 and especially '85 on these curves they -- it
23 has gone back to a more normal rate of decline.

24 Q Will there be a certain length of shut-in
25 time that you might suspect would cause crossflow to occur

1 in the wells, say should the well be shut-in for over seven,
2 fourteen, or a certain period of days?

3 A That is possible that crossflow may occur
4 to some very small amount; however, when the pipeline was
5 turned back on I would anticipate recovery of any and all
6 amounts of hydrocarbons which would cross flow.

7 Q What is the average pipeline pressure in
8 this area that these zones are producing in?

9 A I believe it's about 300 to 350 pounds.

10 MR. CHAVEZ: That's all the
11 questions I have.

12

13

CROSS EXAMINATION

14 BY MR. STOGNER:

15 Q Mr. Pippin, is the Basin Dakota produc-
16 tion prorated?

17 A Yes, I believe it is.

18 Q You are aware that if prorating requires
19 that this well be shut in for some reason, that the whole
20 well would be shut in?

21 A That is correct.

22 Q Let's refer to one of the first three ex-
23 hibits, it really doesn't matter, to kind of spur my memory
24 here on the hearing that we had previous to this to contract
25 the horizontal limits of the two pools that we're talking

1 about.

2 In Section 34 and Section 3, in particu-
3 lar the southeast quarter of Section 34, if I remember
4 right, was excluded from any contraction or extension, was
5 that right?

6 A That is correct.

7 Q So that would remain in the Otero-Gallup
8 Pool?

9 A Yes. The area that we're proposing for a
10 blanket downhole commingling, that is the 320 acres we're
11 proposing today, will remain in the Otero-Gallup and Basin
12 Dakota Pools.

13 Q My next question was going to be concern-
14 ing Section 3 down there; however, if I remember right, the
15 south half of the northeast quarter would essentially be in
16 the undesignated Otero-Gallup.

17 A That is correct.

18 MR. STOGNER: Are there any
19 other questions of Mr. Pippin?

20 Mr. Chavez?

21 MR. CHAVEZ: Yes.

22

23 QUESTIONS BY MR. CHAVEZ:

24 Q Mr. Pippin, will the -- will it be neces-
25 sary to have approval for 160-acre drilling tracts in the

1 Basin Dakota Pool because of this application and the pre-
2 vious application that was addressed to this (not clearly
3 understood)?

4 A Restate that question.

5 Q These drill tracts that are the subject
6 of this case for the Basin Dakota, were those 320-acre
7 tracts or 160-acre drill tracts in the Basin Dakota?

8 A They will have to be 160, I believe,
9 won't they?

10 MR. CHAVEZ: That's all I have.

11 MR. STOGNER: Are there any
12 other questions of Mr. Pippin?

13 If not, he may be excused.

14 Anything further in this case,
15 Mr. Carr?

16 MR. CARR: Nothing further, Mr.
17 Stogner.

18 MR. STOGNER: Does anybody else
19 have anything further in Case Number 8744?

20 If not, this case will be taken
21 under advisement.

22

23 (Hearing concluded.)

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C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 8744, heard by me on 18 December 1985.

Michael P. Boyer, Examiner
Oil Conservation Division