CASE 4740: Application of AMOCO FOR DOWNHOLE COMMINGLING, SAN JUAN COUNTY, NEW MEXICO.

Case Number

4740

Application

Trascripts

Small Exhibits

ETC.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
CONFERENCE HALL, STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
June 27, 1972

EXAMINER HEARING

IN THE MATTER OF:

Application of Amoco Production Company for downhole commingling, San Juan County, New Mexico.

CASE NO. 4740

BEFORE: Elvis A. Utz
Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 4740.

MR. HATCH: Application of Amoco Production Company for downhole commingling, San Juan County, New Mexico.

MR. COOTER: Paul Cooter of Roswell, appearing for the Applicant.

* * * * *

R. B. GILES,

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

MR. COOTER: Before commencing with the witness' testimony, I might state that in its Application, Amoco seeks authority to commingle -- downhole commingle gas and condensate production from the Flora Vista-Gallup and Basin-Dakota pools in the wellbores of its L. C. Kelly Wells Numbers 3 and 5, located, respectively, in Unit F of Section 4 and Unit I of Section 3, Township 30 North, Range 12 West, San Juan County, New Mexico.

DIRECT EXAMINATION

BY MR. COOTER:

Q Would you state your name, please?

A R. B. Giles.

Q By whom are you employed?

A Amoco Production Company.

Q In what capacity?

A Senior staff engineer.

Q Have you previously testified before the New Mexico Oil Conservation Commission?

A No, I have not.

Q Would you please, briefly, relate your education and professional background?

A I graduated from Pennsylvania State in 1948 with a Bachelor of Science Degree in natural gas engineering. Since that time, for the past twenty-four years, I have been employed by Amoco in various engineering capacities and engineering supervisory capacities. I am presently responsible for the conservation activities of the Denver Division and the fourteen western-most states including Alaska and northwest New Mexico.

I am past chairman of the Technical Committee of the Rocky Mountain Oil & Gas Association and was so for a sixteen year period. I am a professionaal registered engineer in the States of Wyoming and Colorado.

Q For this Hearing today, did you prepare certain Exhibits, or were certain Exhibits prepared under your direction and supervision?

A Yes, all seven Exhibits that will be shown today.

Q And these have been marked 1 through 7?

A Yes, sir.

Q Would you please commence with Exhibit Number 1 and just continue on through them relating what each shows?

A Yes. Referring to Amoco Exhibit 1, the striped acreage indicates the acreage held solely -- the leases held solely by Amoco in the Gallup and Dakota formations.

The L. C. Kelly lease, which comprises all or part of Section 3, 4, 5, 6, 10, 11, 12, in Township 30 North, Range 12 West, San Juan County, the basic royalty is held solely by the Federal government and there are overriding royalty interests which total five percent under the entire L. C. Kelly lease. So the ownership overriding royalty is common for both formations underlying the L. C. Kelly wells 3 and 5. We have shown by the proper designation, which wells are Gallup wells and which wells are Dakota wells. On this Exhibit 1, the Gallup pool -- the Flora Vista-Gallup pool, comprises only three wells.

The two arrows indicate the Kelly Number 3 and Kelly Number 5 and then we have the consolidated Clayton Number 10 on the eastern side of the pool in the SW/4 of Section 2.

We tried to make Gallup wells out of the L. C. Kelly Number 4 in the SW/4 of Section 3 and our Kelly Number 2 in the NE/4 of Section 5, but we were not able to get commercial Gallup producers. So this is a relatively small pool and the red outline designates -- or estimates the productive units of the pool.

You might turn to Exhibit Number 2 now, which is a performance history of the L. C. Kelly well. This well is located in Section 4 and was brought in as a Basin-Dakota gas well in July of 1964 --

MR. UTZ: Which well number is this?

THE WITNESS: The Kelly Number 3.

A (Continuing) We completed it in 1964 and it is a Basin-Dakota gas well and tested for 1800 MCF of gas. During February of 1969, the Gallup was open to production and tested on February 7, 1969, at 4427 MCFD with a tube pressure flowing at 358 pounds and a casing pressure of 770 pounds.

Exhibit 2 picked up Dakota productions starting in 1967 and shows that we did recomplete it in the early part of 1969, to the Gallup, and the gas and condensate production history beyond that point is all Gallup.

Back in early 1969, it was impossible to gas drill and plug above the Dakota and that zone has been left shut-in.

The only Gallup being produced from that time is for the use of water for drilling. We feel we would have seriously damaged the Dakota zone if we had continued drilling.

Pressure has not declined and it is now possible to drill the plug using gas, but the Dakota in our view

can only be economically returned to production if we are permitted to commingle downhole.

On Exhibit 3 we have shown the wellbore diagram and the present status of the L.C. Kelley Number 3 well, showing the plug between the Gallup and Dakota zones.

I said we were only producing from the Gallup at this time and the alternative at present on this well is, we could run two strings of tubing, but it is a bit difficult to fit these strings inside the small diameter casing, the four and one-half inch casing, that we have in the well, and we feel the most practical and economical solution is to commingle downhole and produce through one-half inch tubing.

