

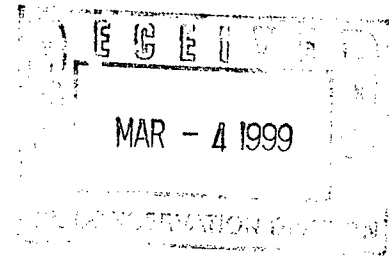


Cross Timbers Operating Company

DHC 3/24/99
2250

March 2, 1999

Ms. Lori Wrotenbery
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505



Re: Administrative Approval to Downhole Commingle
J. F. Day "D" #1E
910' FSL & 830' FEL SEC 20, T28N, R10W
San Juan County, New Mexico

Dear Ms. Wrotenbery,

Cross Timbers Operating Company requests administrative approval to downhole commingle the Otero Chacra and the Basin Dakota pools in the referenced well.

The Chacra in this well has not produced since mid 1998 and the Dakota has dropped to uneconomic levels. Liquid load has caused the drop in production. Commingling the formations will allow both pools to be produced through a single tubing string. This will improving lifting efficiency and the ability to produce fluids out of the wellbore.

The allocation of commingled production is based on producing rates from both formations prior to problems with liquid loading. See attached allocation method sheet for calculations.

The following is enclosed for you review of the proposed commingling:

1. C-107-A
2. C-102
3. Well Location Map
4. Offset operator list
5. Production Curves
6. Allocation Method Sheet
7. Notification Letter

All offset operators and the Farmington District BLM office are being notified of this proposed commingling. If you need additional information or have any questions, please feel free to contact me at (505)-324-1090.



Cross Timbers Operating Company

Sincerely,

Thomas DeLong
Production Engineer

CC: NMOCD – District III (Aztec)
BLM (Farmington District Office)

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980
DISTRICT II
811 S. First St., Artesia, NM 88210-2835
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410-1693

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 S. Pacheco
Santa Fe, New Mexico 875054-6429

Form C-107-A
New 3-12-96

APPROVAL PROCESS:

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Cross Timbers Operating Company 2700 Farmington Ave., Bldg. K. Ste 1 Farmington, NM 87401
Operator Address

J. F. Day "D" 1E P Sec 20 T28N R10W San Juan
Lease Well No. Unit Ltr. - Sec - Twp - Rge County

OGRID NO. 167067 Property Code API NO. 30-045-23990 Spacing Unit Lease Types: (check 1 or more)
Federal ☒ State (and/or) Fee

The following facts are submitted in support of downhole commingling	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Otero Chacra 82329		Basin Dakota 71599
2. Top and Bottom of Pay Section (Perforations)	3,223' - 3,235'		6,552' - 6,694'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a. (Current) b. (Original) 1,040 psia (measured)	a. b.	a. b. 1800 psia (est)
6. Oil Gravity (^o API) or Gas BTU Content)	1000 BTU		1266 BTU
7. Producing or Shut-In?	SI		Producing
Production Marginal? (yes or no)	Yes		Yes
* If Shut-In, give date and oil/gas/water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: 7/98 Rates: 0 BOPD/ 13 MCFPD/ 0 BWPD	Date: Rates:	Date: Rates:
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: 1/99 Rates: 0 BOPD/ 18 MCFD/ 0 BWPD
8. Fixed Percentage Allocation Formula - % for each zone	Oil: 0 % Gas: 23 %	Oil: % Gas: %	Oil: 100 % Gas: 77 %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? ☒ Yes ☐ No
If not, have all working, overriding, and royalty interests been notified by certified mail? ☒ Yes ☐ No
Have all offset operators been given written notice of the proposed downhole commingling? ☒ Yes ☐ No

11. Will cross-flow occur? ☒ Yes ☐ No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. ☒ Yes ☐ No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each other? ☒ Yes ☐ No

13. Will the value of production be decreased by commingling? ☐ Yes ☒ No (If Yes, attach explanation)

14. If this well in on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. ☒ Yes ☐ No

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S).

16. ATTACHMENTS:
* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
* Production curve for each zone for at least one year. (If not available, attach explanation.)
* For zones with no production history, estimated production rates and supporting data.
* Data to support allocation method or formula.
* Notification list of all offset operators.
* Notification list of working, overriding, and royalty interests for uncommon interest cases.
* Any additional statements, data, or documents required to support commingling.

