



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR
LARRY KEHOE
SECRETARY

December 2, 1982

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

Administrative Order No. DHC-380

Amoco Production Company
501 Airport Drive
Farmington, New Mexico 87401

Attention: S. D. Blossom
District Superintendent

Re: Jicarilla Gas Com 35 D Well No. 1
NW/4 SW/4 Sec. 12, T-24-N, R-5-W,
NMPM, Rio Arriba County
Basin Dakota Gas and Otero Gallup
Oil Pools

Gentlemen:

Reference is made to your recent application for an exception to Rule 303-A of the Division Rules and Regulations to permit the subject well to commingle the production from both pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303-C, and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above.

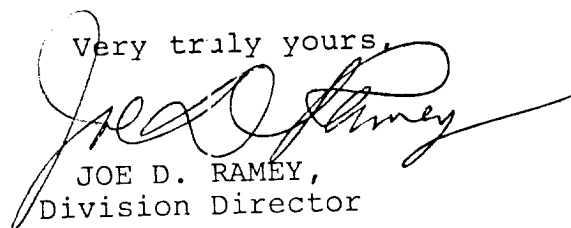
In accordance with the provisions of Rule 303.C.4., total commingled oil production from the subject well shall not exceed 40 barrels per day, and total water production from the well shall not exceed 80 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by multiplying 6,000 by top unit allowable for the Otero-Gallup Oil Pool.

Assignment of allowable to the well and allocation of production from the well shall be on the following basis:

| | | |
|-------------|------------|--------------|
| Upper Pool: | Condensate | 19%, Gas 42% |
| Lower Pool: | Oil | 81%, Gas 58% |

Pursuant to Rule 303-C 5, the commingled authority granted by this order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Joe D. Ramey", written over the typed name and title.

JOE D. RAMEY,
Division Director



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 7/20/82

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

Gentlemen:

I have examined the application dated 7-13-82
for the Amoco Production Co. Inc. San Juan 350[#], L-12-24N-SW
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Frank J. Day



Amoco Production Company

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

R. W. Schroeder
District Superintendent

July 12, 1982

New Mexico Oil Conservation Division
Box 2088
Santa Fe, NM 87501

File: DHS-299-986.510.1

Commingling Application for the Jicarilla Gas Com 35 D No. 1
1650' FSL x 1040' FWL, Section 12, T24N, R5W
Rio Arriba County, New Mexico

Amoco Production Company requests approval to commingle production from the Otero Gallup and Basin Dakota pools in the subject well. The Dakota formation was first delivered in this well on January 29, 1980. The Gallup formation was completed in May 1982 to offset marginal Dakota production and prevent drainage of Amoco's Gallup acreage. This commingling will utilize a production packer set between the two zones at 6900' and a sliding sleeve set at 6895' to produce up a 2-3/8" tubing string landed at 7036'.

The commingling of the Gallup and Dakota in this area is necessary to justify development of our Gallup acreage. Due to the low initial producing rates (132 MCFD and 22 BOPD) and the anticipated steep production decline of the Gallup, drilling and completing a Gallup well cannot be economically justified. Production from the Dakota formation is also marginal in this area. The Dakota gas production in Jicarilla Gas Com 35 D No. 1 has declined to 90 MCFD in only two years. Therefore, it is economically attractive to commingle the Basin Dakota and Otero Gallup pools on the Jicarilla Contract 35A lease.

The proposed commingling will not adversely effect either zone. The following information is provided in support of our application.

1. The total combined oil production from the two horizons is 26 BOPD. This satisfies the 40 BOPD maximum set for a producing depth of 6000 feet to 6999 feet.
2. During the post-frac production test the Gallup formation was flowing on its own. We intend to flow the two formations together until liquid loading becomes a problem. At that time, some means of deliquification will be implemented.



Amoco Production Company

Amoco Production Company
P.O. Box 1000
Denver, Colorado 80201
Telephone (303) 733-1000



H. W. Smith
Director, Operations

July 12, 1982

Mr. [Name],
[Address]
[City, State, Zip]

Dear Sir:

Enclosed for your information are two copies of a letterhead memorandum dated and captioned as above. The letterhead memorandum is dated July 12, 1982, and is captioned "Amoco Production Company, New Mexico".

The letterhead memorandum contains information regarding the proposed development of the [Name] field, located in [County, State]. The letterhead memorandum also contains information regarding the proposed development of the [Name] field, located in [County, State]. The letterhead memorandum also contains information regarding the proposed development of the [Name] field, located in [County, State].

