



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. 31, 1985

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

Gentlemen:

I have examined the application dated Oct. 30, 1985
for the Amoco Lease and Well No. 146 #33 P-10-25NSW
Operator Unit, S-T-R

and my recommendations are as follows:

Approve.

Yours truly,

John D. Long



Amoco Production Company

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

R. J. Broussard
District Manager

October 21, 1985

New Mexico Oil Conservation Division
Attn: David Catanach
P. O. Box 2088
Santa Fe, NM 87501

File: DDL-1234-400.1

Gentlemen:

Commingling Application
Jicarilla Contract 146 No. 33
Section 10, T25N, R5W
Rio Arriba County, New Mexico

RECEIVED
OCT 30 1985
OIL CON. DIV.
DIST. 3

Amoco Production Company requests approval to commingle production from the Otero Chacra and Blanco Mesaverde horizons in the subject well. Commingling is requested for these reasons:

- 1) Producing rates from the Mesaverde are marginally economical.
- 2) If commingled, the Chacra will help produce remaining Mesaverde reserves.

The working interest and royalty of both zones are the same and bottom hole pressure of the Chacra is within 50 percent of the bottom hole pressure of the Mesaverde. Formation fluids are compatible.

In view of Rule 303C, we have attached 2 copies of the following:

1. Acreage Plat indicating ownership of offset leases
2. Well Completion Reports
3. Bottom hole pressures
4. Recommended Allocation Formula
5. Copy of notification to offset operations
6. Form C-116 (N.A.)
7. Chacra Production Curves

Since the Mesaverde pressures are so low, we are unable to supply production decline curves.