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

SIGNATURE Thomas DeLong TITLE Production Engineer DATE 3/1/99

TYPE OR PRINT NAME Thomas DeLong TELEPHONE NO. (505) 324-1090

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

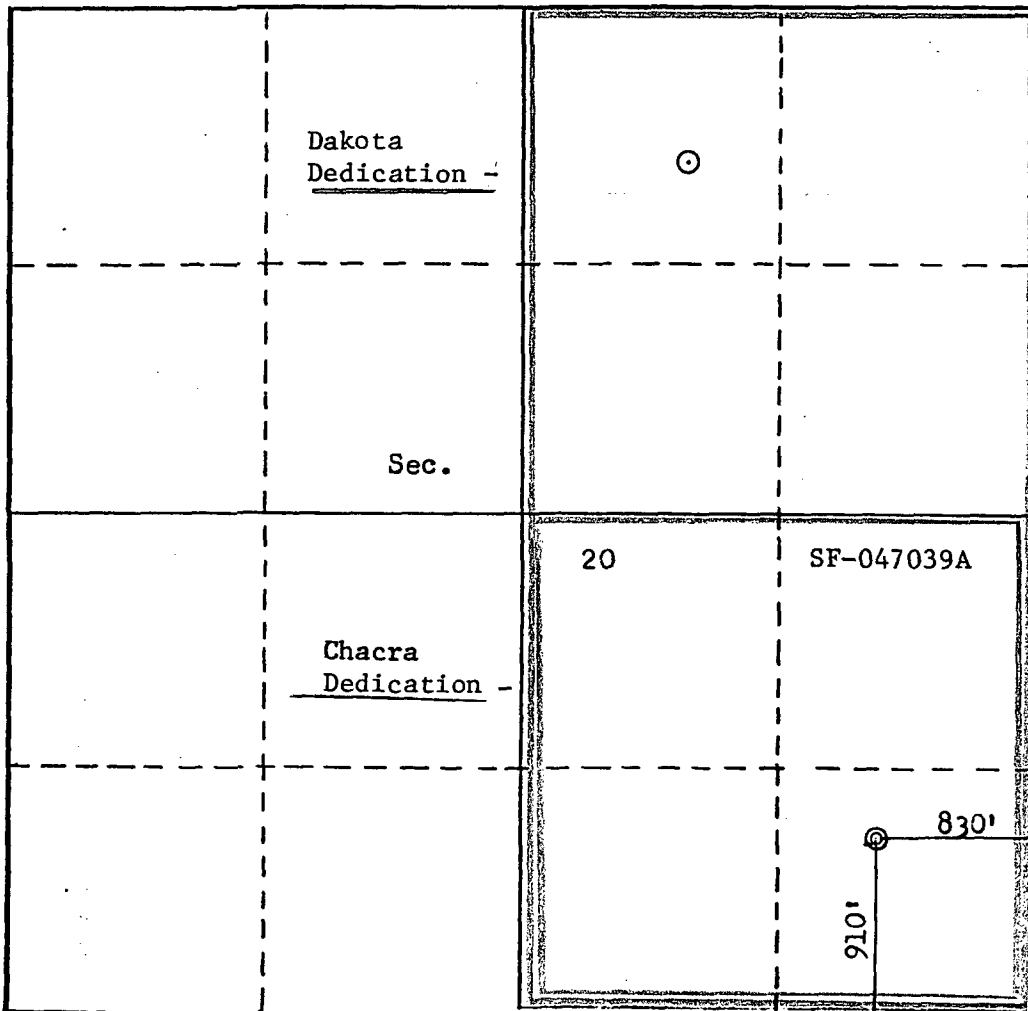
Operator AMOCO PRODUCTION COMPANY		Lease J. F. DAY "D"		Well No. 1-E
Unit Letter P	Section 20	Township 28N	Range 10W	County San Juan
Actual Footage Location of Well: 910 feet from the South line and 830 feet from the East line				
Ground Level Elev. 6100	Producing Formation Dakota /Chacra	Pool Basin Dakota /Chacra	Dedicated Acreage: 320 /160 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.

