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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 🗸 Mr. Dave M. Thomas, Jr. P. O. Box 5540 3001 Northridge Farmington, NM 87401 Denver, CO 80217 El Paso Natural Gas Compa Minerals Management Services Drawer 600 P.O. Box 990 Farmington, NM 87401 Farmington, NM 87401 DCT -7 1982 File: DHS-428-986.510 OIL CONSERVATION MANBION Dear Sir: SANTA FF

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. Schoeder

RLR/tk Enclosures

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

<u>W A I V E R</u>

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	
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By W. A. Walther, Jr.	
by W. A. Marcher	

October 4, 1982 Date

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DHC - 319

Amoco Production Company (USA)

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



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> 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

SF OIL CONSERVATION DIVISION SANTA FE

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.
- 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 BWPD. This is below the 50 BWPD limit set for a 7,000 feet producing depth. Water production from Amoco's Jicarilla Tribal 396 No. 1

Page 2 September 22, 1982 File: DHS-411-986.510.1

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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.

Page 3 September 22, 1982 File: DHS-411-986.510.1

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

RLR/tk

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

> Minerals Management Service Drawer 600 Farmington, NM 87401



 Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to worki interest and royalty). If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consol dated by communitization, unitization, force-pooling, etc? Yes No If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side this form if necessary.) No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization force-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission. If bereby certify that the information complete to the set of my knowledge and belief. Wayne L. Peterson Position APR - 1/32 Name <li< th=""><th></th><th>All distances must t</th><th>+ from the cuter 1</th><th>hounderless ef 1</th><th>he Section.</th><th></th></li<>		All distances must t	+ from the cuter 1	hounderless ef 1	he Section.	
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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:

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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

Flow Test Results Chacon Dakota Horizon

Date	Hours Produced	Barrels <u>Oil</u>	Barrels Water	MCF	FTP (Psig)
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

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Flow Test Results Undesignated Gallup Horizon

Date	Hours Produced	Barrels 0il	Barrels Water	MCF	FTP (Psig)
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

•	Nuit ofiginal and one copy of this report to the district office of the New Mexico Uli Conservation Suie 301 and appropriate pool rules.	Report cusing pressure in lieu of tubing pressure for any well producing through casing.	No well will be assigned an allowable greater than the amount of oil produced on the official lest. During gassoil rutio test, each well shall be produced at a rate not exceeding the top unit allowable located by more than 25 percent. Operator is incouraged to take advantage of this 25 percent tolerance in ore 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 will be 0.60.					Jicarilla Tribal 396			Address 501 Airport Drive, Farmington,	Amoco Production Company		STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT
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	accordance with		for the pool in which well is er the well can be assigned 60" 7. Specific gravity base								Scheduled	00		AT
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82			I hereby certify that the above information is true and complete to the best of my know- ledge and belief.					, 35,687	CU.FT/BBL	GAS - CIL	Special X			78

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	Sule 301 and appropriate pool rules.	will be blob.	ell will be usuigned s g gas-oil ratio test, ore than 25 percent, ovvebles when authori volumes must be repo	-			Jicarilla Tribal 396	r masm namm	Address 501 Airport Drive, Farmington,	Amoco Production Company	בוזכהטז אאט (אוויאפראארט עפרארו New)	STATE OF NEW MEXICO
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		th casing. Mexico Oil Co	n allowable greater than the amount of oil produced on the official test. each well shall be produced at a rate not exceeding the top unit allowable Operator is encouraged to take advantage of this 25 percent tolerance in ord zed by the Division.				9-7-82	DATE OF TEST		Undesignated G	GAS-OIL RATIO	CHE CONCENTED FOR BOX 2018 SANTA FE, NEW MEXICO
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		lon Divis	ture of 60				20/64	CHOKE	+ OF (X)) TESTS	
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21, 1982	ા હોય		it the above to the best			-	427	TEST GAS M.C.F.			vised 10-1-	Form C-116
			I hereby certify that the above information is true and complete to the best of my know- ledge and belief.				35,583	GAS - CIL RATIO CU.FT/BBL	Special X		.78	

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Measured Seven-Day Bottom Hole Pressure

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

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Water Analysis

Chacon Dakota

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	Dissolved Solids (ppm)	Dis	solved Solids (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

	Dissolved Solids (ppm)	Dis:	solved Solids (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

