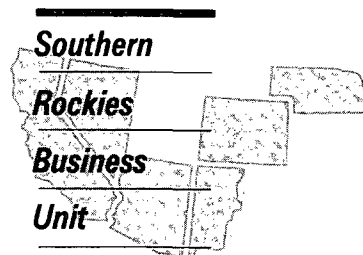




November 28, 1994

Mr. William J. LeMay, Director
New Mexico Oil Conservation Division
2040 S. Pacheco Street
P.O. Box 6429
Santa Fe, NM 87505



Application for Exception to Rule 303-A
Downhole Commingling
Jicarilla 146 #40 Well
1090' FSL, 1650' FWL, Section 3-T25N-R5W
Blanco Mesaverde, So. Blanco Pictured Cliffs, Basin Fruitland Coal Pools
Rio Arriba County, New Mexico

Amoco Production Company hereby requests administrative approval to downhole commingle production from the Blanco Mesaverde, So. Blanco Pictured Cliffs and Basin Fruitland Coal Pools in the Jicarilla 146 #40 well referenced above. The well has just completed a 60 day testing period with the Basin Fruitland Coal Pool and the So. Blanco Pictured Cliffs Pool approved by your letter of September 14, 1994. Per my telephone conversation with Michael Stogner, the well is approved for a 30 day testing period with all three zones to assist in determining an allocation formula. The ownership (WI, RI ORRI) of these three pools is identical in this wellbore. Production methods are limited due to the 4 1/2" casing in the well. Downhole commingling will offer an economical method of production while protecting against reservoir damage, waste of reserve and violation of correlative rights. A copy of this application will be sent to the offset operators.

Sincerely,

J. W. Hawkins
J. W. Hawkins

Enclosures

cc: Wayne Branam
Steve Smethie

Frank Chavez, Supervisor
Amoco District III
1000 Rio Brazos Road
Aztec, NM 87410

Robert Kent
Bureau of Land Management
435 Montano NE
Albuquerque, Nm 87107

Marathon Oil Co.
P.O. Box 552
Midland, TX 79702

Application for Exception to Rule 303: SEGREGATION OF PRODUCTION FROM POOLS

Requirements

- (1) Name and address of the operator:

Amoco Production Company
P.O. Box 800
Denver, CO 80201

- (2) Lease name, well number, well location, name of the pools to be commingled:

Lease Name: Jicarilla 146
Well Number: 40
Well Location: 1090' FSL & 1650' FWL
Section 3, T25N-R5W
Rio Arriba County, New Mexico
Pools Commingled: Blanco Mesaverde
So. Blanco Pictured Cliffs
Basin Fruitland Coal

- (3) A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.

Attached

- (4) A current (within 30 days) 24-hour productivity test on Division Form C-116 showing the amount of oil, gas and water produced from each zone.

Attached is a summary of recent testing for the Mesaverde prior to recompletion. The Mesaverde produced an average stabilized rate of 130 mcf/d without compression. After recompletion, individual zone testing was conducted on the Fruitland and Pictured Cliff indicating behind pipe communication. This was followed by a period of combined Fruitland and Pictured Cliffs zone production which stabilized at about 300 mcf/d under compression. Additional testing for all three zones with compression is underway.

- (5) A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes. (This requirement may be dispensed within the case of a newly completed or recently completed well which has little or not production history. However, a complete resume of the well's completion history including description of treating, testing, etc., of each zone, and a prognostication of future production from each zone shall be permitted.)

Mesaverde Completion: Historical production curve attached.

Basin Fruitland Coal Completion: New completions, production from recent testing attached
So. Blanco Pictured Cliffs Completion: and recent recompletion summary attached.

- (6) Estimated bottomhole pressure for each artificially lifted zone. A current (within 30 days) measured bottom hole pressure for each zone capable of flowing.

	BH Pressure	SI Tubing Press.	Fluid Level
Mesaverde Completion:	488 psi	443 psi	0
Basin Fruitland Coal/ So. Blanco Pictured Cliffs Completion	551 psi	240 psi	718'

- (7) A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the wellbore.

The fluids have no abnormal components that would prohibit commingling, or promote the creation of emulsions or scale (see attached produced gas and fluid analysis).

- (8) A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams:

Since the BTU content of the produced fluids are very similar, we would expect the commingled production to have the same value as the sum of the individual streams.

- (9) A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula:

The well is undergoing additional testing to aid in determination of the allocation factor. The testing in the Fruitland/Pictured Cliffs zone indicated that behind pipe communication probably exists which complicates evaluation of individual zone production rates. We propose using feet of perforations as a basis of allocation between Fruitland and Pictured Cliffs. The Fruitland has 7' of open perfs (2900'-2907') and the P.C. has 18' of open perfs (2912'-2926' and 2932'-2936'). The Fruitland/Pictured Cliffs combined production will be allocated as follows: Fruitland -28.0%, Pictured Cliffs -72.0%. The current testing period will allow a further allocation between the Mesaverde and the Fruitland /Pictured Cliffs combined production.