Wayne L. Peterson
Name

W. L. PETERSON

Position
DISTRICT ENGINEER

Company
AMOCO PRODUCTION COMPANY

Date
September 17, 1981

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.

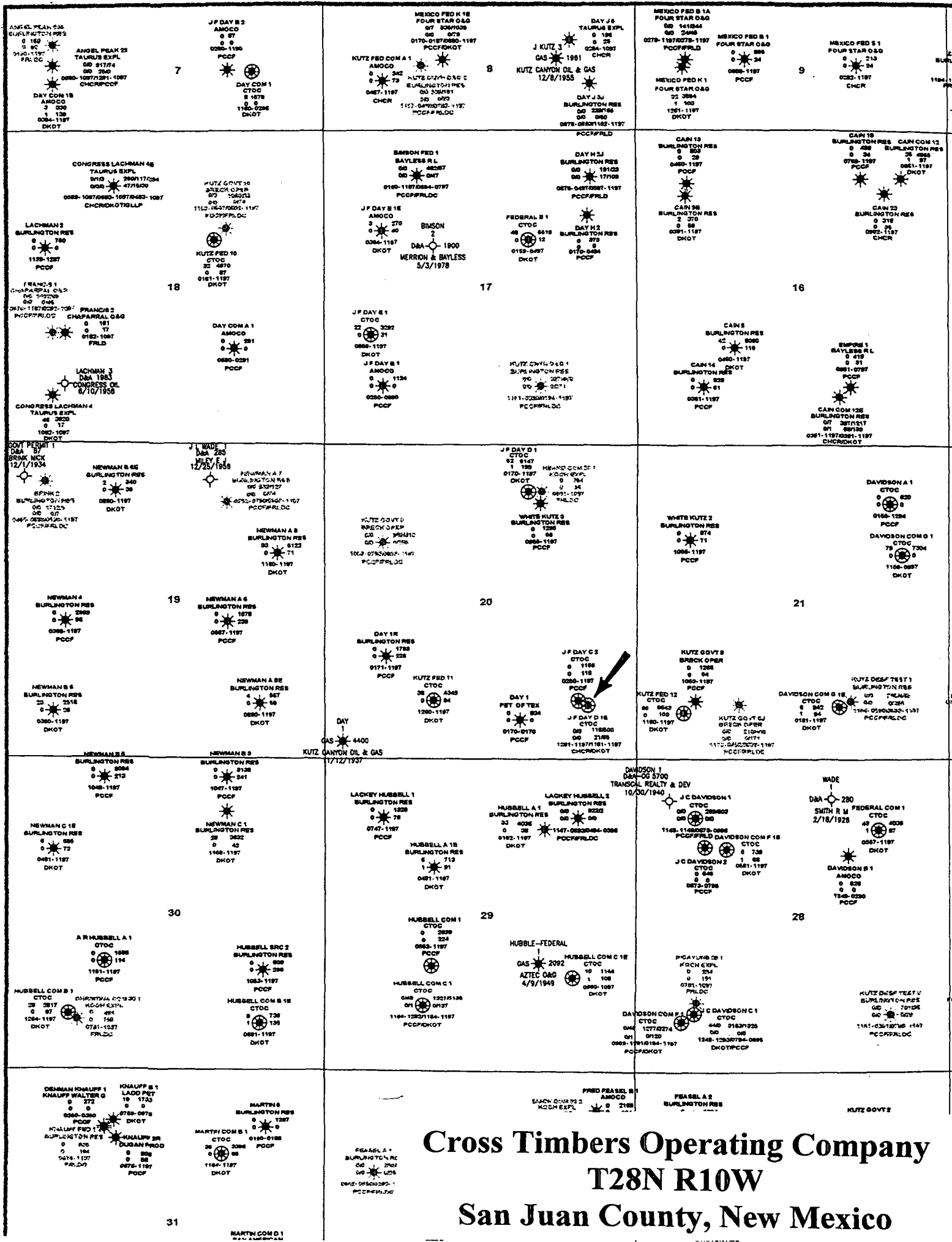
ADMN 79361

Date Surveyed

October 2, 1979
Registered Professional Engineer
and/or Land Surveyor

Edna B. Kerr, Jr.
Certified Public Accountant

Edna B. Kerr, Jr.
Edna B. Kerr, Jr.