The cost to commingle would be $7,850 and the cost would be $23,600 for two tubing strings. So there is almost a $16,000 difference in cost.

MR. UTZ: What was the last figure?

THE WITNESS: $23,600, with two tubing strings.

A (Continuing) I would like now to pass on to Exhibit 4 which gives the performance history of the Gallup -- the L. C. Kelly Number 5 well. This has been a dual Dakota-Gallup producer since completion in December, 1964. Exhibit 4 picks up production from 1967 and brings it to the present time. Exhibit 4 just shows the Gallup.

Exhibit 5 shows the Dakota performance in the Kelly

Number 5 well and due to the low current production, both zones are experiencing likewise buildup problems and continued production with existing dual string tubing installations appears doubtful. Again, we feel that the most economical method of continued full-production is to commingle downhole and produce both zones through a one-half inch tubing string.

At this time we are intermitting both the Gallup side and the Dakota side in well number 5 and the Gallup side is intermitted at most, for fifteen minutes every twelve hours, with an estimated gas rate of 30 MCFD.

On the Dakota side, well number 5 is intermitted for thirty minutes every twelve hours with an estimated vented gas rate of 20 MCFD.

We feel we will probably get a slight increase in Dakota production by commingling downhole through tubing string.

I might mention that, if we are not permitted to commingle, we will probably have to intermit more often as liquids build up more frequently in the future and this would be dissipating more and more gas into the atmosphere. When this occurs, our proposed method of allocating production between the two formations would be based on the stabilized Gallup rate before commingling and established on the combined Dakota-Gallup rate after

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

commingling.

For the L.C. Kelly Number 5 well, the allocation ratio would be based on the stabilized rate before commingling. We propose that the allocation be done just one time because production is relatively stable and we feel commingling will result in additional gas recovery which may not be otherwise economically produced.

This will be by reason of opening the Dakota at the Kelly Number 3.

Q Would you explain the similarity of the fluid characteristics between the two reservoirs?

A They are both sand and were both water frack. On the completion of these wells, they produced water from the Dakota and Gallup and when mixed, they were compatible. We had our research center run tests of the produced water and they found that no matter what ratio of G. and D. when the water was mixed, the waters were clear in every instance and formed no precipitates.

This indicates that the water was economically compatible.

The gas condensate ratios are similar. The Gallup is running about eight to nine barrels per million, at this time and the Dakota seven-plus barrels per million, at this time.

I would like now to turn to Exhibit 6, which is

a wellbore diagram of the Kelly Number 5 well showing two strings of tubing and packer between the two formations.

I would like now to turn to the last Exhibit, Exhibit 7, which, in our view, indicates that the bottomhole pressures are sufficiently equal between the Dakota and Gallup, so that no formation damage would result from commingling downhole. I might refer you first to the Kelly Number 5 well data that shows a later deliverability test in May of 1971, with a shut-in wellhead pressure in the 600 pound range. At the Kelly Number 3 we, of course, do not have any data more recent than February of 1969, on the Dakota, but by comparison to the offset wells, we can rationalize and speculate that the Dakota is probably in the 800 pound shut-in wellhead pressure range, at this time.

The Gallup is in the 500 pound range in the Kelly Number 3, so there is a difference between the shut-in pressures, at this particular well, but we do not foresee any problems occurring from the Dakota to the Gallup because they produce as marginal wells, continuously day in and day out, each month, so we don't expect a problem with downhole commingling. If you look at Exhibit Number 7, it shows flowing pressure for both the Dakota and Gallup to be in the 330 pound range and

this would make them pretty comparable, so we don't see any underground waste that would occur. In fact, we feel waste could be prevented because the commingling of the Number 5 would solve the problem of intermittance.

We also don't see a problem with correlative rights because of three or four reasons. First, the Flora Vista-Gallup is not prorated and Dakota production in the Kelly Number 3 and the Kelly Number 5, as well as all the offset wells are marginal, so we don't see any allowable problem whatsoever.

Point two is that the only Gallup offset to the Kelly lease is the consolidated Clayton Number 10 on the eastern side of the Gallup pool and the Clayton Number 10 is a better capacity well in both the Gallup and Dakota than the Kelly Number 5 and this is shown on Exhibit 7, where we have given the latest information.

The third point is that, within the Kelly lease, there is common ownership so there is no intra-lease or correlative rights problems. As a matter of fact, we really need to put the Dakota back into production on the Kelly Number 3 to protect our own correlative rights. If you assume that the Dakota has 150 MCFD, at the Number 3 Kelly, and using the 10 percent per year decline, which seems to be the customary decline rate in the Basin-Dakota wells, we would estimate 480 MCFD

in reserves being left under this location and it would probably take seventeen years or so, to get it. The final point we would like to make in my testimony is that there is precedence for this requested commingling order we are asking for today. We have an order issued by this Commission, Order R-4059, that was issued by the Commission on November 10, 1970, approximately a year and a half ago, for four wells on the Hickory-Apache 102 lease. This was again Gallup-Dakota commingling and that was approved.

Q Is there anything else you want to add?

A No, I don't believe so.

MR. COOTER: We would like to offer Exhibits 1 through 7.

