



Amoco Production Company (USA)

Petroleum Center Building
501 Airport Drive
Farmington, New Mexico 87401
505 - 325-8841

R. W. Schroeder
District Superintendent

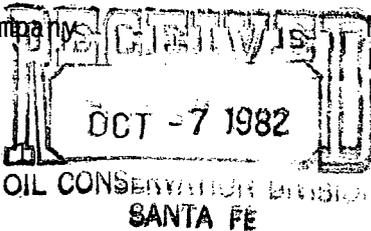
September 21, 1982

Arco ✓
P. O. Box 5540
Denver, CO 80217

Mr. Dave M. Thomas, Jr.
3001 Northridge
Farmington, NM 87401

El Paso Natural Gas Company Minerals Management Services
P.O. Box 990 Drawer 600
Farmington, NM 87401 Farmington, NM 87401

File: DHS-428-986.510



Dear Sir:

Proposed Downhole Commingling of the Chacon Dakota and Undesignated Gallup Pools in Jicarilla Tribal 396 No. 2, Rio Arriba County, New Mexico

This is to advise you that the Farmington District office of Amoco Production Company is requesting administrative approval from the Secretary-Director of the New Mexico Oil Conservation Division to downhole commingle production from the well below:

Jicarilla Tribal 396 No. 2; Unit P, Section 8, T23N, R3W

We propose to commingle production from the Dakota and Gallup formations in the subject well.

Enclosed is a wellbore diagram and a map showing location of offset operated wells.

If you, as an offset operator, have no objections to the commingled production of the Basin Dakota and Otero Gallup pools from the subject well, please sign the waiver below and send to:

New Mexico Oil Conservation Division
Attn: Mr. Joe D. Ramey
Box 2088
Santa Fe, NM 87501

We would appreciate your sending one executed copy to the undersigned.

Very truly yours,

R.W. Schroeder
DSK

RLR/tk
Enclosures

Page 2
September 21, 1982
File: DHS-428-986.510.1

W A I V E R

We hereby waive any objections to Amoco Production Company's application for commingling production in Jicarilla Tribal 396 No. 2

ARCO Oil and Gas Company
Company


By W. A. Walther, Jr.

October 4, 1982
Date

OIL CONSERVATION DIVISION
OCT - 7 1982
SANTA FE



DHC-319

Amoco Production Company (USA)

Petroleum Center Building
501 Airport Drive
Farmington, New Mexico 87401
505-325-8841

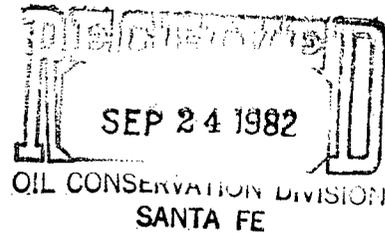
R. W. Schroeder
District Superintendent

September 22, 1982

New Mexico Oil Conservation Division
Attn: Mr. Joe D. Ramey
Secretary-Director
P. O. Box 2088
Santa Fe, NM 87501

File: DHS-411-986,510.1

Proposed Downhole Commingling
Jicarilla Tribal 396 No. 2
1120' FSL x 820' FEL, Section 8, T23N, R3W
Rio Arriba County, New Mexico



Amoco Production Company requests approval to commingle production from the Chacon Dakota and Undesignated Gallup pools in the subject well. This commingling will utilize a production packer set between the two horizons at 7420 feet and a sliding sleeve at 7413 feet in the 2-7/8 inch tubing landed at 7655 feet.

The proposed commingling is necessary to adequately drain our acreage and will not adversely affect either producing horizon. The following information is provided to support our application.