- (10) A statement that all offset operators and, in the case of a well on federal land, the United States Bureau of Land Management, have been notified in writing of the proposed commingling.

All offsetting operators and the BLM will receive a copy of this application by certified mail. The offsetting operator is Marathon Oil Co., P.O. Box 552, Midland , TX 79702

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-039-23159		2 Pool Code		3 Pool Name South Blanco Pictured Cliffs		
4 Property Code		5 Property Name Jicarilla Contract 146			6 Well Number #40	
7 OGRID No. 000778		8 Operator Name Amoco Production Company			9 Elevation	

10 Surface Location

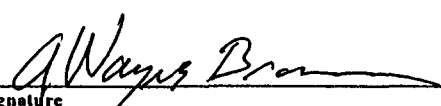
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	3	25N	5W		1090	South	1650	West	Rio Arriba

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	3	25N	5W		1090	South	1650	West	Rio Arriba

12 Dedicated Acres 160	13 Joint or Infill	14 Consolidation Code	15 Order No.
---------------------------	--------------------	-----------------------	--------------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16				17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief  Signature A. Wayne Branam Printed Name Business Analyst Title 07/19/94 Date			
SECTION 3							
1650				18 SURVEYOR CERTIFICATION 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 belief. 10/27/82 Date of Survey Signature and Seal of Professional Surveyer: 3950 Certificate Number "On File"			
1090							

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
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State of New Mexico
Energy, Minerals & Natural Resources Department

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Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-039-23159		2 Pool Code		3 Pool Name Basin Fruitland Coal Gas Pool		
4 Property Code		5 Property Name Jicarilla Contract 146			6 Well Number 40	
7 OGRID No. 000778		8 Operator Name Amoco Production Company			9 Elevation	

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	3	25N	5W		1090	South	1650	West	Rio Arriba

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	3	25N	5W		1090	South	1650	West	Rio Arriba

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
320			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16				<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>A Wayne Branam</i> Signature A. Wayne Branam Printed Name Business Analyst Title 07/19/94 Date</p>
				<p>18 SURVEYOR CERTIFICATION</p> <p>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 belief.</p> <p>10/27/82 Date of Survey Signature and Seal of Professional Surveyer: 3950 "On File" Certificate Number</p>
	1650		1090	

O CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-107
Revised 10-1-78

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

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

Operator AMOCO PRODUCTION COMPANY			Lease JICARILLA CONTRACT 146		Well No. 40
Unit Letter N	Section 3	Township 25N	Range 5W	County Rio Arriba	
Actual Footage Location of Well: 1090 feet from the South line and 1650 feet from the West line					
Ground Level Elev. 6648	Producing Formation Mesaverde		Pool BLANCO Gonzales Mesaverde		Dedicated Acreage: 160 320 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.

Sec.	3	1650'
1060'		

Scale: 1"=1000'