MR. UTZ: Without objection, Exhibits 1 through 7 will be entered into the record of this Case.

* * * * *

CROSS-EXAMINATION

BY MR. UTZ:

Q Mr. Giles, you estimated that the Dakota pressure on the Number 3 Kelly well was 800 pounds, do you have offset drainage?

A Yes, the Kelly Number 2 to the north -- excuse me, to the west.

Q Your suggestion for allocation of production is to run

a stabilized test before commingling?

A Of the Gallup in the Number 3 well and a stabilized test of the Gallup and Dakota in the Number 5 well, yes. We suggest this because these wells are exempt, marginal, non-prorated and we suggest this be done once and not periodically.

Q Will it be necessary to intermit these wells after commingling?

A No, we only are intermitting at this time in the Number 5 well and we would not feel that would be necessary after commingling. One of the benefits we see from commingling would be to get rid of that equipment.

Q Do you have any idea what the average non-marginal Dakota allowable is for 1972?

A No, sir, I do not readily have that information.

Q Is it something like thirteen and one-half million a month?

A I really don't have a feel for that, sir.

Q As a matter of fact, if the Dakota Number 3 produced at 178 MCF, the production would be in the neighborhood of five to six million per month, so then I presume that well would remain marginal?

A Yes, sir, probably exempt marginal. We are actually speculating about 150 MCF a day when we put it back on.

Q As an exempt marginal well you don't have a problem with testing because they are exempt from testing?

A Right.

Q However, if it is a marginal well, you would have a testing problem that you could not accomplish?

A Correct.

* * * * *

CROSS-EXAMINATION

BY MR. KENDRICK:

Q Is it your belief that the north half of Section 4 is dedicated to these three wells in the Dakota formation so that the dedication is 100 percent Kelly?

A Yes.

MR. UTZ: Any further question?

(No response.)

MR. UTZ: The witness may be excused.

(Witness excused.)

MR. UTZ: Any statements?

(No response.)

MR. UTZ: The Case will be taken under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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

Richard E. McCormick
CERTIFIED SHORTHAND REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4740 heard by me on June 28, 1972.

..... Examiner
New Mexico Oil Conservation Commission

I N D E X

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E X H I B I T S

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Amoco Production Company		
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OIL CONSERVATION COMMISSION

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

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

July 17, 1972

Re: Case No. 4740
Order No. R-4335
Applicant:
AMOCO PRODUCTION

Mr. Paul Cooter
Atwood, Malone, Mann & Cooter
Attorneys at Law
Post Office Box 700
Roswell, New Mexico 88201

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.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC x

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. 4740
Order No. R-4335

APPLICATION OF AMOCO PRODUCTION
COMPANY FOR DOWNHOLE COMMINGLING,
SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on June 28, 1972, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 17th day of July, 1972, 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, Amoco Production Company, is the owner and operator of the L. C. Kelly Wells Nos. 3 and 5 located, respectively, in Unit F of Section 4 and Unit I of Section 3, Township 30 North, Range 12 West, San Juan County, New Mexico.

(3) That the Flora Vista-Gallup and Basin-Dakota zones in the subject wells are capable of only low marginal production.

(4) That the applicant now proposes to complete each of said Wells Nos. 3 and 5 in such a manner as to produce gas and condensate from both of the zones through one string of tubing, commingling in the well-bore the production from the Flora Vista-Gallup and Basin-Dakota zones.

(5) That the reservoir characteristics of the Flora Vista-Gallup and Basin-Dakota zones in the subject well are such that underground waste would not be caused by the proposed commingling in the well-bore.

(6) That the proposed commingling may result in the recovery of additional gas from each of the commingled zones in the subject wells, thereby preventing waste, and will not violate correlative rights.

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

(8) That production tests should be conducted prior to commingling to determine the production from each zone in each well.

(9) That approval of the subject application will prevent waste and protect correlative rights.

(10) That Administrative Order MC-1563 should be superseded.

IT IS THEREFORE ORDERED:

(1) That the applicant, Amoco Production Company, is hereby authorized to complete each of its L. C. Kelly Wells Nos. 3 and 5 located, respectively, in Unit F of Section 4 and Unit I of Section 3, Township 30 North, Range 12 West, NMPM, San Juan County, New Mexico, in such a manner as to produce gas and condensate from the Flora Vista-Gallup and Basin-Dakota Pools through a single string of tubing, commingling in the well-bore the production from the Flora Vista-Gallup and Basin-Dakota Pools.

(2) That the production of each zone in each of the above-described wells shall be established and future production allocated to the Gallup and Dakota zones in each of the subject wells in accordance with the following procedure:

L. C. KELLY WELL NO. 3

1. Prior to commingling, the daily rate of flow from the Gallup formation shall be established by employing the last 24 hours of a seven-day flow period of said zone. (Test No. 1)

2. Subsequent to commingling, the daily rate of flow from the commingled Gallup and Dakota zones shall be established by employing the final 24 hours of a seven-day flow test of the commingled zones. (Test No. 2)

3. Determine the Dakota allocation of production factor as follows:

$$(\text{Dakota}_f) = \frac{\text{Test No. 2} - \text{Test No. 1}}{\text{Test No. 2}}$$

4. Determine the monthly allocation of production as follows:

a. Dakota production = Dakota $_f$ x commingled production.

b. Gallup production = commingled production less calculated Dakota production.