1. Total combined oil production from the two horizons is 27 BOPD. This is below 50 BOPD limit set for a producing depth of 7000 feet to 7999 feet.
2. During production tests, both the Dakota and Gallup horizons were capable of flowing on their own. After production from both horizons is stabilized, piston lift will be installed to more efficiently produce liquid hydrocarbons.
3. Samples of formation water collected from the Gallup and Dakota horizons were analyzed and found to be compatible with each other. Jicarilla Tribal 396 No. 1, located in the NE/4, Section 8, T23N, R3W, is commingled in the same horizons and does not suffer from precipitate problems due to incompatible waters.
4. Total water production from the two horizons is 30 BOPD. This is below the 50 BOPD limit set for a 7,000 feet producing depth. Water production from Amoco's Jicarilla Tribal 396 No. 1

stabilized at 1 BWPD. The same type of stabilized water production can be expected from Jicarilla Tribal 396 No. 2.

5. The measured bottom hole pressure of the Dakota and Gallup formation is 2094 psig and 2010 psig, respectively. These pressures are the measured bottom hole pressures at the end of a seven day shut-in period. The bottom hole pressure of the lower pressure zone is 96 percent of the bottom hole pressure of the higher pressure zone. The ratio is within the 50 percent limit required for commingling.
6. The total value of the crude will not be reduced by commingling. All crudes with a gravity of 40°API receive the same price per barrel. The API gravity of the Gallup crude was 46.7° and the Dakota was 52.6°.
7. The total value of the gas will not be reduced by commingling. The base gas price for production from both horizons is identical since they share a common wellbore. Since the BTU adjustment is directly related to the BTU content in the gas, the value of the commingled gas production will be equal to the sum of the individual streams.
8. Amoco operates both the Gallup and Dakota horizons with a 100 percent working interest. The royalty ownership is also the same for both horizons.

In compliance with Rule 303C, "Downhole Commingling," we are hereby submitting two copies of the following.

Attachment No.

- 1 "Well Location and Dedication Plat" (NMOCD Form C-102) for the Gallup and Dakota formations.
- 2 A well completion resume for Jicarilla Tribal 396 No. 2.
- 3 Results of the seven-day flow test of the Chacon Dakota horizon.
- 4 Results of the seven-day flow test of the Undesignated Gallup horizon.
- 5 NMOCD Form C-116 showing the results of the final 24-hour flow test of the Dakota horizon.
- 6 NMOCD Form C-116 showing the results of the final 24-hour flow test of the Gallup horizon.

Attachment No.

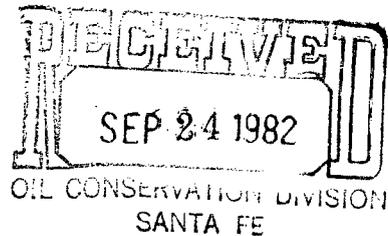
- 7 Measured seven-day shut-in bottom hole pressure readings of the Gallup and Dakota horizons.
- 8 Results of the water analysis of samples from the Gallup and Dakota horizons.
- 9 Wellbore diagram of the proposed Gallup/Dakota commingling.
- 10 Map showing all wells offsetting the Jicarilla Tribal 396 No. 2 in a nine section block.
- 11 Names and addresses of all operators that were notified in writing of Amoco's proposed commingling.

R.W. Schroeder
DTW

RLR/tk

cc: New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

Minerals Management Service
Drawer 600
Farmington, NM 87401



OIL CONSERVATION DIVISION

ATTACHMENT NO. 1

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-107
Revised 10-1-78

All distances must be from the outer boundaries of the Section.