1964-1965
1966-1967
1968-1969

1970-1971
1972-1973
1974-1975

1976-1977
1978-1979

1980-1981
1982-1983

1984-1985
1986-1987

1988-1989
1990-1991

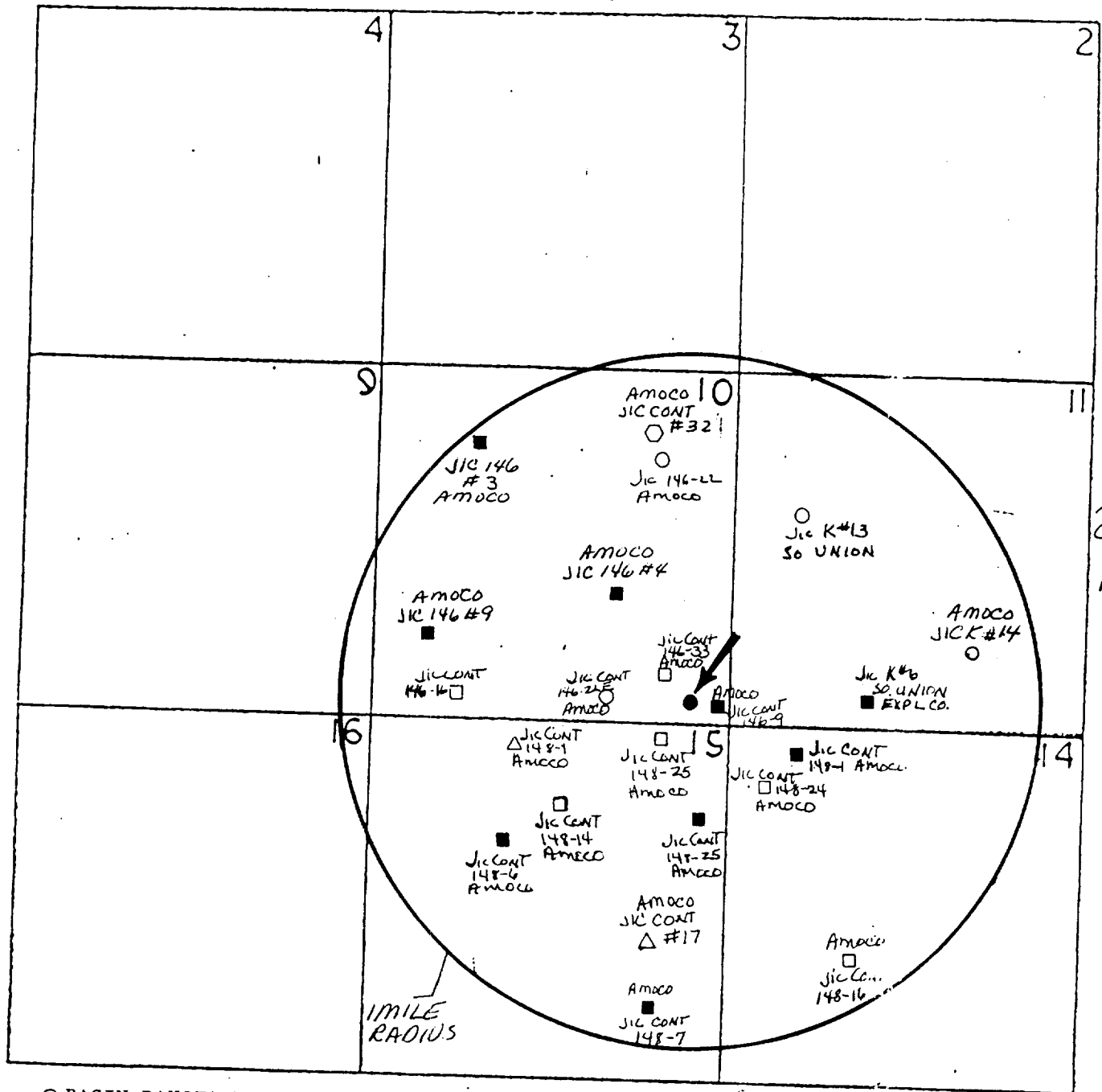
1992-1993
1994-1995

1996-1997
1998-1999

EXHIBIT C

JICARIILA CONTRACT 146 #33

R 5W



- BASIN DAKOTA WELLS
- BLANCO SO PICTURED CLIFF WELLS
- OTERO CHACRA WELLS
- △ OTERO GALLUP WELLS
- PROPOSED WELL
- BLANCO MESAVERDE

RECEIVED
OCT 30 1985
OIL CON. DIV.
DIST. 3



Amoco Production Company

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

R. J. Broussard
District Manager

October 24, 1985

Southern Union Exploration Company
P. O. Box 2179
Farmington, New Mexico 87499

File: DDL-1170-400.1

Gentlemen:

Commingling Application
Jicarilla Contract 146 #33
Section 10, Township 25 North, Range 5 West
Rio Arriba County, New Mexico

Amoco Production Company has applied for approval to commingle the Mesaverde and Chacra horizons in the subject well. If you have any objections, you have 20 days to notify the New Mexico Oil Conservation Division. If you do not respond within 20 days, your approval will be assumed.

R. J. Broussard BJS

EDA/cjm

DATE 4-26-85

WELL COMPLETION AND WORKOVER DATA

Blanco Mesaverde - Otero Chacra

WELL NAME: Jicarilla Contract 146 #33

LOCATION: 970' FSL X 1120' FEL, Section 10, T25N, R5W

Rio Arriba County, New Mexico

ELEVATION: _____ GL: 6883' KB: 6896'
TD: 5620' PBD: 5562'

CASING & CEMENT:	8-5/8" 24# K-55 CSA 285' X 315 Sx Cmt
	5-1/2" 14# K-55 CSA 5605' X 985 Sx Cmt

Tubing 1-1/4" 2.3# J-55 SA 4017'
2-1/16" 3.2# J-55 SA 5516' / 1" Coiled Tubing Landed @ 5481'

COMPLETION DATE: 10-23-81 FIRST DELIVERY: 8-20-82 Mesaverde
7-2-82 Chacra

COMPLETION INTERVAL: 4008' - 4036' Chacra 5336' - 5519' Mesaverde

PERFORATIONS: 4008'-4015', 4015'-4036', 5336'-5364', 5374'-5378', 5430'-
5434', 5460'-5470', 5502'-5506', 5516'-5519'

SPECIAL EQUIPMENT: Baker Model "F" Packer @ 4083'

INITIAL POTENTIAL: 752 MCFD Chacra
322 MCFD Mesaverde

CORE INTERVAL:

DST RESULTS:

LOGS RUN: DIL; GR; SP; Compensated Density, Neutron

ORIGINAL COMPLETION: Perfs 5336'-5519' fraced with 59,000 gals frac fluid
and 82,000# 10-20 sn. Bkn 2400, ISIP 700, TP: Max 3200, min 760, Av.
2000, AIR 48 BPM.

Perfs 4008'-4036' fraced with 60,000 gals frac fluid and 93,500# 20-40 sn
ISIP 20; Av TP 2250

WORKOVERS AND EQUIPMENT CHANGES:

Jicarilla Contract 146 #33

10-17-83 Well taken off pump.