L. C. KELLY WELL NO. 5

1. Prior to commingling, the daily rate of flow from the Dakota zone shall be established by employing the last 24 hours of a seven-day flow period of said zone. (Test No. 1)

2. Prior to commingling, the daily rate of flow from the Gallup zone shall be established by employing the last 24 hours of a seven-day flow period of said zone. (Test No. 2)

3. Determine the monthly allocation of production as follows:

a. Dakota production = monthly commingled production x $\frac{\text{Test No. 1}}{\text{Test No. 1 + Test No. 2}}$

b. Gallup production = monthly commingled production x $\frac{\text{Test No. 2}}{\text{Test No. 1 + Test No. 2}}$

(3) That the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

(4) That Administrative Order MC-1563 is hereby superseded.

(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. ARMIJO, Member

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

S E A L

dr/

4740
Heard 6-28-72
Rec. 6-30-72

Grant Amoco's request to commingle the Basin-Dk & the Bloomfield Vista-Gallup in the wellbore's of their:
L.C. Kelly #3 H-4-30-12 & their
L.C. Kelly #5 I-B-30-12.

The #3 well is a Gallup-Dk. with the Dk. P.B.
This well should be tested as follows: 24 hrs prod. test on the Gall. & a 24 comm test after recompletion.

The #5 well is now a Gall-Dk. Dual and should have a 24 Prod. test on each zone before recom. and a comm test after recom.

Such tests to be used on a direct % basis to report the prod. from each pool on a permanent basis.

[signature]

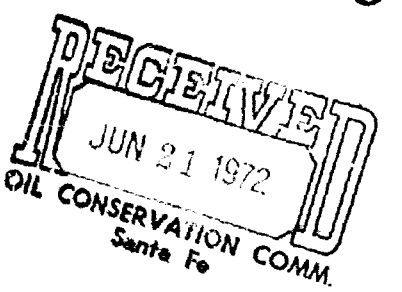
THOMAS A. DUGAN
President
Home 325-5694

JIM JACOBS
Vice-President
Home 325-8353

DUGAN PRODUCTION CORP.

709 Bloomfield Road
Post Office Box 234
Telephone 325-0238
Area Code 505
FARMINGTON, NEW MEXICO
87401

June 20, 1972



Mr. A. L. Porter
Oil Conservation Commission
Box 2088
Santa Fe, New Mexico 87501

Re: Case #4740
Application for downhole commingling

Dear Mr. Porter:

As an operator of wells in the Basin-Dakota pools, we would like to encourage the commission to approve the application for downhole commingling of the Dakota-Gallup formation in case #4740.

We believe that the commission should be more lenient in approving downhole commingling as this is an important method of economically producing reserves that would otherwise be lost.