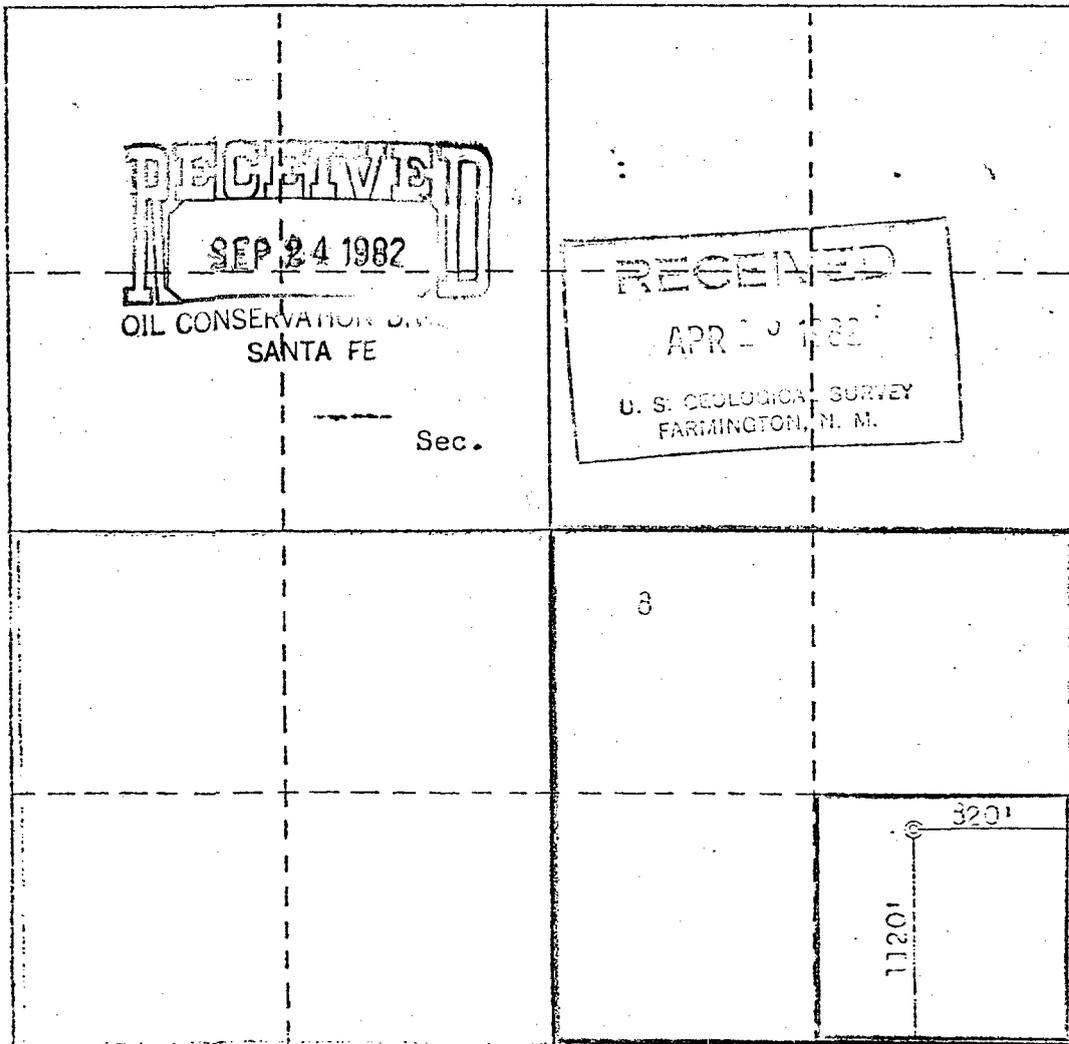
Operator AMOCO PRODUCTION COMPANY		Lease JICARILLA TRIBAL 396			Well No. 2
Unit Letter P	Section 8	Township 23N	Range 3W	County Rio Arriba	
Actual Footage Location of Well: 1120 feet from the South line end 820 feet from the East line					
Ground Level Elev. 7506	Producing Formation Dakota /Gallup		Pool Chacon Dakota Undes. Gallup		Dedicated Acreage 160/40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

Yes No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Wayne L. Peterson

Name
Wayne L. Peterson

Position
District Engineer

Company
Amoco Production Company

Date
April 15, 1982

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
March 22, 1982

Registered Professional Engineer and/or Land Surveyor
Fred B. Kerr Jr.
Fred B. Kerr Jr.