CERTIFICATION

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

Dale H. Shoemaker

Name
D.H. SHOEMAKER

Position
DISTRICT ENGINEER

Company
AMOCO PRODUCTION COMPANY

Date
JANUARY 17, 1983

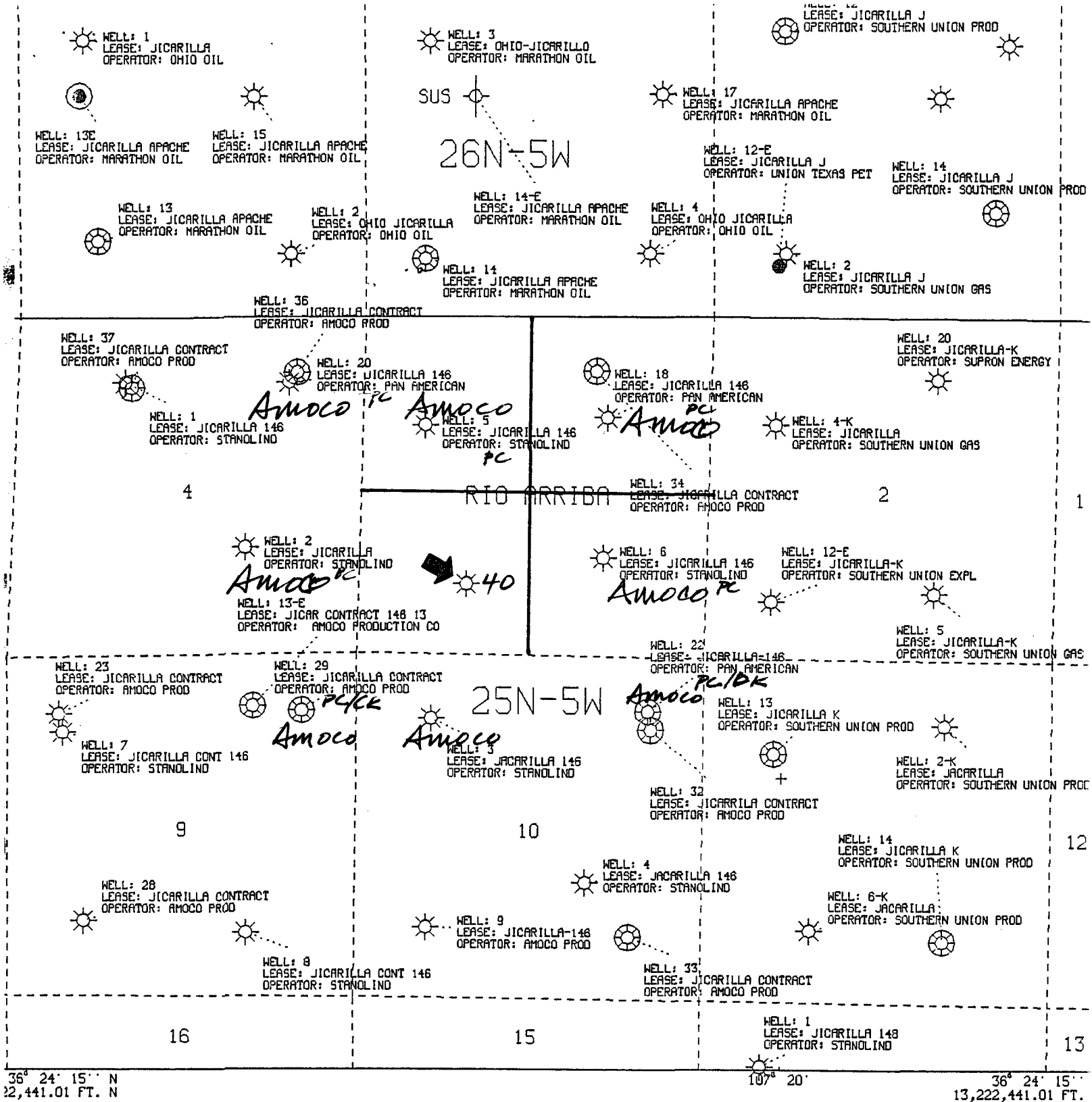
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
October 27, 1982

Registered Professional Engineer and Land Surveyor

Fred B. Kerr Jr.
Fred B. Kerr Jr.