Sincerely,

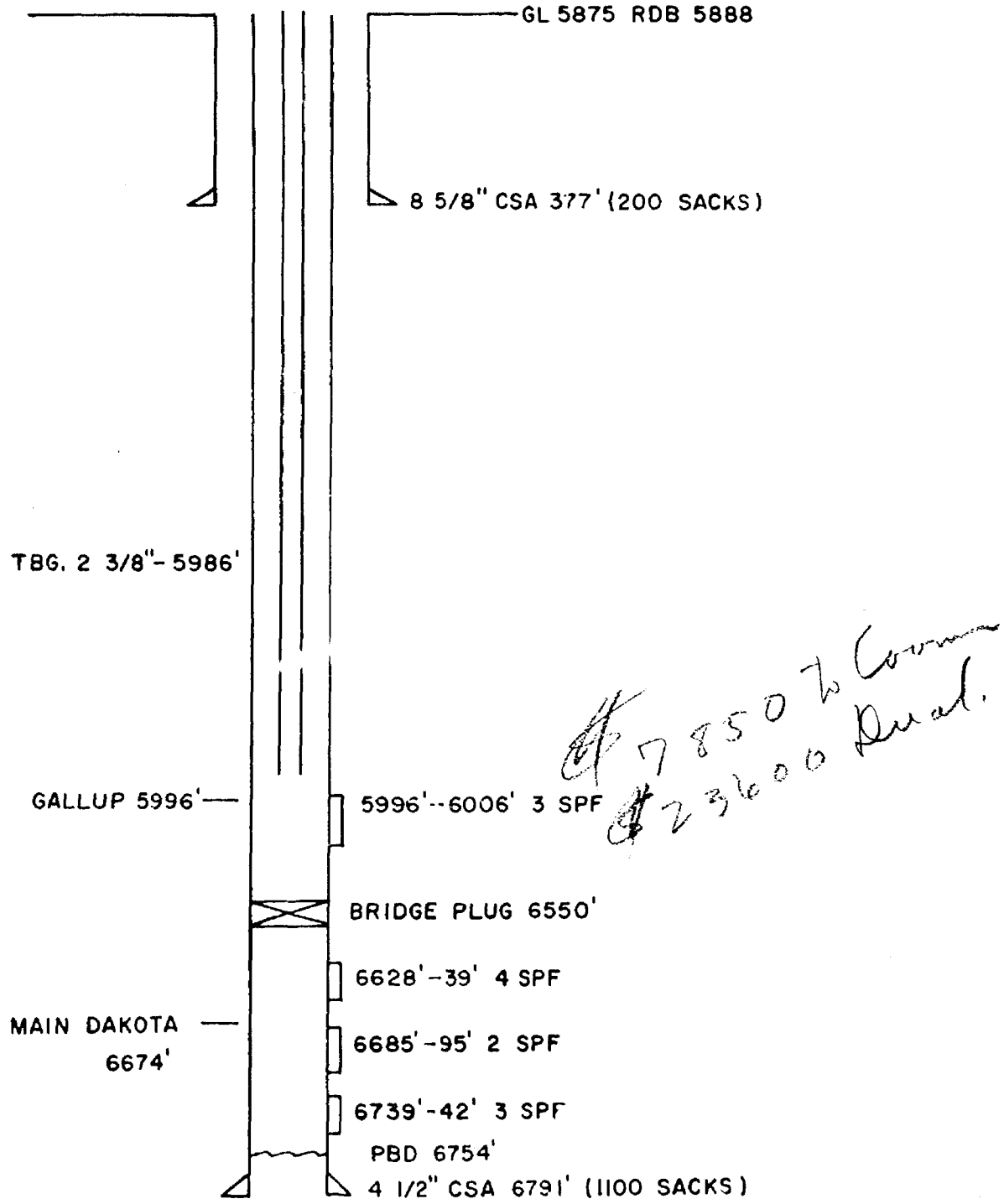
Thomas A. Dugan

Thomas A. Dugan

dw

EXHIBIT NO. 3

AMOCO PRODUCTION COMPANY
WELL BORE DIAGRAM
L. C. Kelly Well No. 3
Basin Dakota Field
Sec. 4 T30N, R12W
San Juan County, New Mexico