The letterhead memorandum also contains information regarding the proposed development of the [Name] field, located in [County, State]. The letterhead memorandum also contains information regarding the proposed development of the [Name] field, located in [County, State]. The letterhead memorandum also contains information regarding the proposed development of the [Name] field, located in [County, State].

The proposed development will not adversely affect other areas. The following information is provided in support of our position.

1. The total proposed oil production from the [Name] field is [Amount] barrels per day. This production is based on a [Amount] acre field with a [Amount] acre producing area. The [Amount] acre producing area is located in [County, State].
2. During the proposed production from the [Name] field, the [Name] field will produce [Amount] barrels per day. This production is based on a [Amount] acre field with a [Amount] acre producing area. The [Amount] acre producing area is located in [County, State].

3. Formation water samples collected from the Gallup and Dakota formations were analyzed and found to be compatible with each other. The Gallup produced two barrels of water on the first day of the post-frac production test. During the remainder of the test, the Gallup did not produce any water. Although we do not believe the Gallup will produce any water once commingled with the Dakota, water samples were collected from both formations to check for compatibility. The two waters were commingled and allowed to set for several days in National Cementers' laboratory. During this time, the chemists did not observe any formation of precipitates. The total dissolved solids in the Gallup and Dakota waters are very similar, 21708 and 18514 ppm, respectively. This indicates that there will be no formation damage in the Dakota formation due to swelling clays once the water is commingled.
4. Neither zone has a history of sensitivity to liquid hydrocarbons. This is evidenced by the Dakota's favorable response to gelled oil fracs performed in the past. Amoco routinely stimulates Basin Dakota wells with frac fluid containing 5 percent condensate.
5. The measured bottom hole pressure of the Dakota and Gallup formation is 1423 psig and 1304 psig respectively. These figures represent the bottom hole pressure of each formation at the end of a seven day shut-in period. The bottom hole pressure of the lower pressure zone is 92 percent of the bottom hole pressure of the higher pressure zone which is well within the 50 percent required by the State.
6. The total value of the crude will not be reduced by commingling. This is substantiated by the fact that all crude having a gravity of 40°API or greater receives the same price per barrel. The API gravity of the Gallup crude was measured at 46°API and the Dakota condensate at 53°API.
7. There is no evidence that the Gallup and Dakota gases are not compatible based upon the compositional gas analysis (see Attachments 12 and 13). The base gas price of both horizons is the same since they share a common wellbore. Also since the BTU price adjustment is "directly" related to the BTU of the gas, the value of the commingled gas production will be equal to the sum of the values of the individual streams.
8. Amoco operates both the Gallup and Dakota formations with a 100 percent working interest. The royalty ownership is also identical for both formations.

9. The Gallup and Dakota formations are commingled in several wells offsetting Amoco's acreage. The nearest such offset is Dugan Production Company's A New Dawn No. 1 located approximately 1.5 miles southwest of the Jicarilla Gas Com 35 D No. 1 (see Attachment 16).

In compliance with NMOCD Rule 303C, "Downhole Commingling," please find attached two copies of each of the following:

Attachment No.

- | | |
|---|---|
| 1 | "Well Location and Dedication Plat" (NMOCD Form C-102) for the Gallup formation. |
| 2 | "Well Location and Dedication Plat" (NMOCD Form C-102) for the Dakota formation. |
| 3 | List of names and addresses of operators of all outside operated wells. |
| 4 | A "Well Completion Report" (USGS Form 9-330) for the Gallup formation. |
| 5 | A "Well Completion Report" (USGS Form 9-330) for the Dakota formation. |
| 6 | Production decline history for the Basin Dakota from January 1980 to April 1981. |
| 7 | Results of the five day post-frac flow test obtained on the Otero Gallup. |
| 8 | NMOCD Form C-116 for the Gallup showing the results of a 23 hour flow test. State rules require current (within 30 days) productivity tests. Due to the time involved in receiving reservoir fluid analysis, we were unable to prepare and submit the commingling application within 30 days of the Gallup productivity test. The Gallup formation has not produced since the post-frac flow test; therefore, the productivity of this horizon is unchanged. For this reason, we request an exception be granted to the 30-day limit required for the Gallup. |
| 9 | NMOCD Form C-116 for the Dakota showing the results of a 24 hour flow test prior to completing the Gallup. Amoco also requests that an exception be granted to the 30-day limit required for the Dakota. Again, the Dakota has not been produced since the time the |

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1. The first step in the process of the investigation is the identification of the problem. This is done by the investigator who is assigned to the case. The investigator must first identify the problem and then determine the scope of the investigation. This is done by the investigator who is assigned to the case.