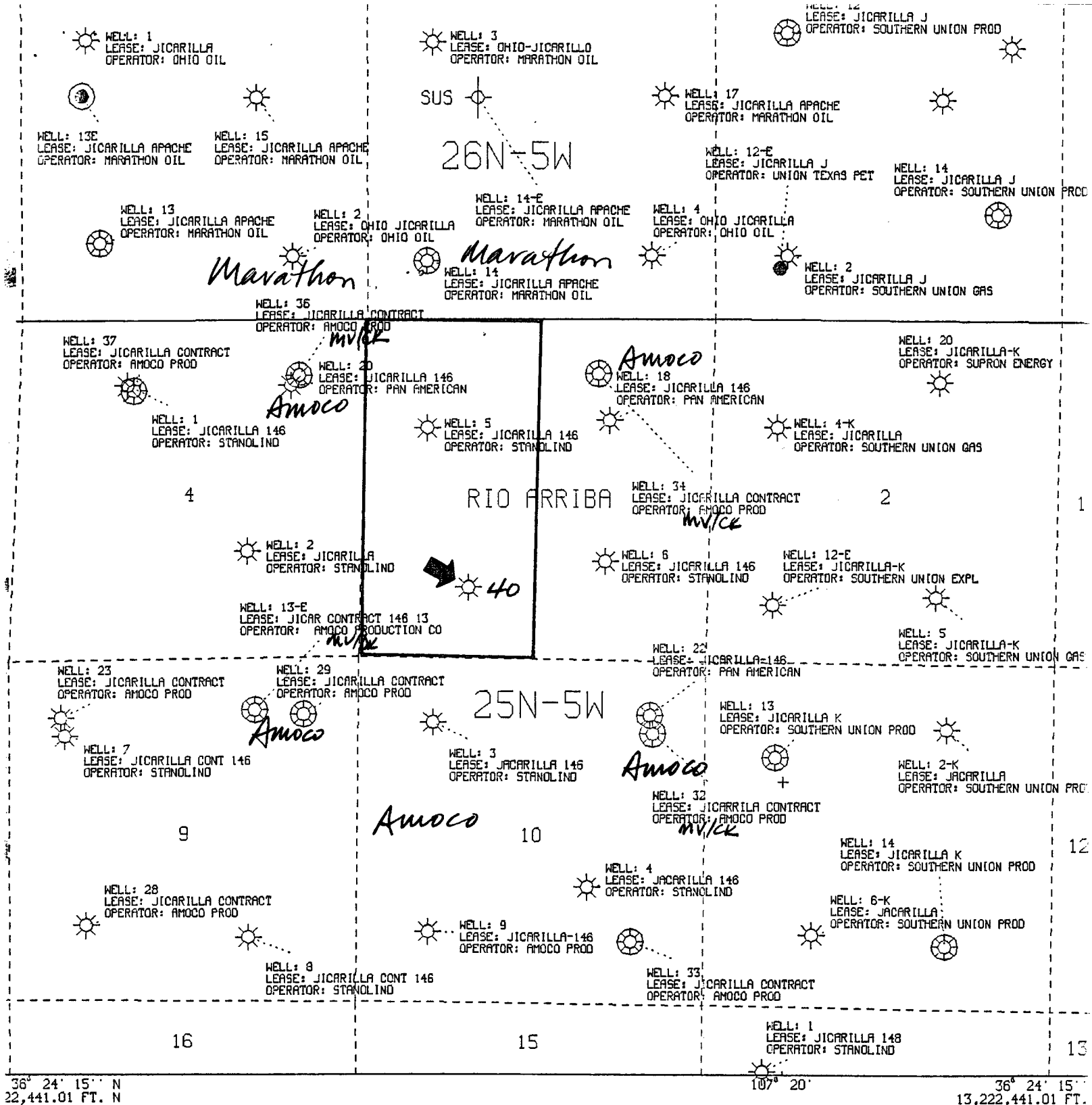
Certificate No.
3950



geological and geophysical data, including the interpretation of, appearing on this map is the private and confidential property of AMOCO Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.

ONIC CENTRAL MERIDIAN - 107° 20' 45" W LON
OID - 6

AMOCO PRODUCTION COMPANY
PLAT MAP
PC OFFSET OPERATORS
JICARILLA CONTRACT 146 #40
RIO ARRIBA COUNTY NEW MEXICO
SCALE 1 IN = 2,000 FT 11/28/1994



All geological and geophysical data, including the interpretation thereof, appearing on this map is the private and confidential property of Amoco Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.

AMOCO PRODUCTION COMPANY
PLAT MAP
MV/FRUITLAND
JICARILLA CONTRACT 146 #40
RIO ARRIBA COUNTY NEW MEXICO
SCALE 1 IN = 2,000 FT JUN 28 1992

FRS PRODUCTION SUMMARY FLACWEHZ: 84608101 METER: 000085813 JICARILLA CONTRACT: 146 40
TOTAL WELLS: 1

DAY DATE	DAILY GAS	DAILY WTR	WEEKLY GAS	FT DTC DTH COND	LINE AVG	TP	CP COMMENT
<i>Mesa Verde - Prior to Recompletion</i>							
Sun JUL 3, 94	0	0	5	0 09	297	493	493
Mon JUL 4, 94	170	0	33	0 09	297	493	493
Tue JUL 5, 94	170	0	52	0 09	297	493	493
Wed JUL 6, 94	170	0	170	0 09	297	493	493
Thu JUL 7, 94	125	0	148	0 09	297	493	493
Fri JUL 8, 94	125	0	140	0 09	297	493	493
Sat JUL 9, 94	125	0	136	0 09	297	493	493
885							
Sun JUL 10, 94	125	0	134	0 09	297	493	493
Mon JUL 11, 94	125	0	133	0 09	297	493	493
Tue JUL 12, 94	125	0	131	0 09	297	493	493
Wed JUL 13, 94	125	0	125	0 09	297	493	493
Thu JUL 14, 94	125	0	125	0 09	297	493	493
Fri JUL 15, 94	125	0	125	0 09	297	493	493
Sat JUL 16, 94	125	0	125	0 09	297	493	493
875							
Sun JUL 17, 94	125	0	125	0 09	297	493	493
Mon JUL 18, 94	125	0	125	0 09	297	493	493
Tue JUL 19, 94	125	0	125	0 09	297	493	493
Wed JUL 20, 94	125	0	125	0 09	297	493	493
Thu JUL 21, 94	150	0	138	0 09	297	493	493
Fri JUL 22, 94	150	0	142	0 09	297	493	493
Sat JUL 23, 94	150	0	144	0 09	297	493	493
950							
Sun JUL 24, 94	150	0	145	0 09	297	493	493
Mon JUL 25, 94	150	0	146	0 09	297	493	493
Tue JUL 26, 94	0	0	125	0 09	297	493	493
Wed JUL 27, 94	0	0	0	0 09	297	493	493
Thu JUL 28, 94	0	0	0	0 09	297	493	493
Fri JUL 29, 94	0	0	0	0 09	297	493	493
Sat JUL 30, 94	0	0	0	0 09	297	493	493
300							
Sun JUL 31, 94	0	0	0	0 09	297	493	493
Mon AUG 1, 94	0	0	0	0 09	297	493	493
Tue AUG 2, 94	0	0	0	0 09	297	493	493
Wed AUG 3, 94	0	0	0	0 09	297	493	493
Fri AUG 5, 94	0	0	0	0 09	297	493	493
Sat AUG 6, 94	0	0	0	0 09	297	493	493