78507 Comm
23600 Dual.

EXHIBIT NO. 6

AMOCO PRODUCTION COMPANY

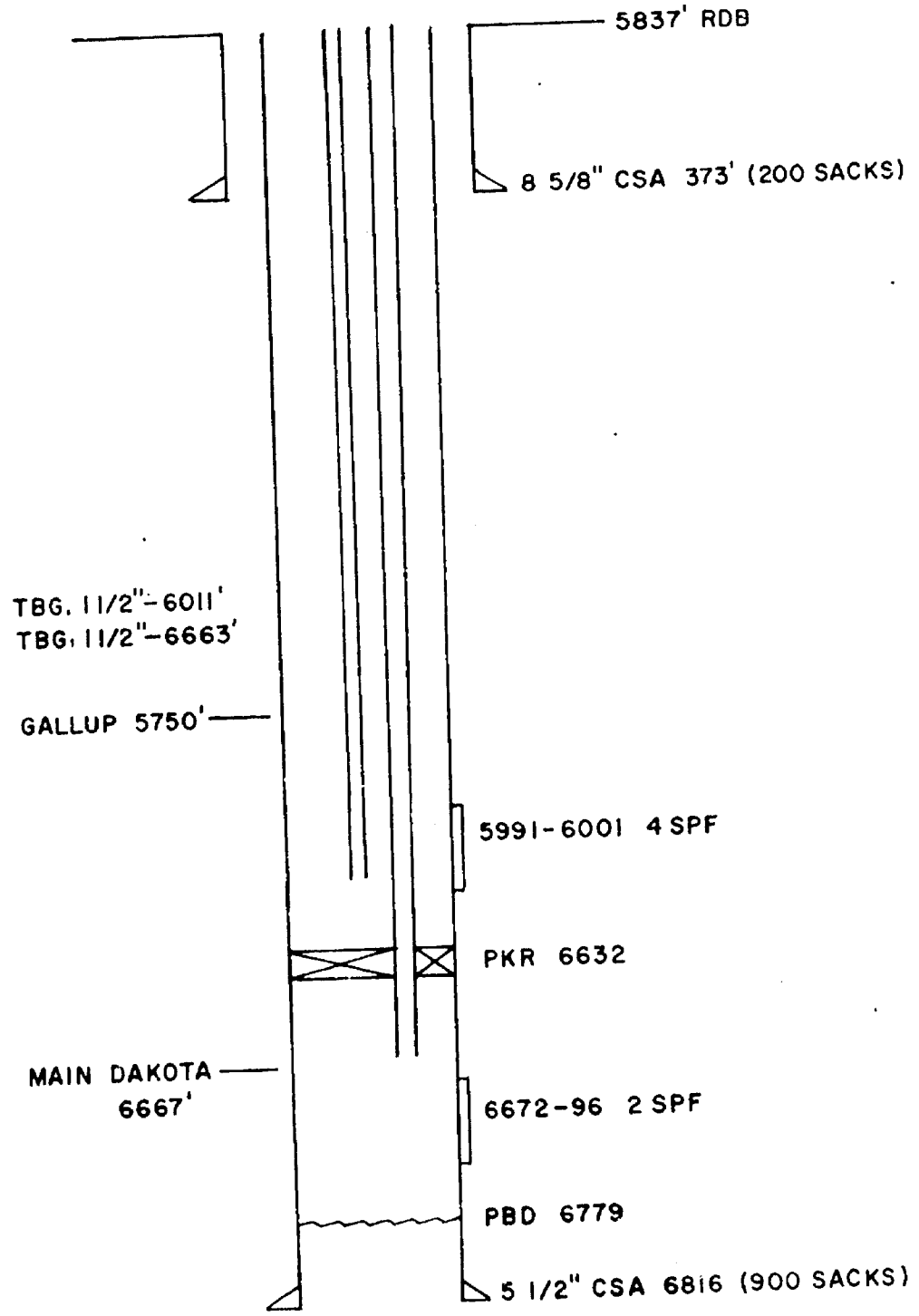
WELL BORE DIAGRAM

L. C. Kelly Well No. 5

Basin Dakota Field

Sec. 3 T30N, R12W

San Juan County, New Mexico



PRODUCTION DATA

L. C. Kelly Lease and Important Offset Wells

Amoco's Exhibit No. 7

Well No.	Formation	Latest Deliverability Test Pc-psi	H-psi	Date	Latest Producing Rate MCFD	BCPD	Date	Remarks
Kelly 3	Dakota	1,021	464	April 1968	178	1.3	Jan. 1969	SI February 1969
	Gallup	513*	338	June 1971	856	7	May 1972	Comp. February 1969
Kelly 2	Dakota	811	333	May 1971	136	0	May 1972	P_c 1,034 in 1968
Thompson 12	Dakota	873	423	May 1971	93	0	March 1972	
Kelly 5	Dakota	694	349	May 1971	22	.3	May 1972	Intermitted
	Gallup	623	422	May 1971	332	3	May 1972	Intermitted
Clayton 1	Dakota	615	452	April 1971	49	.1	March 1972	
	Gallup	640	416	May 1971	434	5	March 1972	

*Initial SIP 1,141 psi

Amoco Production Company
Security Life Building
Denver, Colorado 80202

May 23, 1972

File: VDP-227-986.511

Case 4740

Mr. A. L. Porter, Jr. (3)
Secretary-Director and Geologist
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Porter:

Re: Application for Downhole Commingling
San Juan County, New Mexico

We request, after due notice and hearing, an Order be entered permitting Amoco Production Company to downhole commingle gas and condensate produced from the Basin Dakota and Flora Vista Gallup pools in its L. C. Kelly Wells No. 3 and 5, Sections 3 and 4, T30N-R12W, San Juan County, New Mexico.

Amoco is the Operator and sole working interest owner in the Gallup and Dakota formations under the L. C. Kelly lease, comprising all or part of Sections 3, 4, 5, 6, 10, 11 and 12, T30N-R12W. Basic royalty and overriding royalty interests are likewise common for the Gallup and Dakota formations underlying Well No.'s 3 and 5. The attached location plat shows the lease and the two wells proposed for downhole commingling. Details involving these wells are:

Well No. 3 - Located in Unit "F" Section 4 and was completed as a Basin Dakota gas well in July, 1964, for an initial three hour potential of 1,800 MCFD. During February, 1969, the Gallup formation was opened to production and on February 7, 1969, tested 4,427 MCFD with TPF 358 psig and CPF 770 psig. Due to the extremely high flow rate and pressure, it was impossible to gas drill the bridge plug above the Dakota and that zone has been left shut-in with only the Gallup being produced. The use of water for drilling the plug would probably have seriously damaged the Dakota zone. Pressures have declined and it is now possible to drill the plug using gas, but the Dakota can only be economically returned to production if commingling is allowed.

DOCKET MAILED
Date 6/13/72

Well No. 5 - Dual Dakota-Gallup production has been maintained since completion in December, 1964. Due to low current production, however, both zones are experiencing liquid build-up problems and continued production with the existing dual string tubing installation is doubtful. The most practical and economical method of continuing full production is to commingle downhole and produce both zones through one tubing string.

Considering the above mentioned difficulties in producing these two wells, we propose commingling the Gallup and Dakota downhole and producing each well through one 2" tubing string. Allocation of production for Well No. 3 would be based on a stabilized Gallup rate before commingling and a stabilized combined Dakota-Gallup rate after commingling. For Well No. 5 the allocation ratio would be based on stabilized Dakota and Gallup rates before commingling.

The proposed downhole commingling will result in additional gas recovery which could not otherwise be economically produced and thus will prevent waste and will not violate correlative rights. Reservoir and fluid characteristics of these two sandstone reservoirs are similar. Bottom hole pressures are sufficiently equal so that no formation damage or underground waste should result from downhole commingling. The Flora Vista Gallup production is non-prorated and the Dakota production from Kelly Well No.'s 3 and 5 and all offset wells is either marginal or exempt-marginal so no allowable problem exists.