2-15-85 Installed 1" coiled tubing. Pumped 330 gals. 5 drums Super A - Sol & 1 drum WA - 766 down coiled tubing. Displace chemical into formation w/25,000 SCF of nitrogen.

GL: 6883'
KB: 6896'

8-5/8" 24# K-55 CSA
285' X 315 Sx Cmt

1-1/4" 2.3# J-55 Tubing
@ 4017'

Chacra Perforations:
4008' - 4015'
4015' - 4036'

Packer @ 4083'

Mesaverde Perforations:
5336' - 5364'
5374' - 5378'
5430' - 5434'
5460' - 5470'
5502' - 5506'
5516' - 5519'

1" Coiled Tubing Landed @ 5481'

2-1/16" 3.2# J-55 Tubing @ 5516'

TD: 5620'
PBD: 5562'

5-1/2" 14# K-55 CSA 5605'
X 985 Sx Cmt

Amoco Production Company

SCALE

Jicarilla Contract 146 #33

DRG.
NO.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other _____				5. LEASE DESIGNATION AND SERIAL NO. Jicarilla Contract 146			
b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other _____				6. IF INDIAN, ALLOTTEE OR TRIBE NAME Jicarilla Apache			
2. NAME OF OPERATOR Amoco Production Company				7. UNIT AGREEMENT NAME			
3. ADDRESS OF OPERATOR 501 Airport Drive, Farmington, NM 87401				8. FARM OR LEASE NAME Jicarilla Contract 146			
4. LOCATION OF WELL (Report location clearly and in accordance with State requirements) At surface 970' FSL x 1120' FEL At top prod. interval reported below Same At total depth Same				9. WELL NO. 33			
14. PERMIT NO. S. GEOLOGICAL SURVEY FARMINGTON, N. M.				10. FIELD AND POOL, OR WILOCAT Otero Chacra			
11. SECTION, T. R. N. M., OR BLOCK AND SURVEY OR AREA SE/4, SE/4, Sec 10, T25N, R5W				12. COUNTY OR PARISH Rio Arriba			
13. STATE NM				15. DATE SPUDDED 12-7-80			
16. DATE T.D. REACHED 12-16-80				17. DATE COMPL. (Ready to prod.) 10-23-81			
18. ELEVATIONS (OF, RKB, AT, GR, ETC.)* 6883' GL				19. ELEV. CASINGHEAD			
20. TOTAL DEPTH, MD & TVD 5620'				21. PLUG, BACK T.D., MD & TVD 5562'			
22. IF MULTIPLE COMPL., HOW MANY? 2				23. INTERVALS DRILLED BY 0-TD			
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 4008-4015', 4015-4036', Otero Chacra				25. WAS DIRECTIONAL SURVEY MADE? No			
26. TYPE ELECTRIC AND OTHER LOGS RUN DIL, GR, SP, Compensated Density, Neutron				27. WAS WELL CORED? No			
28. CASING RECORD (Report all strings set in well)						AMOUNT PULLED	
CASING SIZE		WEIGHT, LB./FT.		DEPTH SET (MD)		HOLE SIZE	
8-5/8"		24#		285'		12-1/4"	
5-1/2"		14#		5605'		7-7/8"	
						315 SX	
						985 SX	
29. LINER RECORD						30. TUBING RECORD	
SIZE		TOP (MD)		BOTTOM (MD)		PACKER SET (MD)	
						4083'	
31. PERFORATION RECORD (Interval, size and number) 4008-4015', 4015-4036', with 2 SPF, a total of 56 .40" holes						32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
						DEPTH INTERVAL (MD)	
						4008-4036'	
						AMOUNT AND KIND OF MATERIAL USED	
						60,000 gals. of frac fluid and 93,500 lbs. of 20-40 sand.	
33. PRODUCTION							
DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing				WELL STATUS (Producing or shut-in) Shut-In	
DATE OF TEST 12-17-81		HOURS TESTED 3 hours		CHOKER SIZE .75"		PROD'N. FOR TEST PERIOD OIL—BSL. GAS—MCF. WATER—BSL. GAS-OIL RATIO 94	
FLOW. TUBING PRESS. 51 PSIG		CASING PRESSURE 418 PSIG		CALCULATED 24-HOUR RATE OIL—BSL. GAS—MCF. WATER—BSL. OIL GRAVITY-API (CORR.) 752			
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) To be sold						TEST WITNESS BY	
35. LIST OF ATTACHMENTS						ACCEPTED FOR RECORD	
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records						DATE JAN 14 1982	
SIGNED E. E. SWAN						TITLE Dist Adm. Supvr.	
* (See Instructions and Spaces for Additional Data on Reverse Side)						FARMINGTON DISTRICT	
OPERATOR						BY SAS	

OPERATOR

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions. If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers' records, production records, and other logs) must be submitted with this summary record.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 13: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in Item 22, and in Item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in Item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Secks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for Items 22 and 24 above.)

DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

871-233

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.5.

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 970' FSL x 1120' FEL

At top prod. interval reported below Same

At total depth Same

14. PERMIT FOR MINING, DATE ISSUED

15. DATE SPUDDED 12-7-80 16. DATE T.D. REACHED 12-16-80 17. DATE COMPL. (Ready to prod.) 10-23-81 18. ELEVATIONS (OF, REB, RT, GR, ETC.) * 6833' GL 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 5620' 21. PLUG, BACK T.D., MD & TVD 5562' 22. IF MULTIPLE COMPL., HOW MANY * 2 23. INTERVALS DRILLED BY 0-TD 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD) *

5336-5364', 5374-5378', 5430-5434', 5460-5470', 5502-5506', 5516-5519'
Gonzales Mesaverde

25. TYPE ELECTRIC AND OTHER LOGS RUN

DIL, GR, SP, Compensated Density, Neutron

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

CASINO SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT FULLED
8-5/8"	24#	285'	12-1/4"	315 SX	
5-1/2"	14#	5605'	7-7/8"	985 SX	

LINER RECORD					TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2-1/16"	5516'	4083'

31. PERFORATION RECORD (Interval, size and number)
5336-5364', 5374-5378', 5430-5434',
5460-5470', 5502-5506', 5516-5519', with
2 SPF, a total of 106 .38" holes

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5336-5364'	59,000 gals. of frac fluid
5519'	and 82,000 lbs. of 10-20 sand.

33. PRODUCTION
DATE FIRST PRODUCTION _____ PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing
WELL STATUS (Producing or shut-in) Shut-In

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
12-10-81	3 hours	.75"			41		
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
15 psig				322			

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) To be sold TEST WITNESSED BY _____

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 _____ TITLE Dist. Adm. Supvr.

ACCEPTED FOR RECORD

JAN 11 1982
JAN 14 1982

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

OPERATOR

FARMINGTON DISTRICT

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on Items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Stuck's Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for Items 22 and 24 above.)

37. SUMMARY OF PIOUS ZONES:

SHOW ALL IMPORTANT ZONES OF FORECASTY AND CONTENTS THEREOF: CONDU INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM
Ojo Alamo	2620	2812
Kirtland	2812	2990
Fruitland	2990	3116
Pictured Cliff	3116	3200
Chacra	4010	4050
Cliffhouse	4800	4864
Menofes	4864	5319
Point Lookout	5319	5519

38. GEOLOGIC MARKERS

NAME	NEAR, DEPTH	TOP	TRUE VERT. DEPTH
------	-------------	-----	------------------

0 + 4' - USGS, Farmington
 1 - G. J. Ross, Denver
 1 - Open - a. P. Payne -
 1 - Joe Duke



Amoco Production Company

ENGINEERING CHART

Sheet No. _____ Of _____
File _____
Appn _____
Date _____
By _____

SUBJECT Commingling Applications 146-31, 33, 35

	(Mesaverde)	(Chacra)
<u>PRESSURES:</u>	<u>TP</u>	<u>CP</u>

146-31 250

146-33 150

146-35 35

150

265

600

} Tubing pressures are probably low due to high fluid level. They logged off one month prior to the tests.

NOTE: We are unable to obtain bottom hole pressures on these 3 wells due to the wellbore configuration. The small strings of tubing will not allow a pressure bomb to be run inside of them and a fluid level cannot be obtained either. Thus, we have only surface pressures. The tubing pressures are 1" tubing pressures down to the Mesaverde. The casing pressure is actually 2 1/2" tubing down to the Chacra.