Certificate No.
3950

ATTACHMENT NO. 2

Well Completion Data

Well Name: Jicarilla Tribal 396 No. 2

Location: 1120' FSL, 820' FEL, Section 8, T23N, R3W

Elevation: 7506' GL, TD = 7792', PBD = 7750'

Casing and Cement: 8-5/8", 24 lb, K-55 CSA 300' x 315 sx
5-1/2", 17 lb, K-55 CSA 7555' x 2050 sx
3-1/2", 9.2 lb, J-55 liner set at 7792' top at 7500'
2-7/8" tbg SA 7655'

Completion Interval: Chacon Dakota: 7670-7444'
Undesignated Gallup: 6622-6392'

Special Equipment: Sliding Sleeve at 7413'
Production Packer at 7420'

Logs Run: Dual Induction - Gamma Ray - SP
Compensated Neutron - Compensated Formation Density - Gamma Ray

Original Completion:

Dakota: First Stage:

Perforate 7670-7644' with 2 JSPF
Frac with 30,000 gallons of 30 pound gelled water and
46,000 pounds 20-40 sand
Max Treating Pressure: 2200 psi Min = 1750 psi
ISIP = 1500 psi AIR = 25 BPM

Second Stage:

Perforate 7564-7552', 7480-7470', and 7462-7444' with 2 JSPF
Frac with 80,000 gallons of 30 pound gelled water and
115,000 pounds of 20-40 sand
Max Pr = 2600 psi, Min = 1375 psi, Avg = 1450 psi
ISIP = 1400 psi AIR = 25 BPM

Gallup: Perforate 6622-6598', 6548-6526', 6504-6490', 6459-6454',
6446-6440', and 6430-6392' with 2 JSPF
Frac with 115,000 gallons of 20 pound gelled water and
162,700 pounds of 20-40 sand
Max Pr = 1400 psi, Min = 800 psi, Avg = 1000 psi
ISIP = 800 psi AIR = 25 BPM

ATTACHMENT NO. 3

Flow Test Results
Chacon Dakota Horizon

<u>Date</u>	<u>Hours Produced</u>	<u>Barrels Oil</u>	<u>Barrels Water</u>	<u>MCF</u>	<u>FTP (Psig)</u>
8-14-82	24	18	12	663	220
8-15-82	24	20	18	606	220
8-16-82	24	15	16	630	200
8-17-82	24	14	16	617	220
8-18-82	24	13	15	617	220
8-19-82	24	16	12	583	200
8-20-82	24	15	11	571	210
8-21-82	24	13	19	591	210
8-22-82	24	14	12	548	210
8-23-82	24	16	20	571	210

ATTACHMENT NO. 4

Flow Test Results
Undesignated Gallup Horizon

<u>Date</u>	<u>Hours Produced</u>	<u>Barrels Oil</u>	<u>Barrels Water</u>	<u>MCF</u>	<u>FTP (Psig)</u>
9-1-82	24	17	22	539	240
9-2-82	24	17	19	469	225
9-3-82	24	16	15	447	225
9-4-82	24	14	15	427	210
9-5-82	24	12	18	478	210
9-6-82	24	11	13	427	190
9-7-82	24	12	13	427	190

GAS - OIL RATIO TESTS

Operator: Amoco Production Company Pool: Chacon Dakota Country: Rio Arriba

Address: 501 Airport Drive, Farmington, NM 87401

LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	TYPE OF TEST - (X)	CHOKE SIZE	TRG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU. FT./BBL	
		U	S	T	R							WATER BBL'S.	GRAV. OIL	OIL BBL'S.		GAS M.C.F.
Jicarilla Tribal 396	2	P	8	23	3	8-23-82	F	20/64	210		24	20	52.6	16 ⁵³ ₄₃	571 ⁵³ ₄₃	35,687
														28	427	498

No well will be assigned an allowable greater than the amount of oil produced on the official test.
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.
Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.
Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 301 and appropriate pool rules.