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File 10/1/1

For information, please refer to the file in the file
10/1/1 and 10/1/1 for the file in the file.
Your attention is directed to the file in the file.

File 10/1/1

Original Signed By
R. W. SCHROEDER

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| | | | | | |
|----------------------------------|---------------------|----------|----------------------------|--------------------|-------------------------|
| AMOCO PRODUCTION COMPANY | | | JICARILLA GAS COM 35-D | | 1 |
| Unit Letter | Section | Township | Range | County | |
| L | 12 | 24N | 5W | Rio Arriba | |
| Actual Footage Location of Well: | | | | | |
| 1650 | feet from the | South | line and | 1040 | feet from the West line |
| Ground Level Elev. | Producing Formation | | Pool | Dedicated Acreage: | |
| 6687 | Dakota /Gallup | | Basin Dakota /Otero Gallup | 320 /160 Acres | |

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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.

| | | | |
|---|--|---|--|
| ACCEPTED FOR RECORD MAY 19 1982 BY <u>FARMINGTON DISTRICT</u> <u>[Signature]</u> | | RECEIVED MAY 17 1982 U. S. GEOLOGICAL SURVEY FARMINGTON, N. M. | |
| Sec | | 12 | |
| 1040' | | 1650' | |

CERTIFICATION

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

Name W. L. Peterson
 Position DISTRICT ENGINEER
 Company AMOCO PRODUCTION COMPANY
 Date May 13, 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 November 29, 1978
 Registered Professional Engineer
 and/or Registered Geologist
[Signature]
 State of New Mexico
 Certificate No. 10010

N. MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form O-11
Superseded 1-1-78
Revised 1-1-78

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

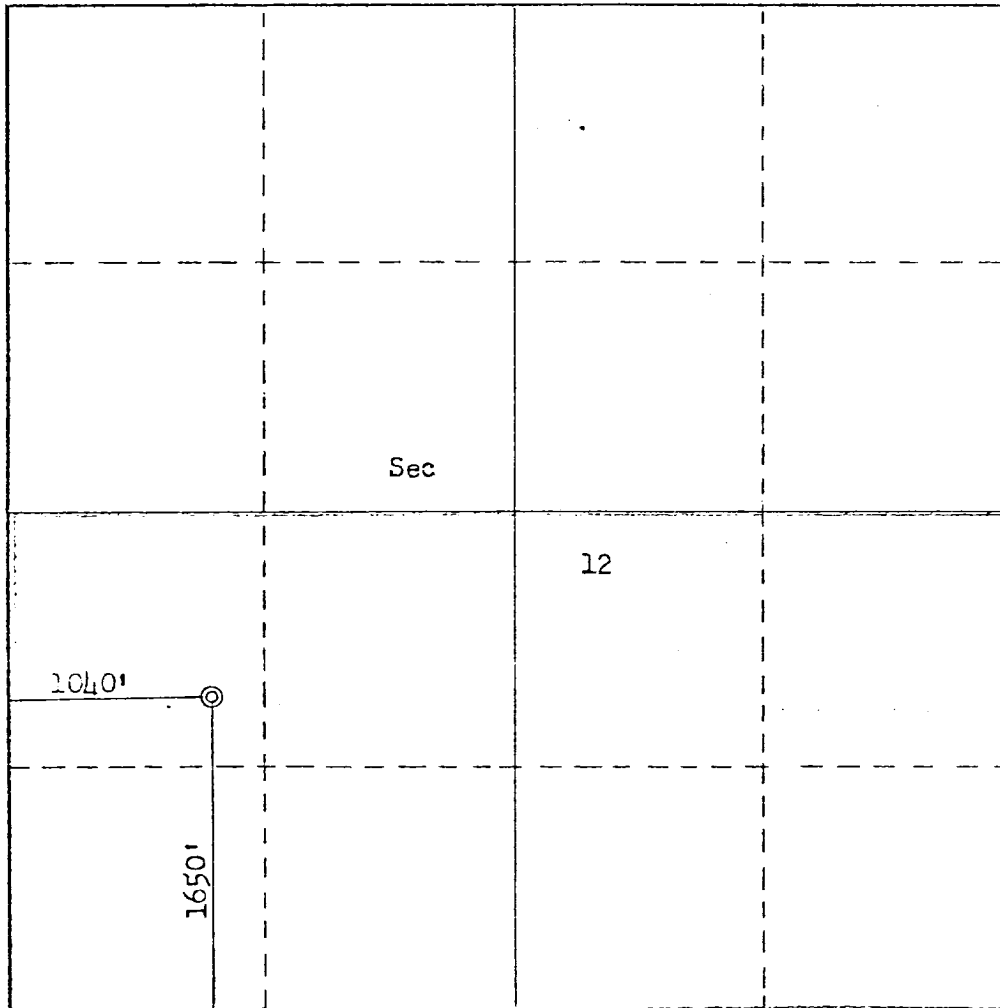
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|--|--------------------------------------|------------------------|--|-----------------------------|--|
| Operator AMOCO PRODUCTION COMPANY | | | Lease JICARILLA GAS COM 35-D | | Well No. 1 |
| Unit Letter L | Section 12 | Township 24N | Range 5W | County Rio Arriba | |
| Actual Footage Location of Well: 1650 feet from the South line and 1040 feet from the West line | | | | | |
| Ground Level Elev. 6687 | Producing Formation Dakota | | Pool Basin Dakota | | Dedicated Acreage: 320 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.