NOTE: SUMMARY PAGES EXCLUDE CPD'S, LATERAL COMPRESSORS AND CONOCO WELLS

PRS PRODUCTION SUMMARY FLACWEHZ: 84608101 METER: 000085813 JICARILLA CONTRACT 146 40
TOTAL WELLS: 1

DAY DATE	DAILY GAS	DAILY WTR	WEEKLY GAS	FT DTC	DTH	COND	LINE AVG	TP	CP COMMENT
<i>FLUITAND/Returned Cliffs Combined</i>									
Sun AUG 7, 94	0	0	0	0	0	0	0	297	493
Mon AUG 8, 94	0	0	0	0	0	0	0	297	493
Tue AUG 9, 94	0	0	0	0	0	0	0	297	493
Wed AUG 10, 94	0	0	0	0	0	0	0	297	493
Thu AUG 11, 94	0	0	0	0	0	0	0	297	493
Fri AUG 12, 94	0	0	0	0	0	0	0	297	493
Sat AUG 13, 94	0	0	0	0	0	0	0	297	493
Sun AUG 14, 94	0	0	0	0	0	0	0	297	493
Mon AUG 15, 94	0	0	0	0	0	0	0	297	493
Tue AUG 16, 94	0	0	0	0	0	0	0	297	493
Wed AUG 17, 94	0	0	0	0	0	0	0	297	493
Thu AUG 18, 94	0	0	0	0	0	0	0	297	493
Fri AUG 19, 94	0	0	0	0	0	0	0	297	493
Sat AUG 20, 94	0	0	0	0	0	0	0	297	493
Thu SEP 22, 94	75	0	19	24.0	0	0	0	0	297
Fri SEP 23, 94	117	0	38	24.0	0	0	0	0	297
Sat SEP 24, 94	202	0	65	24.0	0	0	0	0	297
Sun SEP 25, 94	394	0	92	24.0	0	0	0	0	297
Mon SEP 26, 94	252	0	84	24.0	0	0	0	0	297
Tue SEP 27, 94	84	0	106	13.6	0	0	0	0	297
Wed SEP 28, 94	128	0	173	12.9	0	0	0	0	297
Thu SEP 29, 94	306	0	227	12.9	0	0	0	0	297
Fri SEP 30, 94	390	0	260	13.2	0	0	0	0	297
Sat OCT 1, 94	393	0	284	13.7	0	0	0	0	297
Sun OCT 2, 94	400	0	1,953	0	0	0	0	0	297
Mon OCT 3, 94	397	0	300	13.6	0	0	0	0	297
Tue OCT 4, 94	396	0	396	13.5	0	0	0	0	297
Wed OCT 5, 94	384	0	390	12.9	0	0	0	0	297
Thu OCT 6, 94	380	0	387	12.9	0	0	0	0	297
Fri OCT 7, 94	375	0	384	13.3	0	0	0	0	297
Sat OCT 8, 94	367	0	380	13.7	0	0	0	0	297
Sun OCT 9, 94	368	0	378	13.6	0	0	0	0	297