We ask that this matter be set for hearing at the earliest possible date. As a part of this application, we are attaching a list of the names and addresses of all interested parties known to us, these being owners of Dakota and Gallup interests in adjoining spacing units.

Yours very truly,

Vinton D. Pierce

Vinton D. Pierce

CJB:ka

Attachments

cc: Mr. E. C. Arnold (2)
New Mexico Oil Conservation Commission
1000 Rio Brazos Road
Aztec, New Mexico 87410

United States Geological Survey
P. O. Box 965
Farmington, New Mexico 87401

United States Geological Survey
Drawer 1857
Roswell, New Mexico 88201

VERIFICATION

STATE OF COLORADO)
: SS
COUNTY OF DENVER)

C. J. BOYCE being first duly sworn upon oath deposes and says that he is employed as a Senior Petroleum Engineer by Amoco Production Company, that the foregoing application has been prepared under his supervision and direction, that he is familiar with the information contained in the application and that the matters and the things therein set forth are true and correct to the best of his knowledge and belief.

C. J. Boyce
C. J. Boyce

Subscribed and sworn to before me this 18th day of May, 1972.

Kathleen L. Allison
Notary Public

My Commission expires July 24, 1974.

GALLUP-DAKOTA OWNERS OFFSETTING
L. C. KELLY WELLS NO. 3 AND NO. 5
SAN JUAN COUNTY, NEW MEXICO

Atlantic Richfield Co., Box 2819, Dallas, Texas 75221

Continental Oil Co., 152 N. Durbin, Casper, Wyoming 82601

CWM and VLM Trust, 2300 First National Bank Building, Dallas, Texas 75202

El Paso Natural Gas Co., Box 1492, El Paso, Texas 79999

J. Glen Turner, 1900 Mercantile Building, Dallas, Texas

William G. Webb, 1900 Mercantile Building, Dallas, Texas

Frank A. Shultz, 706 Fidelity Union Tower, Dallas, Texas

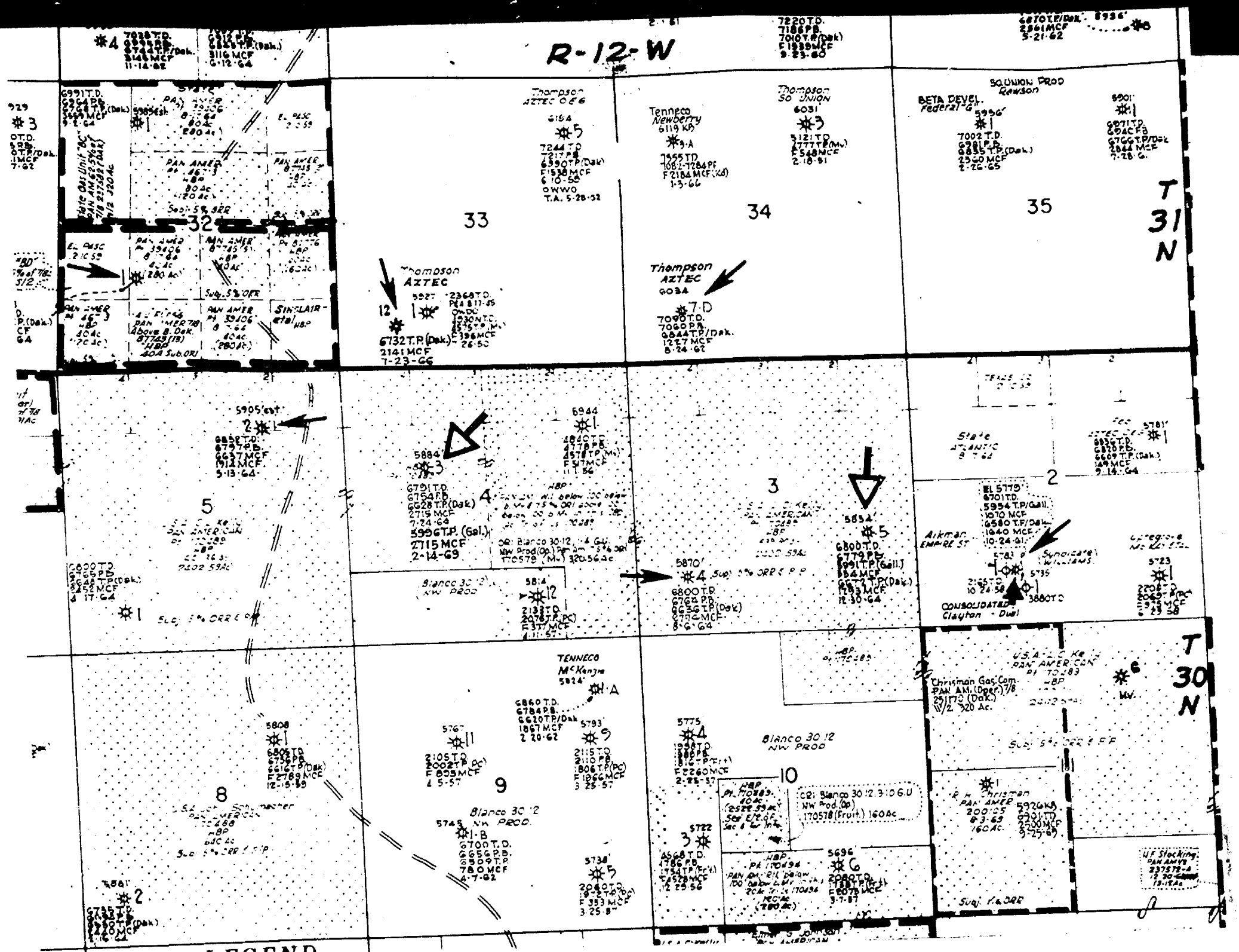
Aztec Oil and Gas Co., 2000 First National Bank Building, Dallas, Texas 75202