Name

J. L. KRUPKA

Position

DISTRICT ENGINEER

Company

AMOCO PRODUCTION COMPANY

Date

DECEMBER 12, 1978

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

November 29, 1978

Registered Professional Engineer and/or Licensed Surveyor

Fred B. Kerr Jr.

Certification No. _____

ATTACHMENT NO. 3

List of names and addresses of operators of all outside operated wells.

Dugan Production Company
P. O. Box 208
Farmington, NM 87401

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

Energy Reserves Group, Inc.
P. O. Box 977
Farmington, NM 87401

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other in-
structions on
reverse side)

ATTACHMENT NO. 5

Form approved.
Budget Bureau No. 42-R355.6.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other _____b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other _____

2. NAME OF OPERATOR

AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR

501 Airport Drive Farmington, NM 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)

At surface

1650' FSL x 1040' FWL, Section 12, T-24-N, R-5-W
At top prod. interval reported below

Same

At total depth

Same

14. PERMIT NO.

| |
|-------------|
| RECEIVED |
| MAY 6 1979 |
| FARMINGTON |
| DISTRICT |
| AS |
| DE |
| AS |
| DATE ISSUED |

5. LEASE DESIGNATION AND SERIAL NO.

Jicarilla Tribal DP #35A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Jicarilla Apache

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Jicarilla Gas Com 35D

9. WELL NO.

10. FIELD AND POOL, OR WILDCAT

Basin Dakota

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

NW/4 SW/4 Section 12,
T-24-N, R-5-W

12. COUNTY OR

PARISH

Rio Arriba

13. STATE

NM

15. DATE SPUNDED

2/12/79

16. DATE T.D. REACHED

2/28/79

17. DATE COMPL. (Ready to prod.)

4/18/79

18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*

6687' GL, 6700' KB

19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD

7150'

21. PLUG, BACK T.D., MD & TVD

7115'

22. IF MULTIPLE COMPL.,
HOW MANY*23. INTERVALS
DRILLED BY

ROTARY TOOLS

CABLE TOOLS

O-TD

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

6946'-6998', Dakota

25. WAS DIRECTIONAL
SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

Induction Gamma-Ray, Compensated Densilog and Neutron

27. WAS WELL CORED

No

28. CASING RECORD (Report all strings set in well)

| CASING SIZE | WEIGHT, LB./FT. | DEPTH SET (MD) | HOLE SIZE | CEMENTING RECORD | AMOUNT PULLED |
|-------------|-----------------|----------------|-----------|------------------|---------------|
| 8-5/8" | 24# | 414' | 12-1/4" | 300 SX | |
| 4-1/2" | 10.5# | 7159' | 7-7/8" | 1730 SX | |
| | | | | | |
| | | | | | |

29. LINER RECORD

| SIZE | TOP (MD) | BOTTOM (MD) | SACKS CEMENT* | SCREEN (MD) |
|------|----------|-------------|---------------|-------------|
| | | | | |
| | | | | |