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

Dale H. Hernandez
(Signature)
Dale H. Hernandez
District Engineer
September 21, 1982

GAS-OIL RATIO TESTS

Operator
Amoco Production Company

Pool

Undesignated Gallup

Country

Rio Arriba

Address
501 Airport Drive, Farmington, NM 87401

TYPE OF TEST - (X)

Scheduled

Completion

Special

LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	CHOKE SIZE	TIBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT./BBL	
		U	S	T	R						WATER BBL.S.	GRAV. OIL	OIL BBL.S.		GAS M.C.F.
Jicarilla Tribal 396	2	P	8	23	3	9-7-82	F 20/64	190		24	13	46.7	12	427	35,583

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I hereby certify that the above information is true and complete to the best of my knowledge and belief.

Paul H. Hernandez
(Signature)

Product Engineer
(Title)

September 21, 1982

(Date)

ATTACHMENT NO. 7

Measured Seven-Day Bottom Hole Pressure

<u>Horizon</u>	<u>Date</u>	<u>Depth of Bomb</u>	<u>Pressure</u>
Chacon Dakota	8-26-82	7600 feet	2094 psig
Undesignated Gallup	9-16-82	7400 feet	2010 psig

ATTACHMENT NO. 8

Water Analysis

Chacon Dakota

	<u>Dissolved Solids</u> (ppm)		<u>Dissolved Solids</u> (ppm)
Sodium	9715	Chloride	14,439
Calcium	216	Sulfate	1,107
Magnesium	34	Bicarbonate	54.9
Potassium	0	Carbonate	0

Total Dissolved Solids = 25,479 ppm
Specific Gravity = 1.018

Undesignated Gallup

	<u>Dissolved Solids</u> (ppm)		<u>Dissolved Solids</u> (ppm)
Sodium	8643	Chloride	12,907
Calcium	380	Sulfate	1,108
Magnesium	35	Bicarbonate	670
Potassium	0	Carbonate	0

Total Dissolved Solids = 23,743 ppm
Specific Gravity = 1.015

ATTACHMENT NO. 11

Names and Addresses of Offset Operators
To Jicarilla Tribal 396 No. 2

The following were notified in writing of Amoco's intent to commingle production from the Gallup and Dakota in Jicarilla Tribal 396 No. 2.