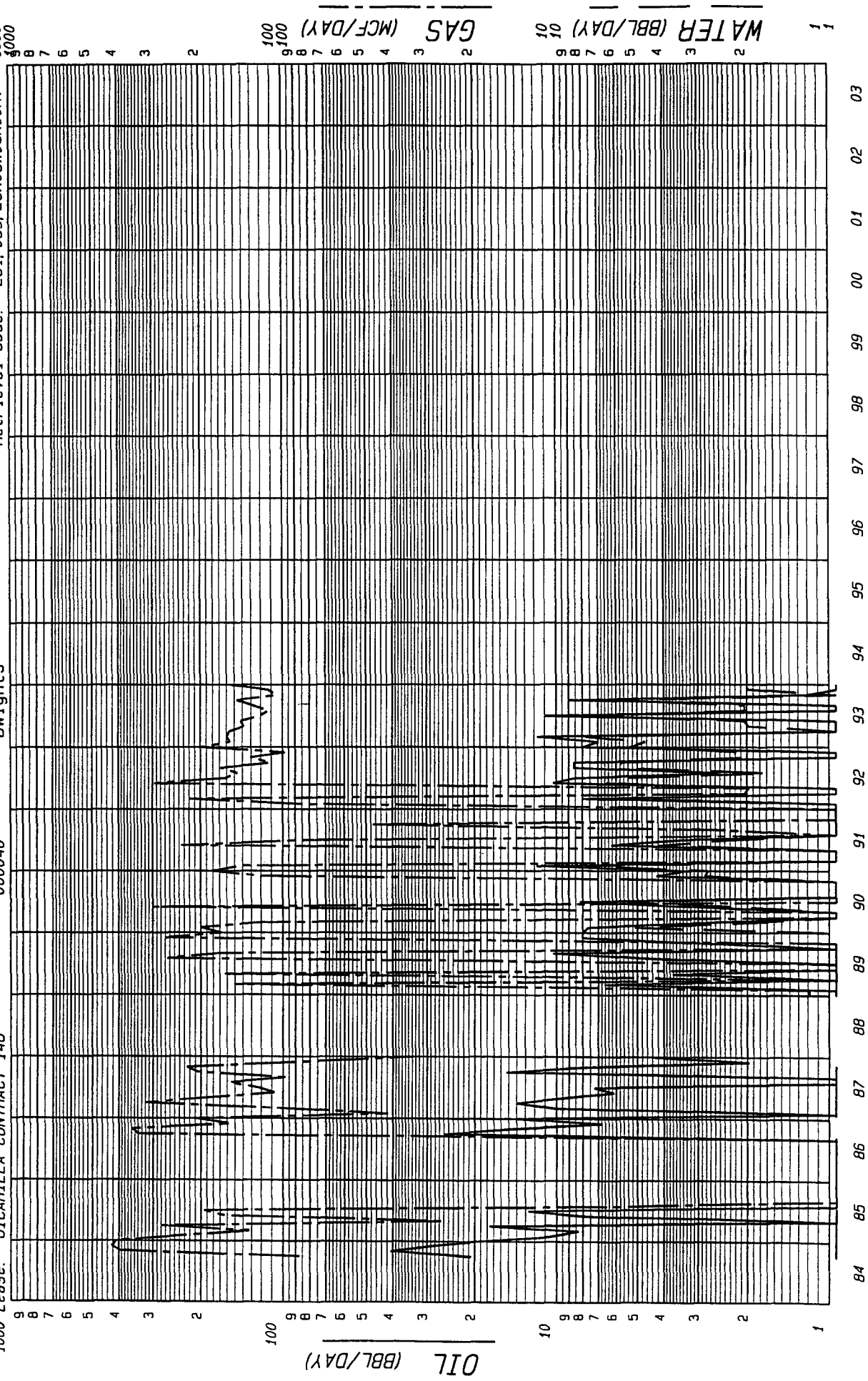
NOTE: SUMMARY PAGES EXCLUDE CPD'S, LATERAL COMPRESSORS AND CONOCO WELLS

FRS PRODUCTION SUMMARY FLACWEHZ: 84608101 METER: 000085813 JICARILLA CONTRACT 146 40
TOTAL WELLS: 1

DAY DATE	DAILY GAS	DAILY WTR	WEEKLY GAS	FT DTH	COND	LINE AVG	TP	CP COMMENT
	2,667	0					0	0 0 0
Sun OCT 9, 94	296	0	367 24.0	0 09				
Mon OCT 10, 94	300	0	300 .0	0 09				
Tue OCT 11, 94	304	0	302 .0	0 09				
Wed OCT 12, 94	324	0	309 24.0	0 09				
Thu OCT 13, 94	288	0	304 24.0	0 09				
Fri OCT 14, 94	288	0	300 24.0	0 09				
Sat OCT 15, 94	309	0	302 24.0	0 09				
	2,109	0					0	0 0 0
Sun OCT 16, 94	324	0	305 24.0	0 09				
Mon OCT 17, 94	0	0	0 .0	0 09				
Tue OCT 18, 94	298	0	149 24.0	0 09				
Wed OCT 19, 94	315	0	204 24.0	0 09				
Thu OCT 20, 94	309	0	230 24.0	0 09				
Fri OCT 21, 94	309	0	246 24.0	0 09				
Sat OCT 22, 94	302	0	255 24.0	0 09				
	1,857	0					0	0 0 0
Sun OCT 23, 94	302	0	262 24.0	0 09				
Mon OCT 24, 94	302	0	302 24.0	0 09				
Tue OCT 25, 94	299	0	301 24.0	0 09				
Wed OCT 26, 94	309	0	303 24.0	0 09				
Thu OCT 27, 94	315	0	306 24.0	0 09				
Fri OCT 28, 94	281	0	301 24.0	0 09				
Sat OCT 29, 94	51	0	259 24.0	0 09				
	1,859	0					0	0 0 0
Sun OCT 30, 94	0	0	222 24.0	0 09				
Mon OCT 31, 94	0	0	0 24.0	0 09				
Tue NOV 1, 94	125	0	62 24.0	0 09				
Wed NOV 2, 94	0	0	41 24.0	0 09				
	125	0					0	0 0 0
TTL MTD =	15,985							
MNTH AVG=	131							
LN AVG =	278							
OPEN AVG=	1							

NOTE: SUMMARY PAGES EXCLUDE CPD'S, LATERAL COMPRESSORS AND CONOCO WELLS

1000	Lease:	JICARILLA CONTRACT 146	Dwights
1000	Lease:	JICARILLA CONTRACT 146	Dwights
1000	Retrieval Code:	251, 039, 25N05W03N00MV	4000



County:	RIO ARriba	State:	NM
Field:	BLANCO (MESAVEDE)		
Reservoir:	MESAVEDE		
Operator:	AMOCO PRODUCTION CO.		
Oil Cum:	15160	Gas Cum:	334338
Location:	3N 25W 5W		

F.P. Date 09-84

Date: 08-29-94

JICARILLA CONTRACT 146 - 40
SEC 3 - T25N - R5W
RIO ARriba COUNTY, NM
FRUITLAND COAL / PICTURED CLIFF RECOMPLETION SUMMARY

