



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. E-10-25N-5W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Frank D. Chy



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-1235-400.1

Gentlemen:

Commingling Application
Jicarilla Contract 146 No. 31
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:

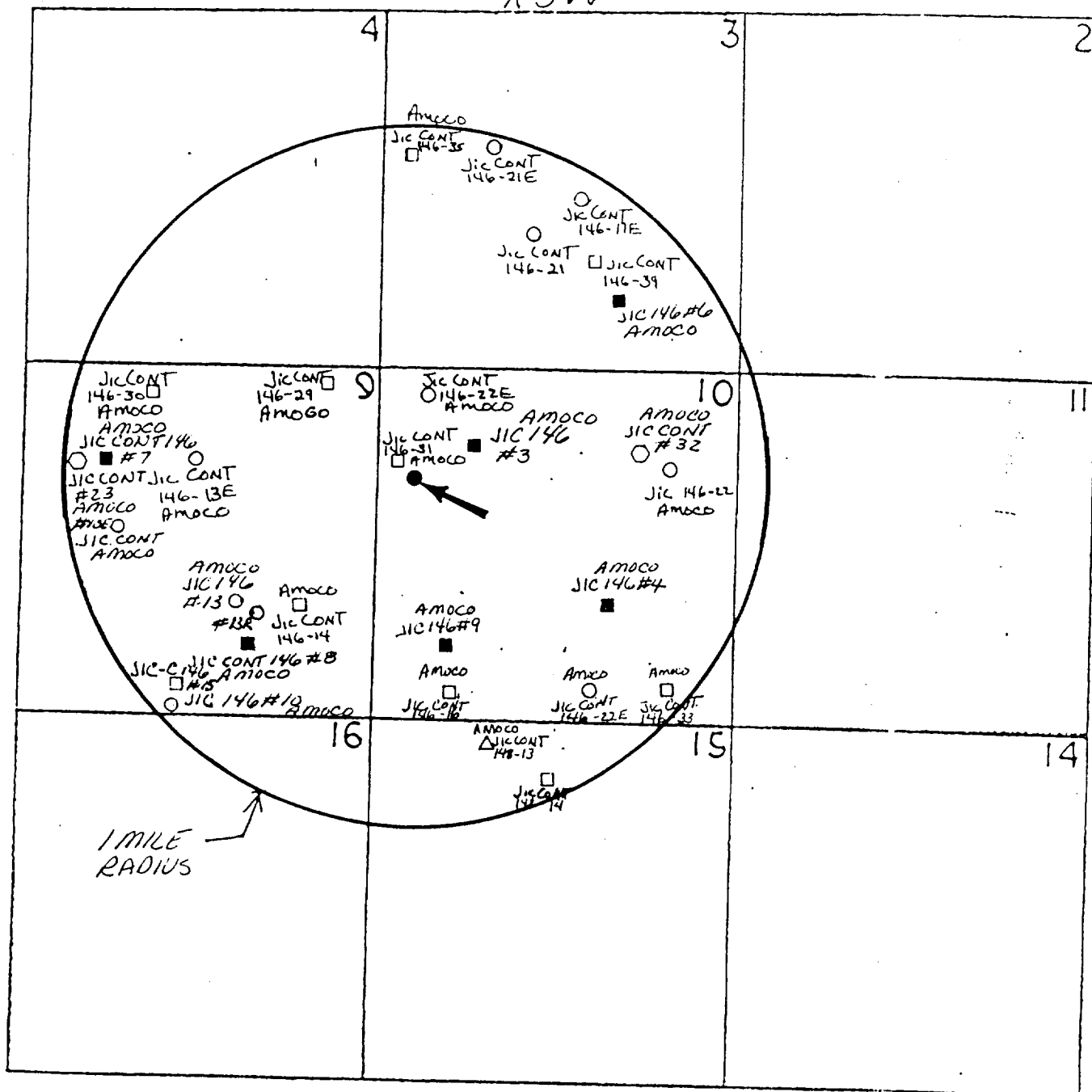
1. Acreage Plat indicating ownership of offset leases
2. Well Completion Reports
3. Bottom hole pressures
4. Recommended Allocation Formula
5. Copy of notification to offset operations
6. Form C-116 (N.A.)
7. Chacra Production Curves