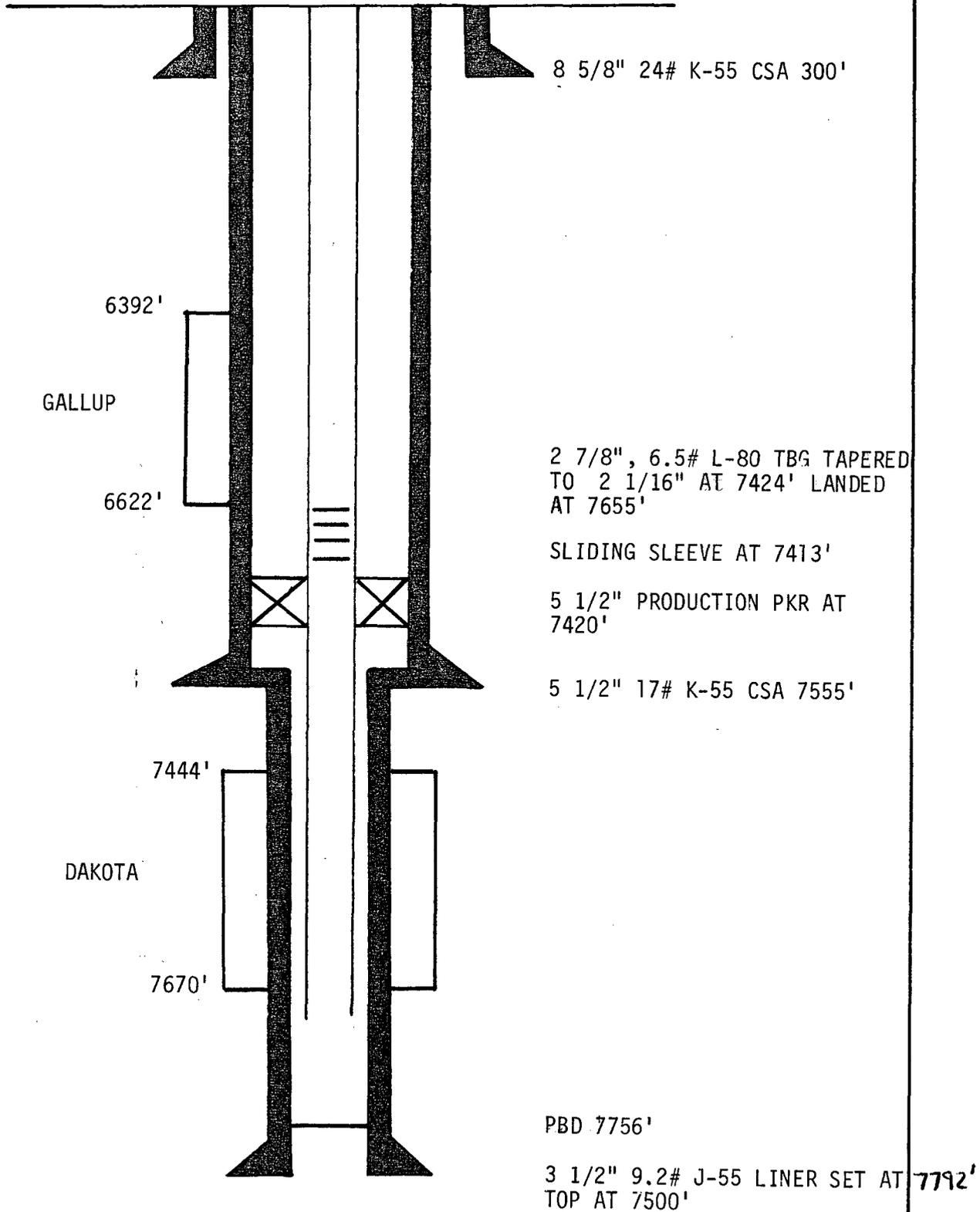
Arco
P. O. Box 5540
Denver, CO 80217

Dave M. Thomas, Jr.
3001 Northridge
Farmington, NM 87401

El Paso Exploration
P. O. Box 990
Farmington, NM 87401

Minerals Management Service
Drawer 600
Farmington, NM 87401

ATTACHMENT NO. 9



Amoco Production Company

JICARILLA APACHE 396 #2

SCALE:

DRG.
NO.

ATTACHMENT NO. 11

Names and Addresses of Offset Operators
To Jicarilla Tribal 396 No. 2

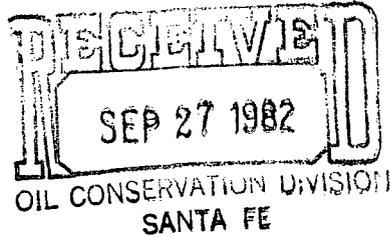
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Amoco Production Company (USA)

Petroleum Center Building
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505-325-8841

R. W. Schroeder
District Superintendent

September 21, 1982

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El Paso Natural Gas Company
P.O. Box 990
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Drawer 600
Farmington, NM 87401

File: DHS-428-986.510.1

Dear Sir:

Proposed Downhole Commingling of the Chacon Dakota and Undesignated Gallup Pools in Jicarilla Tribal 396 No. 2, Rio Arriba County, New Mexico

This is to advise you that the Farmington District office of Amoco Production Company is requesting administrative approval from the Secretary-Director of the New Mexico Oil Conservation Division to downhole commingle production from the well below:

Jicarilla Tribal 396 No. 2; Unit P, Section 8, T23N, R3W

We propose to commingle production from the Dakota and Gallup formations in the subject well.