1. Ran bit and scraper to 4000'.
2. Set a CIBP at 3200'.
3. Ran a Dual Spaced Neutron log from 3200' - 2500'.
4. Pressure tested the casing to 2500 psi. Casing tested OK.
5. Perforated the Pictured Cliffs (PC) formation and the lower Fruitland (FR) Coal from 2900' - 2907', 2912' - 2926', and 2932' - 2936'.
6. Fracture stimulated the perforations from 2900' - 2936' with 70 percent quality N2 foam and 99,950 pounds of 20/40 sand.
7. Let the well flow back for 3 days to clean-up.
8. Set a packer at 2909' and stung into the packer with 2-3/8" tubing.
9. Flow tested the PC up the tubing for 6 days while simultaneously flowing the FR up the tubing-casing annulus.

<u>Date</u>	<u>PC</u> <u>MCFD</u>	<u>FR</u> <u>MCFD</u>	<u>TOTAL</u> <u>MCFD</u>
8/05/94	1034	—	1034
8/06/94	833	360	1193
8/07/94	750	380	1130
8/08/94	711	360	1071
8/09/94	679	330	1009
8/10/94	555	360	915

Held 100 psi of back pressure on the PC during the flow test. Flowed the FR to a pit during the flow test.

10. Pulled the tubing and capped the packer set at 2909' with one sack of sand. Covered the lower FR perforations at 2900' - 2907' with sand. Tagged top of sand at 2897'.
11. Perforated the upper FR from 2794' - 2799', 2848' - 2874', and 2880' - 2888'.
12. Fracture Stimulated the perforations from 2794' - 2788' with 70 percent quality N2 foam and 67,700 pounds of 20/40 sand.
13. Flowed back the frac for 3 days to allow the completion to clean-up.
14. Cleaned out the wellbore to 2909'. Landed 2-3/8" tubing at 2814'. The well would not flow.

15. Swabbed the FR perforations for 9 days. Recovered 219 BBLS of load fluid. The well would not flow.
16. Squeezed the perforations from 2794' - 2888' with 100 sacks of cement.
17. Drilled out the cement and pressure tested the squeeze to 500 psi. Pressure tested OK.
18. Drilled up the packer set at 2909' and cleaned out the wellbore to 3165'.
19. Landed the 2-3/8" tubing at 2914'. Shut the well in and rigged down the service unit.
20. Set a compressor and began selling PC\FR gas down the sales line on 9/22/94. The combined flow rate for the PC and lower FR Coal is stabilizing at approximately 300 MCFD.

HALLIBURTON ENERGY SERVICES

FIELD LABORATORY
WESTERN AREA

LABORATORY ANALYSIS

To: AMOCO PRODUCTIONDate: 07-01-94Submitted by: JAKE NUNOZDate Rec. 07-01-94Well No. JICARILLA CONTRACT 146-40Location: MESA VERD

Sample Markings _____

Specific Gravity 1.000pH 6.96Resisitivity 1.26 @ 79°Iron(Fe) 2

Milligrams per Liter

Potassium(K) 0

" "

Sodium(Na) 972

" "

Calcium(Ca) 179

" "

Magnesium(Mg) 73

" "

Chlorides(Cl) 1642

" "

Sulfates(SO₄) 0

" "

Carbonates(CO₃) 0

" "

Bicarbonates(HCO₃) 671

" "

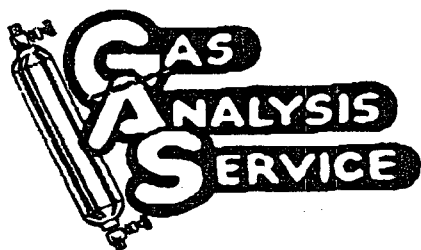
Total Dissolved Solids 3539

" "

By TERESA WHITETitle LAB TECHLocation FARMINGTON

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage whether due to act or omission resulting from such report or its use.



1115 Farmington Avenue
Farmington, N.M. 87401
(505) 325-6622

Analysis No. AMO40632
Cust. No. 12300-12780

WELL/LEASE INFORMATION

Company	: AMOCO PRODUCTION COMPANY	Source	:
Well Name	: JICARILLA CONT. 146-40	Pressure	: N/A PSIG
County	:	Sample Temp.	: N/A DEG. F
State	:	Well Flowing	: YES
Location	:	Date Sampled	: 06/19/94
Fld/Formation	: <u>MESAVERDE</u>	Sampled By	: GREG VIGIL
Cust.Stn.No.	:	Foreman/Engr	: JAKE NUNEZ