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

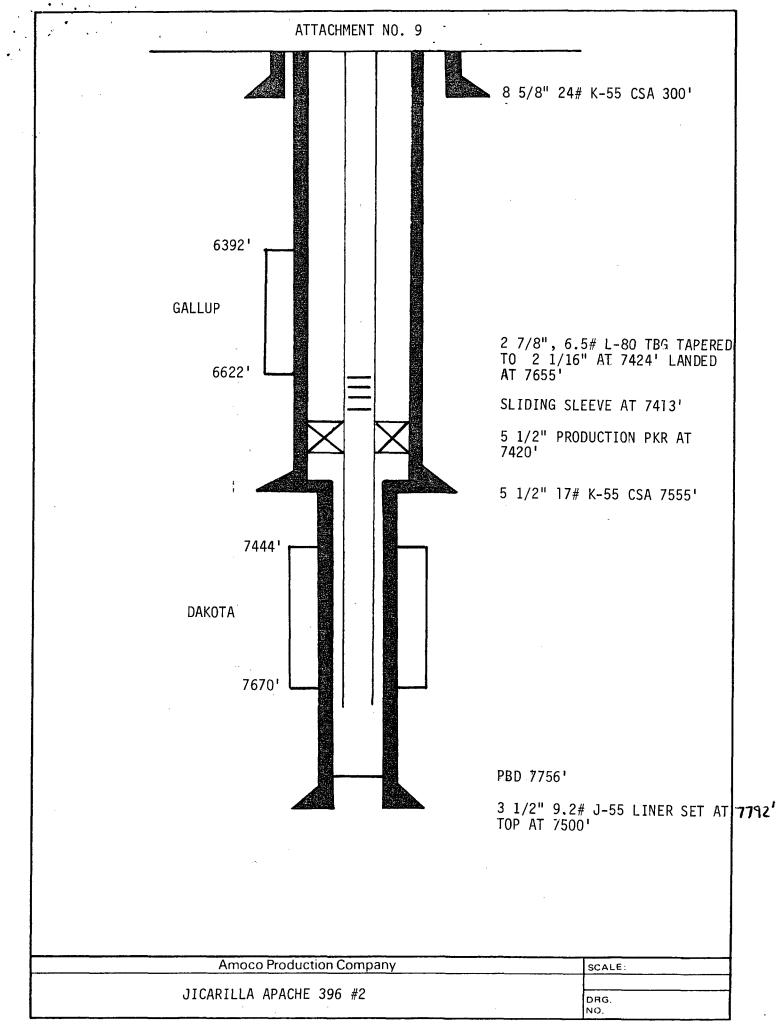
The following were notified in writing of Amoco's intent to commingle production from the Gallup and Dakota in Jicarilla Tribal 396 No. 2.

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



FORM 432 2.71

▲ CHACON-DAKOTA WELLS □ BALLARD PICTURED CLIFF®WELLS Apache #2 (J. 6000) Apriche #1 (J. Gaulo) (J. LOLE) Agache Hills#30 0 (J. COLE) APACHE HILLS Apriche Hills Apache Hills (J. Cole) (J. Cole) (J. COLE) HILLS # 1000 (J. (ME) **TVS#2** Apache PROPOSED WELL SITE ഹ ∞ (D. THOMAS) CHARGON JIC A ADACNE DETID CHACON JIC (EPNG-) D. THOMAS) CHACON JIC Cont 412#/00 D# 8 VENTURE KO# 8 2 שור שנייל EPEC (Epic) Joint Venture KD = 2 LI 20 #/04 (D. Thomas) Charlon Jic Apache d#4 DITER Jic Joint YENNIR CHACAN JIC CONT. 412#3 [] (D. THOMAS) CHAKON JIC. Cave Artiz 9 HCON Y Ventures È (Lakel) () 2 ST S ₽ I Sumcan Jic CHINCON J 8#03 2 ือ 4 , Ч

ATTACHMENT NO. 10

JICARILLA APACHE 396 #2

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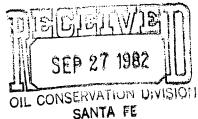
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Minerals Management Service Drawer 600 Farmington, NM 87401





R. W. Schroeder District Superintendent September 21, 1982

Arco P. O. Box 5540 Denver, CO 80217

El Paso Natural Gas Company P.O. Box 990 Farmington, NM 87401 Mr. Dave M. Thomas, Jr. 3001 Northridge Farmington, NM 87401

Minerals Management Services 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

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

Very truly yours,

R.W. Schoeden

RLR/tk Enclosures

Amoco Production Company (USA)

Petroleum Center Building 501 Airport Drive Farmington, New Mexico 87401 505 - 325-8841 Page 2 September 21, 1982 File: DHS-428-986.510.1

<u>W A I V E R</u>

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

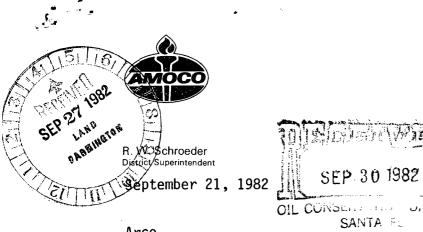
DAVE M. THOMAS, JR.

By

20-8

Date

ŜĒP 2 OIL CONSERVATION DIVI SANTA FE



Arco P. O. Box 5540 Denver, CO 80217

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

File: DHS-428-986.510.1

Dear Sir:

FARMINGTON OFFICE

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

Minerals Management Services Drawer 600 Farmington, NM 87401

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

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EL PASO EXPLORATION COMPANY

Company

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By

John A. Ahlm Regional Land Manager

7 Date

SEP 30 1982 OIL CONSERVAL SANTA HE



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 (982 RE: Proposed MC OIL CONSERVATION LIVISIO. Proposed DHC x SANTA FE Proposed NSL Proposed SWD Proposed WFX Proposed PMX Gentlemen: I have examined the application dated 9.52 for the amow Vowd. Of Operator P-8-23N-Ünit. and my recommendations are as follows: not 1 hour Sconomic need as loe (b 3 6

Yours truly,