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

EXHIBIT C

JICARILLA CONTRACT 146 #31

R5W



- 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

T
25
X

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other
instruction on
reverse side)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 Dr., Farmington, NM 87401

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

At surface 1660' FNL x 1095' FWL

At top prod. interval reported below Same

At total depth Same

14. PERMIT NO.

DATE ISSUED

U. S. GEOLOGICAL SURVEY

12. COUNTY OR PARISH

13. STATE

Rio Arriba New Mexico

15. DATE SPUDDED 9-24-80	16. DATE T.D. REACHED 10-3-80	17. DATE COMPL. (Ready to prod.) 10-21-81	18. ELEVATIONS (OF, REB, RT, GR, ETC.)* 6717' G.L.	19. ELEV. CASINGHEAD
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20. TOTAL DEPTH, MD & TVD 5469'	21. PLUG, BACK T.D., MD & TVD 5444'	22. IF MULTIPLE COMPL., HOW MANY* 2	23. INTERVALS DRILLED BY →	ROTARY TOOLS 0 - TD	CABLE TOOLS JAN 28
------------------------------------	--	--	-------------------------------	------------------------	-----------------------

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

3857'-3880', Otero Chacra

25. WAS DIRECTIONAL SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

DIL, GR, SP, Compensated Density; Compensated 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 FULLED
8-5/8"	24#	309'	12-1/4"	240 SX	
5-1/2"	15.5#	5469'	7-7/8"	1145 SX	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					1-1/4"	3893'	3980'

31. PERFORATION RECORD (Interval, size and number)

3857'-3880', with 2 SPF, a total of 46 .40" holes.

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
3857'-3880'	60,000 gallons of frac fluid and 93,000 pounds of 10-20 sand.

33. PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
		Flowing				Shut-In	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
12-17-81	3 hours	.75"	→		97		
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
53 PSIG	508 PSIG	→		776			

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

To be sold.

TEST WITNESSED 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.

SIGNED

TITLE

Dist. Admin. Supvr.

DATE

FARMINGTON DISTRICT

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

BY

OPERATOR

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.

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: "Seals 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.)

SUMMARY OF FORMS ZONES:

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

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	38.	GEOLOGIC MARKERS	TOP	
						NAME	MEAS. DEPTH
Alamo	2390	2572					
land	2572	2800					
land	2800	2960					
ured Cliffs	2960	3000					
ra	3857	3892					
thhouse	4646	4666					
ffee	4666	5176					
it Lookout	5176	5407					

0 + 4 - USGS, Farmington
 1 - ~~2717~~ Ross, Denver
 1 - Open A. P. Payne
 1 - Joe Duke

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

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 Dr., Farmington, NM 87401					
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 1660' FNL x 1095' FWL At top prod. interval reported below Same At total depth Same					
5. LEASE DESIGNATION AND SERIAL NO. Jicarilla Contract 146					
6. IF INDIAN, ALLOTTEE OR TRIBE NAME Jicarilla Apache					
7. UNIT AGREEMENT NAME					
8. FARM OR LEASE NAME Jicarilla Contract 146					
9. WELL NO. 31					
10. FIELD AND POOL OR WILDCAT Gonzales Mesaverde					
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA SW/4, NW/4, Section 10, T25N, R5W					
12. COUNTY OR PARISH Rio Arriba		13. STATE NM			

14. PERMIT NO.	DATE ISSUED	18. ELEVATIONS (OF, BSB, RT. CR, ETC.)* 6717' G.L.		19. ELEV. CASINGHEAD
15. DATE SPUDDED 9-24-80	16. DATE T.D. REACHED 10-3-80	17. DATE COMPL. (Ready to prod.) 10-21-81		
20. TOTAL DEPTH, MD & TVD 5469'	21. PLUG, BACK T.D., MD & TVD 5444'	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)* 5164'-5168', 5189'-5202', 5208'-5212', 5293'-5296', 5303'-5319', 5346'-5350', 5407'-5409'.
25. TYPE ELECTRIC AND OTHER LOGS RUN DIL, GR, SP, Compensated Density, Compensated Neutron				26. WAS WELL CORED No