30. TUBING RECORD

| SIZE | DEPTH SET (MD) | PACKER SET (MD) |
|--------|----------------|-----------------|
| 2-3/8" | 7006' | None |

31. PERFORATION RECORD (Interval, size and number)

6946'-6952', 6974'-6998', 2 SPF; total of
60 holes

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

| DEPTH INTERVAL (MD) | AMOUNT AND KIND OF MATERIAL USED |
|---------------------|----------------------------------|
| 6946'-6998' | 94,182 gallons frac fluid |
| | 190,000 pounds sand |

33.* PRODUCTION

DATE FIRST PRODUCTION

PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)

WELL STATUS (Producing or
shut-in)

Flowing

SI

| DATE OF TEST | HOURS TESTED | CHOKE SIZE | PROD'N. FOR TEST PERIOD | OIL—BBL. | GAS—MCF. | WATER—BBL. | GAS-OIL RATIO |
|---------------------|-----------------|----------------------------|----------------------------|----------|------------|-------------------------|---------------|
| 4/28/79 | 3 hours | .75" | → | | 137 | | |
| FLOW. TUBING PRESS. | CASING PRESSURE | CALCULATED 24-HOUR RATE | OIL—BBL. | GAS—MCF. | WATER—BBL. | OIL GRAVITY-API (CORR.) | |
| 83 psig | 435 psig | → | | 1098 | | | |

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

To be sold

TEST WITNESSED BY
7/13/79

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

R. E. SYRODJA

TITLE

Dist. Adm. Supervisor

DATE

5/4/79

*(See Instructions and Spaces for Additional Data on Reverse Side)

001

[illegible]

WELL NAME JICARILLA GAS COM "35D" #1
 L 12-24N 5W
 BASIN DAKOTA

| DAYS | BO | BW | MCF | MCFD |
|------|----|----|------|------|
| JAN | 31 | | 2608 | 84 |
| FEB | 27 | | 1432 | 53 |
| MAR | 26 | | 1401 | 54 |
| APR | 23 | | 2115 | 92 |
| MAY | | | | |
| JUNE | | | | |
| JULY | | | | |
| AUG | | | | |
| SEPT | | | | |
| OCT | | | | |
| NOV | | | | |
| DEC | | | | |

1982

| DAYS | BO | BW | MCF | MCFD |
|------|----|----|------|------|
| JAN | 2 | | 243 | 122 |
| FEB | 28 | | 3515 | 126 |
| MAR | 31 | | 3169 | 102 |
| APR | 30 | 2 | 1194 | 205 |
| MAY | 25 | 2 | 4914 | 191 |
| JUNE | 23 | 2 | 5002 | 217 |
| JULY | 28 | 2 | 5152 | 184 |
| AUG | 31 | 2 | 5119 | 167 |
| SEPT | 30 | 2 | 4914 | 164 |
| OCT | 31 | 2 | 1500 | 149 |
| NOV | 29 | 1 | 3435 | 146 |
| DEC | 31 | 1 | 4041 | 130 |

30

| DAYS | BO | BW | MCF | MCFD |
|------|----|----|-----|------|
| JAN | | | | |
| FEB | | | | |
| MAR | | | | |
| APR | | | | |
| MAY | | | | |
| JUNE | | | | |
| JULY | | | | |
| AUG | | | | |
| SEPT | | | | |
| OCT | | | | |
| NOV | | | | |
| DEC | | | | |

1983

| DAYS | BO | BW | MCF | MCFD |
|------|----|----|------|------|
| JAN | 29 | | 3717 | 128 |
| FEB | 28 | | 3795 | 113 |
| MAR | 31 | | 3119 | 110 |
| APR | 30 | | 3303 | 112 |
| MAY | 23 | | 2626 | 116 |
| JUNE | 30 | | 3315 | 112 |
| JULY | 31 | | 3113 | 100 |
| AUG | 31 | | 3292 | 105 |
| SEPT | 29 | | 2615 | 93 |
| OCT | 31 | | 2330 | 109 |
| NOV | 29 | | 1311 | 86 |
| DEC | 25 | | 2512 | 96 |

381

ATTACHMENT NO. 7

The following production figures were obtained on the Otero Gallup formation following a seven day post-frac pressure build-up.