Amoco Production Company

ENGINEERING CHART

Sheet No. _____ Of _____
File _____
Appn _____
Date 4/25/85
By EDA

SUBJECT Commingle the 146-31, 146-33, 146-35
Chacra/ Mesaverde

JICARILLA CONTRACT 146-31 Sec 10-25N-5W			<u>GAS</u> <u>Allocations</u>	<u>OIL</u> <u>Allocations</u>
BLANCO	MESAVERDE	30 MCFD	17.44 %	100 %
OTERO	CHACRA	142 MCFD	82.56 %	0 %
172 MCFD				

JICARILLA CONTRACT 146-33 Sec 10-25N-5W			<u>GAS</u> <u>Allocations</u>	<u>OIL</u> <u>Allocations</u>
BLANCO	MESAVERDE	2 MCFD	3.17 %	100 %
OTERO	CHACRA	61 MCFD	96.83 %	0 %

JICARILLA CONTRACT 146-35 Sec 3-25N-5W			<u>GAS</u> <u>Allocations</u>	<u>OIL</u> <u>Allocations</u>
BLANCO	MESAVERDE	1	10.31	100 %
OTERO	CHACRA		89.69	0 %

NOTE: ALLOCATIONS ARE BASED ON AVERAGE PRODUCTION
FOR THE 146-31 & 146-33 WHILE THE 146-35
IS JUST AN AVERAGE OF THE OTHER 2 WELLS.

WELL NAME JICARILLA CONTRACT 146 #33
P 19 25N 5W
OTERO CHACRA

DUAL

DAYS	BO	BW	MCF	MCFD
JAN				
FEB				
MAR				
APR				
MAY				
JUNE				
JULY	24		4118	172
AUG	31		4001	129
SEPT	—		—	
OCT	—		—	
NOV	2		346	173
DEC	25		4052	162

1982

DAYS	BO	BW	MCF	MCFD
JAN	31		1034	33
FEB	25		2604	104
MAR	15		1286	86
APR	24		1836	76
MAY	10		1691	169
JUNE	30		1444	48
JULY	31		2102	68
AUG	31		1726	56
SEPT	30		1414	47
OCT	31		1332	44
NOV	30		1202	40
DEC	31		1820	61

1984

19565

DAYS	BO	BW	MCF	MCFD
JAN	31		3299	106
FEB	26		250	92
MAR	22		1694	77
APR	6		0	0
MAY	1		161	161
JUNE	17		1299	76
JULY	23		2694	117
AUG	19		2090	107
SEPT	1		304	304
OCT	—		—	
NOV	29		651	22
DEC	27		2880	107

1983

DAYS	BO	BW	MCF	MCFD
JAN	31		1495	48
FEB	28		1634	58
MAR	31		1516	49
APR	27		1402	52
MAY	31		1395	45
JUNE	30		1192	40
JULY	31		1174	38
AUG				
SEPT				
OCT				
NOV				
DEC				

1985

WELL NAME Jicarilla Contract 146 No. 33 / Mesaverde

SE/4, SE/4 (P) Sec. 10, T25N, R5W

DAYS	BO	BW	MCF	MCFD
JAN				
FEB				
MAR				
APR				
MAY				
JUNE				
JULY				
AUG	4	70	0	105
SEPT	0	0	0	26
OCT	1	12	0	0
NOV	1	0	33	33
DEC	0	0	55	55

982

1984

DAYS	BO	BW	MCF	MCFD
JAN	31	-	116	312
FEB	21	-	-	132
MAR	31	-	-	122
APR	21	-	-	122
MAY	27	5	-	122
JUNE	36	-	-	122
JULY	31	-	-	40
AUG	31	-	-	37
SEPT	30	-	-	39
OCT	31	-	-	-
NOV	30	-	-	-
DEC	34	-	-	11
	338		46	0
			751	2

DAYS	BO	BW	MCF	MCFD
JAN	0	0	0	0
FEB	0	0	0	0
MAR	0	0	0	0
APR	0	0	0	0
MAY	0	0	0	0
JUNE	17	81	32	256
JULY	16	38	0	203
AUG	1	1	0	143
SEPT	15	128	-	318
OCT	2	116	-	124
NOV	30	-	41	-
DEC	31	-	2	132

983

1985

DAYS	BO	BW	MCF	MCFD
JAN	31	-	-	117
FEB	28	-	-	4
MAR	31	-	-	10
APR	31	-	-	12
MAY	31	-	-	-
JUNE	10	-	-	206
JULY	31	1	-	21
AUG				
SEPT				
OCT				
NOV				
DEC				