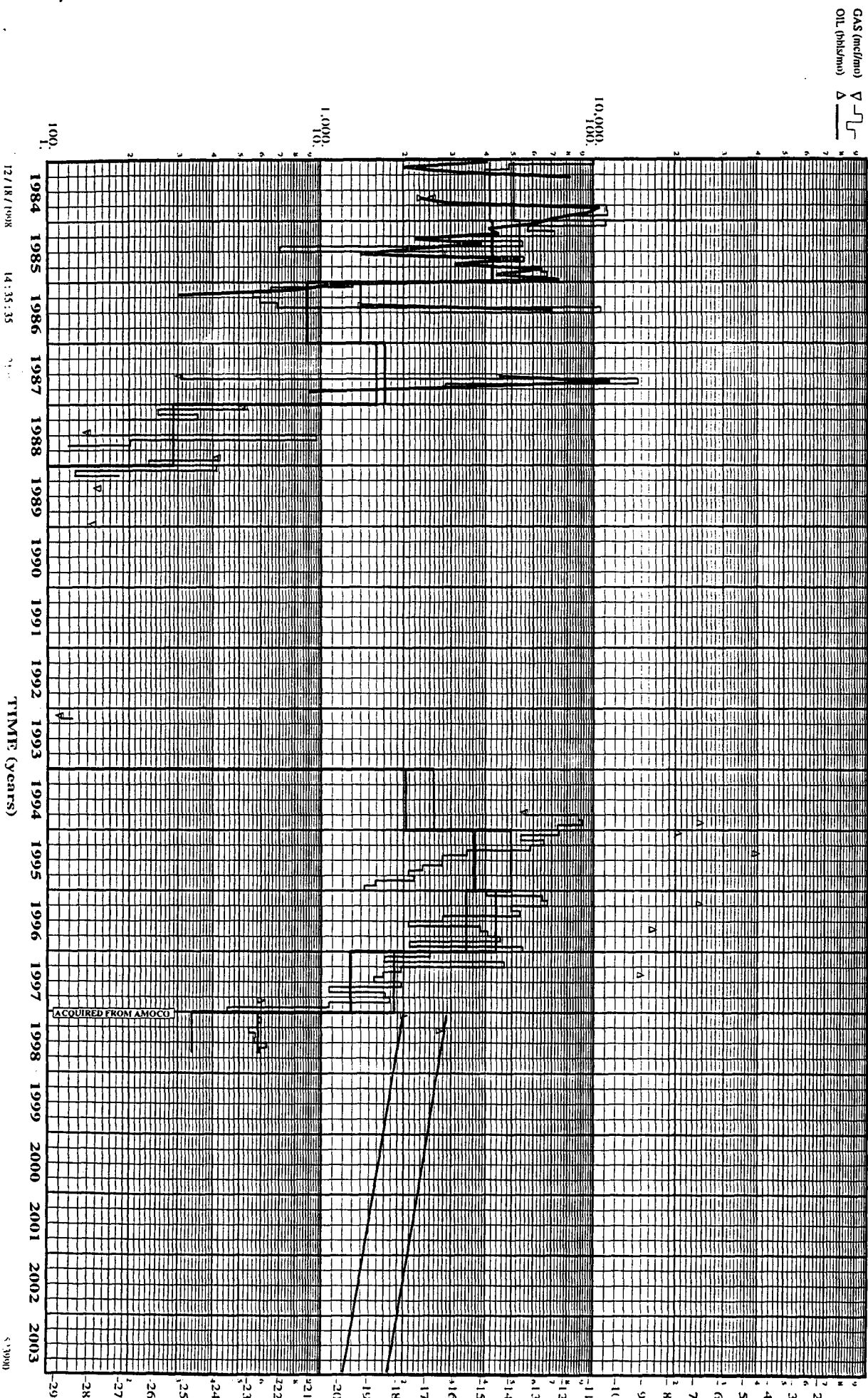
JF Day D 1E
Chacra and Dakota Offsets

Field	API	Operator	Lease	Well Nbr	Reservoir	County	Spot	Section	Township	Range
BASIN	30045075260000	BURLINGTON RESOURCES OIL & GAS COMPA	CAIN COM	12	DAKOTA	SAN JUAN	A	16 28N	10W	
OTERO	30045253630000	BURLINGTON RESOURCES OIL & GAS COMPA	CAIN	23	CHACRA	SAN JUAN	A	16 28N	10W	
BASIN	30045239730000	BURLINGTON RESOURCES OIL & GAS COMPA	CAIN	9E	DAKOTA	SAN JUAN	D	16 28N	10W	
BASIN	30045074460000	BURLINGTON RESOURCES OIL & GAS COMPA	CAIN	9	DAKOTA	SAN JUAN	K	16 28N	10W	
BASIN	30045239550000	BURLINGTON RESOURCES OIL & GAS COMPA	CAIN COM	12E	DAKOTA	SAN JUAN	O	16 28N	10W	
OTERO	30045239550000	BURLINGTON RESOURCES OIL & GAS COMPA	CAIN COM	12E	CHACRA	SAN JUAN	O	16 28N	10W	
BASIN	30045256150000	CROSS TIMBERS OPERATING COMPANY	J F DAY E	1E	DAKOTA	SAN JUAN	E	17 28N	10W	
BASIN	30045074810000	CROSS TIMBERS OPERATING COMPANY	FEDERAL E	1	DAKOTA	SAN JUAN	G	17 28N	10W	
BASIN	30045074420000	CROSS TIMBERS OPERATING COMPANY	J F DAY E	1	DAKOTA	SAN JUAN	L	17 28N	10W	
BASIN	30045255380000	ENERGEN RESOURCES CORPORATION	CONGRESS LACHMAN	4E	DAKOTA	SAN JUAN	C	18 28N	10W	
OTERO	30045255380000	ENERGEN RESOURCES CORPORATION	CONGRESS LACHMAN	4E	CHACRA	SAN JUAN	C	18 28N	10W	
BASIN	30045074770000	ENERGEN RESOURCES CORPORATION	KUTZ FEDERAL	10	DAKOTA	SAN JUAN	G	18 28N	10W	
BASIN	30045074030000	ENERGEN RESOURCES CORPORATION	CONGRESS LACHMAN	4	DAKOTA	SAN JUAN	M	18 28N	10W	
BASIN	30045239270000	BURLINGTON RESOURCES OIL & GAS COMPA	NEWMAN B	6E	DAKOTA	SAN JUAN	H	19 28N	10W	
BASIN	30045073280000	BURLINGTON RESOURCES OIL & GAS COMPA	NEWMAN A	8	DAKOTA	SAN JUAN	H	19 28N	10W	
BASIN	30045072540000	BURLINGTON RESOURCES OIL & GAS COMPA	NEWMAN B	6	DAKOTA	SAN JUAN	M	19 28N	10W	