| <u>Date</u> | <u>Flow Time (Hrs.)</u> | <u>BOPD</u> | <u>BWPD</u> | <u>MCFD</u> |
|-------------|-------------------------|-------------|-------------|-------------|
| 5-23-82 | 18 | 73 | 3 | 318 |
| 5-24 | 24 | 27 | 0 | 247 |
| 5-25 | 24 | 22 | 0 | 177 |
| 5-26 | 24 | 22 | 0 | 177 |
| 5-27 | 23 | 22 | 0 | 132 |

All oil, water, and gas was measured through a three phase separator.
Gas production was measured through a 1.250 inch orifice plate.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

P.O. BOX 2082
SANTA FE, NEW MEXICO 87501

Form C-116
Revised 10-1-78

GAS-OIL RATIO TESTS

| Lease | | Well | | Location | | | Date of Test | | Type of Test | | Pressure | | Flow | | Production | | Gas Ratio | |
|--------------------------|---------------------------------------|------|----|----------|----|--------------|--------------|-------------|------------------|----------------------|-------------|-----------|-------------------|------------|----------------------------|--|-----------|--|
| Company | Well No. | U | S | T | R | DATE OF TEST | CHOKE SIZE | TRG. PRESS. | DAILY ALLOW-ABLE | LENGTH OF TEST HOURS | WATER BBLs. | GRAV. OIL | PROD. DURING TEST | GAS M.C.F. | GAS - OIL RATIO CU.FT./BBL | | | |
| Amoco Production Company | 501 Airport Dr., Farmington, NM 87401 | | | | | | | | | | | | | | | | | |
| | Jicarilla Gas Com 35-D | L | 12 | 24N | 5W | 5-27-82 | F 1.25 | 40 | | 23 | 0 | 46 | 21 | 127 | 6048 | | | |

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 the well is located by more than 20 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowances 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 0.70.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Well 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. Harwood
(Signature)

District Engineer

(Title)

7-12-82

ATTACHMENT NO. 8

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

REGULATORY DIVISION
SANTA FE, NEW MEXICO 87503

Form C-112
Revised 10-1-78

GAS-OIL RATIO TESTS

| Amoco Production Company | | Basin Dakota | | County | | Rio Arriba | | | | | | | | |
|---|----------|---------------------|----|------------------------------------|--------------|--|---------------|-----------------|----------------------|-------------------|------------|-----------|----------|----------------------------|
| 501 Airport Drive, Farmington, NM 87401 | | TYPIC OF TEST - (X) | | Scheduled <input type="checkbox"/> | | Gauged <input checked="" type="checkbox"/> | | | | | | | | |
| LEASE NAME | WELL NO. | LOCATION | | | DATE OF TEST | CHOKE SIZE | T.B.C. PRESS. | DAILY ALLOWABLE | LENGTH OF TEST HOURS | PROD. DURING TEST | | | | GAS - OIL RATIO CU.FT./BBL |
| | | U | S | T | | | | | | R | WATER BBL. | GRAV. OIL | OIL BBL. | |
| Jicarilla Gas Com 35-D | 1 | L | 12 | 24N | 5W | 4-21-82 | F Open | | 24 | .25 | 53.4 | 5 | 90 | 18,000 |

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 the well can be assigned increased allowable 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 321 and appropriate pool rules.

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

Dick H. Henshaw
(Signature)
District Engineer

(Title)

7-12-82

ATTACHMENT NO. 9

ATTACHMENT NO. 10

The following figures were taken from the pressure chart used in obtaining the 7-day Gallup bottom hole pressure.

| <u>Depth (ft)</u> | <u>Pressure (psig)</u> |
|-------------------|------------------------|
| 0 | 0 |
| 1000 | 1 |
| 2000 | 1 |
| 3000 | 47 |
| 4000 | 478 |
| 5125 | 960 |
| 5525 | 1131 |
| 5925 | 1304 |

The measured bottom hole pressure of the Gallup formation in the subject well is 1304 psig.

The Gallup formation was shut-in on May 14, 1982, and the above bottom hole pressure measurement was taken on May 21, 1982.

ATTACHMENT NO. 11

The following figures were taken from the pressure chart used in obtaining the 7-day Dakota bottom hole pressure.

| <u>Depth (ft)</u> | <u>Pressure (PSIG)</u> |
|-------------------|------------------------|
| 0 | 1115 |
| 1000 | 1156 |
| 2000 | 1199 |
| 3000 | 1235 |
| 4000 | 1287 |
| 5000 | 1331 |
| 5785 | 1366 |
| 6185 | 1388 |
| 6585 | 1405 |
| 6985 | 1423 |

The measured bottom hole pressure of the Dakota formation in the subject well is 1423 psig.