Enclosed is a wellbore diagram and a map showing location of offset operated wells.

If you, as an offset operator, have no objections to the commingled production of the Basin Dakota and Otero Gallup pools from the subject well, please sign the waiver below and send to:

New Mexico Oil Conservation Division
Attn: Mr. Joe D. Ramey
Box 2088
Santa Fe, NM 87501

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R. W. Schroeder
DWK

RLR/tk
Enclosures

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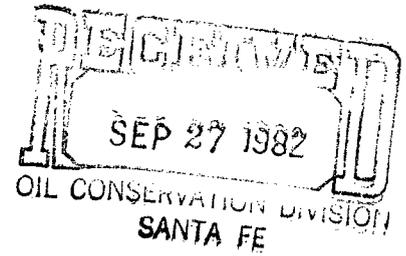
W A I V E R

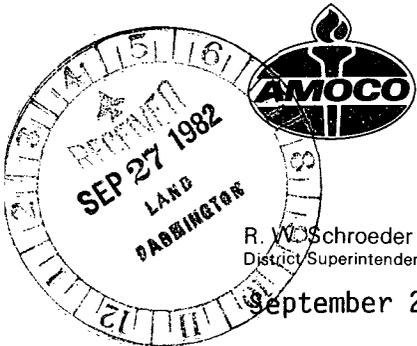
We hereby waive any objections to Amoco Production Company's application for commingling production in Jicarilla Tribal 396 No. 2

DAVE M. THOMAS, JR.
Company

Dave M. Thomas, Jr.
By

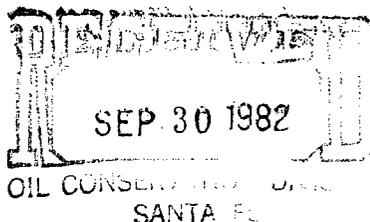
9-24-82
Date





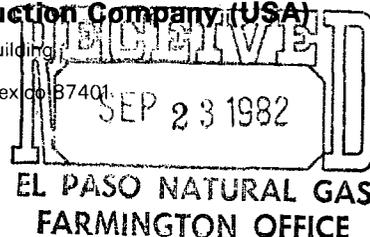
R. W. Schroeder
District Superintendent

September 21, 1982



Amoco Production Company (USA)

Petroleum Center Building
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Arco
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W A I V E R

We hereby waive any objections to Amoco Production Company's application for commingling production in Jicarilla Tribal 396 No. 2

EL PASO EXPLORATION COMPANY
Company

John A. Ahlm
By John A. Ahlm
Regional Land Manager

9/21/82
Date

RECEIVED
SEP 30 1982
OIL CONSERVATION DISTRICT
SANTA FE



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
 OIL CONSERVATION DIVISION
 AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
 AZTEC, NEW MEXICO 87410
 (505) 334-6178

OIL CONSERVATION DIVISION
 BOX 2088
 SANTA FE, NEW MEXICO 87501

DATE Oct 15, 1982

RE: Proposed MC _____
 Proposed DHC α _____
 Proposed NSL _____
 Proposed SWD _____
 Proposed WFX _____
 Proposed PMX _____

RECEIVED
 OCT 19 1982
 OIL CONSERVATION DIVISION
 SANTA FE

Gentlemen:

I have examined the application dated Sept 23, 1982
 for the Alamo Prod. Co. Lease and Well No. 396#2 P-8-23N-3W
 Operator Unit, S-T-R

and my recommendations are as follows:

~~Deny. Operator has not shown economic need as required~~
~~by 303C(b)~~
 Approve 303C(b) does not apply

Yours truly,

Frank J. Perry