BASIN	30045238960000	BURLINGTON RESOURCES OIL & GAS COMPA	NEWMAN A	8E	DAKOTA	SAN JUAN	P	19 28N	10W	
BASIN	30045072670000	CROSS TIMBERS OPERATING COMPANY	J F DAY D	1	DAKOTA	SAN JUAN	B	20 28N	10W	
BASIN	30045073900000	CROSS TIMBERS OPERATING COMPANY	KUTZ FEDERAL	11	DAKOTA	SAN JUAN	N	20 28N	10W	
OTERO	30045239900000	CROSS TIMBERS OPERATING COMPANY	J F DAY D	1E	DAKOTA	SAN JUAN	P	20 28N	10W	
BASIN	30045073250000	CROSS TIMBERS OPERATING COMPANY	DAVIDSON GAS COM G	1	DAKOTA	SAN JUAN	H	21 28N	10W	
BASIN	30045072550000	CROSS TIMBERS OPERATING COMPANY	KUTZ FEDERAL	12	DAKOTA	SAN JUAN	M	21 28N	10W	
BASIN	30045239910000	CROSS TIMBERS OPERATING COMPANY	DAVIDSON GAS COM G	1E	DAKOTA	SAN JUAN	O	21 28N	10W	
BASIN	30045071960000	CROSS TIMBERS OPERATING COMPANY	FEDERAL GAS COM	1	DAKOTA	SAN JUAN	A	28 28N	10W	
BASIN	30045241130000	CROSS TIMBERS OPERATING COMPANY	DAVIDSON GAS COM F	1E	DAKOTA	SAN JUAN	F	28 28N	10W	
BASIN	30045071100000	CROSS TIMBERS OPERATING COMPANY	DAVIDSON GAS COM F	1	DAKOTA	SAN JUAN	M	28 28N	10W	
BASIN	30045071940000	BURLINGTON RESOURCES OIL & GAS COMPA	HUBBELL A	1	DAKOTA	SAN JUAN	B	29 28N	10W	
BASIN	30045239280000	BURLINGTON RESOURCES OIL & GAS COMPA	HUBBELL A	1E	DAKOTA	SAN JUAN	F	29 28N	10W	
BASIN	30045241140000	CROSS TIMBERS OPERATING COMPANY	HUBBELL GAS COM C	1E	DAKOTA	SAN JUAN	I	29 28N	10W	
BASIN	30045071270000	CROSS TIMBERS OPERATING COMPANY	HUBBELL GAS COM C	1	DAKOTA	SAN JUAN	N	29 28N	10W	
BASIN	30045072150000	BURLINGTON RESOURCES OIL & GAS COMPA	NEWMAN C	1	DAKOTA	SAN JUAN	B	30 28N	10W	
BASIN	30045241150000	BURLINGTON RESOURCES OIL & GAS COMPA	NEWMAN C	1E	DAKOTA	SAN JUAN	E	30 28N	10W	
BASIN	30045071200000	CROSS TIMBERS OPERATING COMPANY	HUBBELL GAS COM B	1	DAKOTA	SAN JUAN	M	30 28N	10W	
BASIN	30045246690000	CROSS TIMBERS OPERATING COMPANY	HUBBELL GAS COM B	1E	DAKOTA	SAN JUAN	P	30 28N	10W	