Remarks: JICARILLA FIELD

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	0.356	0.0000	0.00	0.0034
CO2	0.353	0.0000	0.00	0.0054
METHANE	78.936	0.0000	799.07	0.4372
ETHANE	11.911	3.1862	211.26	0.1237
PROPANE	5.136	1.4155	129.52	0.0782
I-BUTANE	0.835	0.2731	27.22	0.0168
N-BUTANE	1.321	0.4165	43.19	0.0265
I-PENTANE	0.477	0.1745	19.13	0.0119
N-PENTANE	0.303	0.1097	12.18	0.0075
HEXANES	0.372	0.1623	19.13	0.0120
TOTAL	100.000	5.7378	1260.70	0.7226

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR	(1/Z)	1.0036
BTU/CU.FT. (DRY) CORRECTED FOR	(1/Z)	1265.2
BTU/CU.FT. (WET) CORRECTED FOR	(1/Z)	1243.2
REAL SPECIFIC GRAVITY		0.7249

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: N/A
CYLINDER PRESSURE	: 220 PSIG
DATE RUN	: 06/21/94
ANALYSIS RUN BY	: SHEILA FELTMAN



1115 Farmington Avenue
Farmington, N.M. 87401
(505) 325-6622

Analysis No. AMO40912
Cust. No. 12300-13615

WELL/LEASE INFORMATION

Company : AMOCO PRODUCTION COMPANY Source : CASING
Well Name : JICARILLA CONT. #40 Pressure : 40 PSIG
County : RIO ARriba Sample Temp. : N/A DEG.F
State : NM Well Flowing : YES
Location : Date Sampled : 08/08/94
Fld/Formation : Sampled By : M.D. / L&L
Cust.Stn.No. : Foreman/Engr : MIKE ROWLAND

Remarks:

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	0.802	0.0000	0.00	0.0078
CO2	0.129	0.0000	0.00	0.0020
METHANE	81.672	0.0000	826.77	0.4524
ETHANE	7.761	2.0761	137.66	0.0806
PROPANE	5.064	1.3956	127.71	0.0771
I-BUTANE	1.214	0.3971	39.57	0.0244
N-BUTANE	1.498	0.4723	48.98	0.0301
I-PENTANE	0.617	0.2258	24.74	0.0154
N-PENTANE	0.422	0.1528	16.96	0.0105
HEXANES	0.821	0.3581	42.21	0.0264
TOTAL	100.000	5.0778	1264.59	0.7267

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z) 1.0037
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z) 1269.3
BTU/CU.FT. (WET) CORRECTED FOR (1/Z) 1247.2
REAL SPECIFIC GRAVITY 0.7291

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER # : 040
CYLINDER PRESSURE : 32 PSIG
DATE RUN : 08/09/94
ANALYSIS RUN BY : LINDA SPENCER



Farming n, N.M. 8/401
(505) 325-6622

Analysis No. AMO40913
Cust. No. 12300-13610

WELL/LEASE INFORMATION

Company : AMOCO PRODUCTION COMPANY Source : TUBING
Well Name : JICARILLA CONT. #40 Pressure : N/A PSIG
County : RIO ARRIBA Sample Temp. : N/A DEG.F
State : NM Well Flowing : YES
Location : Date Sampled : 08/08/94
Fld/Formation : Sampled By : M.D./ L&L
Cust.Stn.No. : Foreman/Engr : MIKE ROWLAND

Remarks:

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	0.827	0.0000	0.00	0.0080
CO2	0.134	0.0000	0.00	0.0020
METHANE	81.906	0.0000	829.13	0.4537
ETHANE	7.757	2.0750	137.59	0.0805
PROPANE	5.001	1.3783	126.12	0.0761
I-BUTANE	1.180	0.3860	38.46	0.0237
N-BUTANE	1.457	0.4594	47.64	0.0292
I-PENTANE	0.592	0.2166	23.74	0.0147
N-PENTANE	0.404	0.1463	16.23	0.0101
HEXANES	0.742	0.3237	38.15	0.0239
TOTAL	100.000	4.9853	1257.06	0.7219

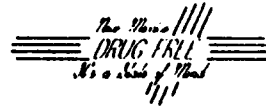
* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z) 1.0036
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z) 1261.6
BTU/CU.FT. (WET) CORRECTED FOR (1/Z) 1239.6
REAL SPECIFIC GRAVITY 0.7242

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER # : A008
CYLINDER PRESSURE : 80 PSIG
DATE RUN : 08/09/94
ANALYSIS RUN BY : LINDA SPENCER



STATE OF NEW MEXICO
ENERGY, MINERALS and NATURAL RESOURCES DIVISION
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

BRUCE KING
GOVERNOR

94 DEC 21 AM 8 52
ANITA LOCKWOOD
CABINET SECRETARY

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

Date: 12/19/94

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

RE: Proposed MC _____
Proposed NSL _____
Proposed WFX _____
Proposed NSP _____

Proposed DHC X _____
Proposed SWD _____
Proposed PMX _____
Proposed DD _____

Gentlemen:

I have examined the application received on 12/1/94
for the AMOCO Jicarilla 146 #40
OPERATOR LEASE & WELL NO.

N-3-25N-5W and my recommendations are as follows:
UL-S-T-R

Approve

Yours truly,

[Signature]