Beta Development Co., 125 Petroleum Club Plaza, Farmington, New Mexico 87401

Texaco Inc., Box 2100, Denver, Colorado 80201

Consolidated Oil & Gas Co., 1860 Lincoln, Denver, Colorado 80203

Northwest Prod. Corp., Box 1796, El Paso, Texas 79949



AMOCO PRODUCTION COMPANY
LOCATION PLAT

TO ACCOMPANY APPLICATION FOR COMMINGLING

GALLUP-DAKOTA GAS PRODUCTION

L.C. Kelly Lease San Juan Co., New Mexico

Case 4740 **EXHIBIT NO. 1**

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. 4740

Order No. R-4335

APPLICATION OF AMOCO PRODUCTION
COMPANY FOR DOWNHOLE COMMINGLING,
SAN JUAN COUNTY, NEW MEXICO.

7-10-72

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on June 28, 1972, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this _____ day of July, 1972, 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, Amoco Production Company, is the owner and operator of the L. C. Kelly Wells Nos. 3 and 5 located, respectively, in Unit F of Section 4 and Unit I of Section 3, Township 30 North, Range 12 West, San Juan County, New Mexico.

~~(3) That pursuant to authority granted by Administrative~~ Order _____ ~~said Wells Nos. 3 and 5 were completed by the applicant as a triple completion (tubingless) to produce gas from the Flora Vista-Gallup and Basin-Dakota Pools.~~

(3) ~~(4)~~ That the Flora Vista-Gallup and Basin-Dakota zones in the subject wells are capable of only low marginal production.

(4) ~~(5)~~ That the applicant now proposes to complete said Wells Nos. 3 and 5 in such a manner as to produce gas from ~~the~~ both of the zones _____ ~~Pool~~ through one string ~~of 2 7/8 inch casing~~ and to produce the low marginal production ~~from the~~ _____ and _____ ~~Pools~~ through a single ~~parallel~~ string of ~~2 7/8 inch~~ tubing, commingling in the well-bore the production from the Flora Vista-Gallup and Basin-Dakota zones.

~~(6) That the proposed commingling in the subject wells~~ of ~~the Flora Vista-Gallup and Basin-Dakota~~ zones may substantially ~~extend the productive lives of said zones in the subject well.~~

(5) ~~(7)~~ That the reservoir characteristics of the Flora Vista-Gallup and Basin-Dakota zones in the subject well are such that underground waste would not be caused by the proposed commingling in the well-bore.

(6) ~~(8)~~ That the proposed commingling may result in the recovery of additional gas from each of the commingled zones in the subject wells, thereby preventing waste, and will not violate correlative rights.

(7) ~~(9)~~ That the mechanics of the proposed completion are feasible and in accord with good conservation practices.

~~(10) That in order to allocate the commingled production to each of the commingles zones in the subject wells, approximately _____ of the future allowable and production should be attributed to the Flora Vista-Gallup zone, and _____ to the Basin-Dakota zone.~~

(8) That production tests should be conducted prior to commingling to determine the production from each zone in each well.

2. Prior to commingling, the daily rate of flow from the Gallup zone shall be established by employing the last 24 hours of a seven-day flow period of said zone. (Test No. 2.)

~~2.~~ 3. Subsequent to commingling, the daily rate of flow from the commingled zones shall be established by employing the final 24 hours of a seven-day flow test of the commingled zones. (Test No. 3.)

~~3.~~ 4. Determine the monthly allocation of production as follows:

a. Dakota production = monthly commingled production x ~~Test No. 1~~ / ~~Test No. 2~~ Test No. 1 / Test No. 1 + Test No. 2

b. Gallup production = monthly commingled production x ~~Test No. 2~~ / ~~Test No. 1~~ Test No. 2 / Test No. 1 + Test No. 2

(3) ~~(2)~~ That the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

~~(3) That a~~pproximately _____ of the future allowable and production shall be attributed to the Flora Vista-Gallup zone and approximately _____ to the Basin-Dakota zone of the subject well until further order of the Commission.

(4) That the commingling in the well-bore authorized by this order shall continue only so long as the commingled production of the two zones does not exceed _____ barrels of oil per day nor _____ barrels of water per day.

(5) That the maximum amount of gas which may be produced daily from the commingled zones in the subject wells shall be determined by multiplying 2,000 by the top unit allowable for the _____ Pool.

(4) (6) That Administrative Order MC-1563 is hereby superseded.

(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.