23. 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#	309'	12-1/4"	240 SX	
5-1/2"	15.5#	5468'	7-7/8"	1145 SX	

29. LINER RECORD					30. TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2-1/16"	5403'	3980'

31. PERFORATION RECORD (Interval, size and number) 5164'-5168', 5189'-5202', 5208'-5212', 5293'-5296', 5303'-5319', 5346'-5350', 5407'-5409'.		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. DEPTH INTERVAL (MD) 5164'-5409' AMOUNT AND KIND OF MATERIAL USED 56,000 gallons of frac fluid and 75,000 pounds of 10-20 sand.	
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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 12-10-81	HOURS TESTED 3 hours	CHOKE SIZE .75"	PROD'N. FOR TEST PERIOD →	OIL—BBL. →	GAS—MCF. 69	WATER—BBL. →	GAS-OIL RATIO →
FLOW. TUBING PRESS. 34 PSIG	CASING PRESSURE - PSIG	CALCULATED 24-HOUR RATE →	OIL—BBL. →	GAS—MCF. 548	WATER—BBL. →	OIL GRAVITY-API (CORR.) →	→
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 data.

SIGNED _____ TITLE Dist. Admin. Supvr. DATE DEC 21 1981

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

OPERATOR

FARMINGTON DISTRICT

BY

500

RECEIVED

JAN 7 1982

FARMINGTON

DISTRICT

ACCEPTED FOR RECORD

JAN 05 1982

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: "Necks 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 POROUS ZONES:

SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION TEST, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES.

FORMATION	TOP	BOTTOM
Jo Alamo	2390	2572
Artland	2572	2800
Artland	2800	2960
Artland Cliffs	2960	3000
hacra	3857	3892
liff House	4646	4666
enefee	4666	5176
oint Lookout	5176	5407

DESCRIPTION, CONTENTS, ETC.

0 + 4 - USGS, Farmington
1 - G. J. Ross, Denver
1 - Open

1-gin Dube

38.

GEOLOGIC MARKERS

NAME	TOP	TRUE VERT. DEPTH



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 1/4" tubing down to the Chacra.



Amoco Production Company

ENGINEERING CHART

Sheet No. _____ Of _____
File _____
Appn _____
Date 4/25/35
By EDA

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

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

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

JICARILLA CONTRACT	146-35	Sec 3-25N-5W	GAS Allocations	OIL Allocations
BLANCO MESAVARDE			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.

DATE 4-26-85

WELL COMPLETION AND WORKOVER DATA

Blanco Mesaverde - Otero Chacra

WELL NAME: Jicarilla Contract 146 #31
LOCATION: 1660' FNL X 1095' FWL, Section 10, T25N, R5W
Rio Arriba County, New Mexico

ELEVATION: _____ GL: 6717' KB: 6729'
TD: 5469' PBD: 5444'

CASING & CEMENT: 8-5/8" 24# K-55 CSA 309' X 240 Sx Cmt
5-1/2" 15.5# K-55 CSA 5469' X 1145 Sx Cmt

Tubing 1-1/4" 2.33# J-55 SA 3893'
2-1/16" 3.25# J-55 SA 5403' / 1" coiled tubing landed @ 5374'

COMPLETION DATE: 10-21-81 FIRST DELIVERY: 6-8-82 Chacra
6-8-82 Mesaverde

COMPLETION INTERVAL: 3857' - 3880' Otero Chacra 5164' - 5409' Mesaverde

PERFORATIONS: 3857'-3880', 5164'-5168', 5189'-5202', 5208'-5212', 5293'-
5296', 5303'-5319', 5346'-5350', 5407'-5409'

SPECIAL EQUIPMENT: Packer @ 3980'

INITIAL POTENTIAL: 776 MCFD Chacra
548 MCFD Mesaverde

CORE INTERVAL: _____

DST RESULTS: _____

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

ORIGINAL COMPLETION: 5164'-5409' fraced with 56,000 gals. frac fluid X
75,000# 10-20 sn.
3857'-3880' fraced with 60,000 gals frac fluid and
93,000# 10-20 sn.