The Dakota formation was shut-in on April 28, 1982, and the above bottom hole pressure measurement was taken on May 5, 1982.

07/17/81

EL PASO NATURAL GAS COMPANY
 MEASUREMENT DEPARTMENT
 POST OFFICE BOX 1492
 EL PASO, TEXAS 79999

CHROMATOGRAPHIC GAS ANALYSIS REPORT

ARCO PRODUCTION CO.
 ATTN: G. H. THURSTON
 501 AIRPORT DRIVE
 FARMINGTON, NM 87401

ANAL DATE 07 09 81

METER STATION NAME
 JIC GAS COM 35 D 81

METER STA 90880
 OPER 0203

| TYPE CODE | SAMPLE DATE | EFF. DATE | USE MBS. | SCALE | H2S GRAINS | LOCATION |
|-----------|-------------|-----------|----------|-------|------------|----------|
| 00 | 07 09 81 | 07 14 81 | 00 | 1 | | 4 F 01 |

| | NORMAL MOL% | GPM |
|--------------|----------------|-------|
| C O 2 | .55 | .000 |
| H 2 S | .00 | .000 |
| N2 | 1.51 | .000 |
| METHANE | 73.77 | .000 |
| ETHANE | 14.42 | 3.854 |
| PROPANE | 6.12 | 1.684 |
| ISOBUTANE | 1.14 | .373 |
| NORM-BUTANE | 1.38 | .435 |
| ISOPENTANE | .48 | .176 |
| NORM-PENTANE | .32 | .120 |
| HEXANE PLUS | .30 | .151 |

TOTALS

100.00

6.773

SPECIFIC GRAVITY

.758

MIXTURE HEATING VALUE

(Btu/Cf AT 14.73 PSIA, 60 DEGREES, DRY) 1,291

RATIO OF SPECIFIC HEATS

1.274

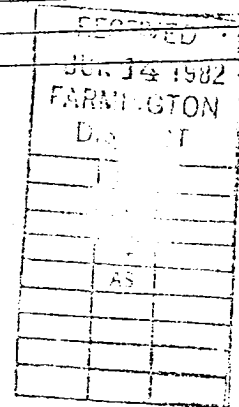
CHEMICAL & GEOLOGICAL LABORATORIES

P.O. Box 2794
Casper, Wyoming 82502

GAS ANALYSIS REPORT

Company MOGO Production Co. Date 6-9-82 Lab. No. 40776-1
Well No. Jicarilla Apache Tribal 55 D-1 Location L 12-24-5
Field Gallup Formation Gallup
County Rio Arriba Depth _____
State New Mexico Sampling point Tubing
Line pressure 18 psig; Sample pressure 12 psig; Temperature _____ ° F; Container number #RC 1020
Remarks Flowing tubing pressure 18psig
(5-28-82)

| Component | Mole % or Volume % | |
|------------------|-----------------------|--|
| Oxygen | 0 | |
| Nitrogen | 0.95 | |
| Carbon dioxide | 0.60 | |
| Hydrogen sulfide | NIL | |
| | 69.34 | |
| Methane | 13.31 | |
| Ethane | 6.57 | |
| Propane | 1.34 | |
| Iso-butane | 2.58 | |
| N-butane | 1.52 | |
| Iso-pentane | 1.69 | |
| N-pentane | 2.10 | |
| Hexanes & higher | | |
| Total | 100.00 | |



Gallons
per MCF

1.802
0.437
0.812
0.555
0.611
0.967

5.184

GPM of pentanes & higher fraction 2.133
Gross btu/cu. ft. @ 60° F. & 14.7 psia (dry basis) 1475
Specific gravity (calculated from analysis) 0.872
Specific gravity (measured) 0.870

Remarks: _____

July 12, 1982

Dugan Production Company
P.O. Box 208
Farmington, NM 87401

Energy Reserves Group Inc.
P.O. Box 977
Farmington, NM 87401

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

Minerals Management Services
Drawer 600
Farmington, NM 87401

File: DHS-295-986.510.1

Dear Sir:

Proposed Downhole Commingling of the Basin Dakota and Otero Gallup Pools
In Jicarilla Gas Com 35 D No. 1, 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 Gas Com 35 D No. 1; Unit L, Section 12, T24N, R5W

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:

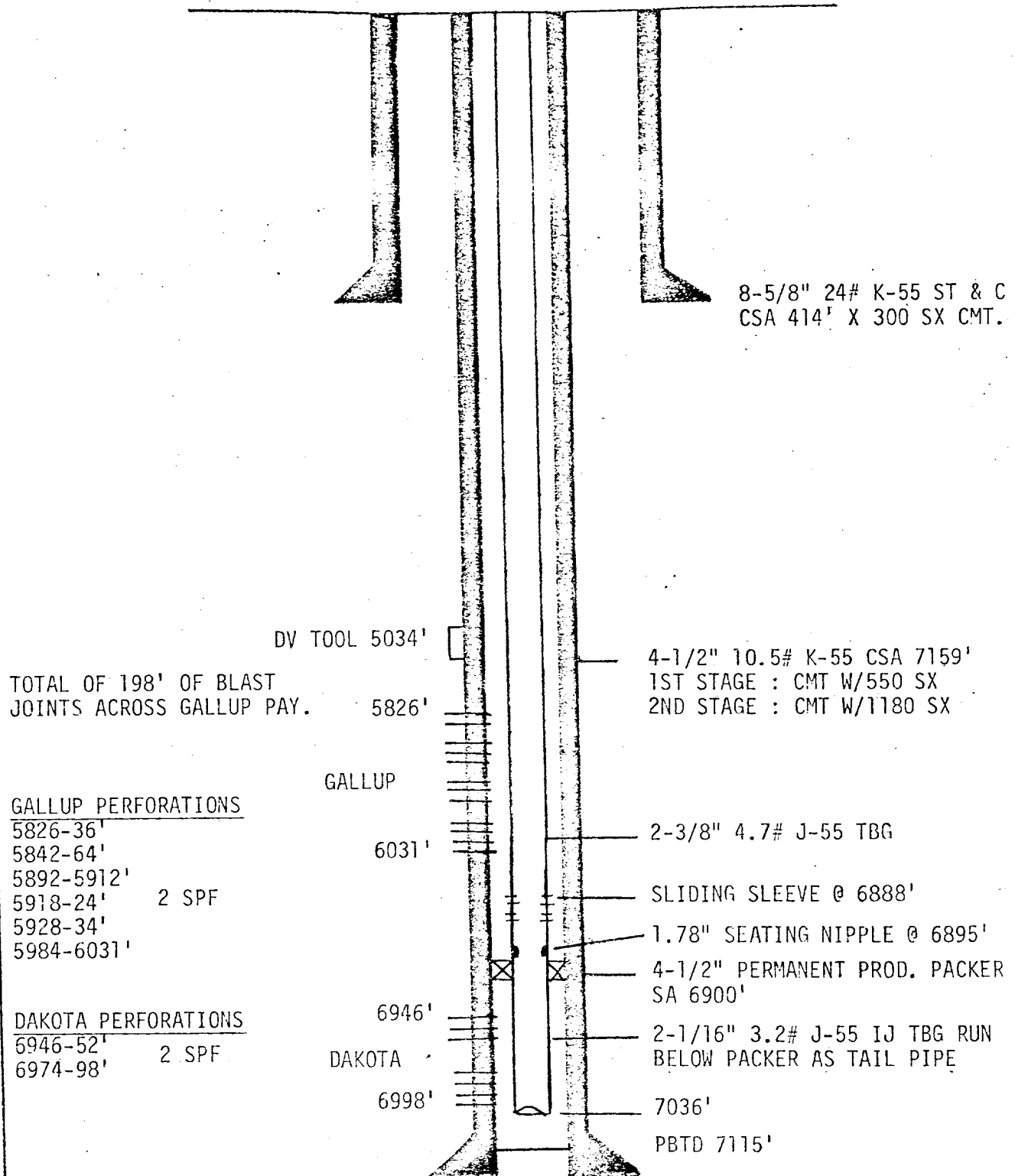
New Mexico Oil Conservation Division
Attn: Mr. Joe D. Ramey
Box 2038
Santa Fe, NM 87501

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

Very truly yours,

Original Signed By
R. W. SCHROEDER

RFV/tk
Enclosures



CENTRALIZERS RUN BETWEEN 5054' AND 7139'.