WORKOVERS AND EQUIPMENT CHANGES: _____

Jicarilla Contract 146 #31

4-22-83 Installed pump

2-16-84 Pulled pump & rod

2-14-85 Installed 1" coiled tubing. Pumped 330 gals. 5 drums Super A - Sol & 1 drum WA - 766 down coiled tubing. Displaced chemical into formation w/25,000 SCF of nitrogen.

GL: 6717'
KB: 6729'

8-5/8" 24# K-55 CSA 309'
X 240 Sx Cmt

1-1/4" 2.33# J-55 Tubing
@ 3893'

Chacra Perforations:
3857' - 3880'

Mesaverde Perforations:

5164' - 5168'
5189' - 5202'
5208' - 5212'
5293' - 5296'
5303' - 5319'
5346' - 5350'
5407' - 5409'

Packer @ 3980'

1" Coiled Tubing Landed @ 5374'

2-1/16" 3.25# J-55 Tubing @
5403'

TD: 5469'
PBD: 5444'

5-1/2" 15.5# K-55 CSA 5469'
X 1145 Sx Cmt

Amoco Production Company

Jicarilla Contract 146 #31

SEALS

ORG
NO.

WELL NAME JICARILLA CONTRACT 146 #31
E 10 25N 5W
OTERO CHACRA

DAYS	BO	BW	MCF	MCFD
JAN				
FEB				
MAR				
APR				
MAY				
JUNE	4		1589	399
JULY	16		55103	348
AUG	31		8955	289
SEPT	11		—	197
OCT	—		—	
NOV	—		—	
DEC	—		—	

1982

DAYS	HO	BW	MCF	MCFD
JAN	5		122	24
FEB	31		5990	193
MAR	7		739	106
APR	30		4284	143
MAY	9		1073	119
JUNE	31		4776	237
JULY	31		4885	158
AUG	31		4142	134
SEPT	30		3329	111
OCT	33		3318	144
NOV	28		2813	100
DEC	31		4037	130
291			39508	146 MC

1984

DAYS	BO	BW	MCF	MCFD
JAN	7		462	66
FEB	0		0	0
MAR	2		1624	541
APR	15		2575	172
MAY	25		7379	295
JUNE	30		6042	201
JULY	31		5387	174
AUG	21		2805	134
SEPT	10		1510	91
OCT	23		5462	237
NOV	26		4859	187
DEC	11		1213	110

1983

DAYS	HO	BW	MCF	MCFD
JAN	31		3319	107
FEB	19		2126	112
MAR	31		37	1
APR	19		4290	252
MAY	31		3367	109
JUNE	30		2740	91
JULY	31		2681	86
AUG				
SEPT				
OCT				
NOV				
DEC				

1985

WELL NAME JICARILLA CONTRACT 146 #31
E 10 25N 5W
GONZALES MESAVERDE
Blanco

DAYS	BO	BW	MCF	MCFD
JAN				
FEB				
MAR				
APR				
MAY				
JUNE	20	1	267	14
JULY	12		197	12
AUG	31	0	32	1
SEPT	30	0	7000	233
OCT	1	0	116	116
NOV	0	0	0	0
DEC	0	0	0	0

1982

DAYS	BO	BW	MCF	MCFD
JAN	3	1	122	41
FEB	1	2	158	152
MAR	7	2	164	23
APR	30	2	156	5
MAY	31	2	166	5
JUNE	21	-	4776	227
JULY	31	3	37	1
AUG	31	-	39	1
SEPT	P30			
OCT	F31	-	56	71
NOV	F30	-	-	-
DEC	29		22	-

1984

DAYS	BO	BW	MCF	MCFD
JAN	0	0	0	0
FEB	0	0	0	0
MAR	0	0	0	0
APR	45	0	166	166
MAY	143	74	47	2
JUNE	61	1	463	15
JULY	35	2	388	22
AUG	-	1	-	-
SEPT	-	1	-	-
OCT	-	1	-	-
NOV	33	2	325	27
DEC	70	5	247	22

1983

DAYS	BO	BW	MCF	MCFD
JAN	F31	-	-	-
FEB	F28	-	-	-
MAR	ST	-	-	-
APR	ST	-	-	-
MAY	ST	-	-	-
JUNE	30	19	53	3
JULY	31	32	-	-
AUG				
SEPT				
OCT				
NOV				
DEC				

1985

30 m/s