Cross Timbers Oil Company

DAY, JF D IE
 CROSS TIMBERS
 BASIN (DAKOTA)
 SAN JUAN, NEW MEXICO
 20P 28N 10W
 BGV
 CO
 523990
 SAN JUAN
 70205

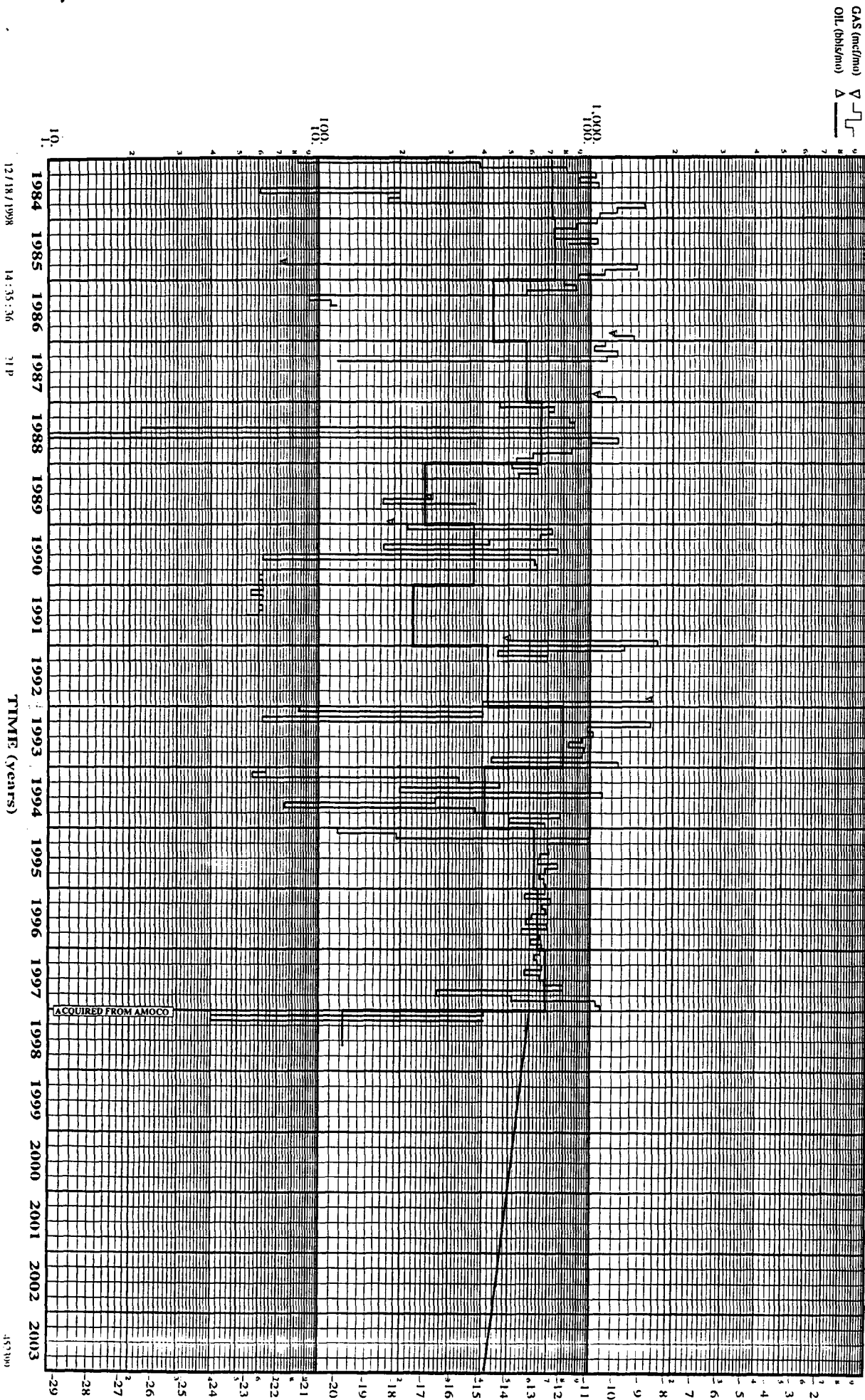
M & L - 1/98 FORECAST TWD TLS CP-RCH



Cross Timbers Oil Company

DAY, JF D IE
 CROSS TIMBERS
 OTERO (CHACRA)
 SAN JUAN, NEW MEXICO
 20P 28N 10W
 BGV
 CO
 452399
 SAN JUAN
 70206

M & L - 1/98 FORECAST TWD TLS CP-RCH



12/18/1998

14:33:36

31 P

TIME (years)

457900

CROSS TIMBERS OPERATING COMPANY

J F Day D #1E
P Sec 20 T28N R10W
San Juan County, New Mexico

Chacra & Dakota Allocation Method

Potential producing rates (without liquid loading) were determined for each formation by analyzing production decline curves. See enclosed curves for the Otero Chacra and Basin Dakota. Decline rates for both formations were assumed to be the same.

Otero Chacra potential: 0 BOPM
 600 MCFPM

Basin Dakota potential: 30 BOPM
 2000 MCFPM

Gas Allocation: Chacra $\frac{600}{600 + 2000} = .23$ or 23% of total commingled production.

Gas Allocation: Dakota $\frac{2000}{600 + 2000} = .77$ or 77% of total commingled production

All oil production should be allocated to the Dakota.

«Company»

«Address1»

«City», «State» «PostalCode»

Re: Downhole Commingling Application
J. F. Day "D" #1E
910' FSL & 830' FEL Sec 20, T28N, R10W
San Juan County, New Mexico

Dear Offset Operator,

Cross Timbers Operating Company is filing with the New Mexico Oil Conservation Division for approval of downhole commingling of the Chacra and Dakota formations in the subject well. Records indicate you are an offset operator to the J. F. Day "D" #1E and this letter is notification of the proposed commingling.

If you do not have any objections to the proposed commingling, you can sign a copy of this letter or allow twenty days, from receipt of this letter, to expire. If you wish to object to commingling, it must be done within twenty days from receipt of this letter.

Please return this letter or a letter of objection to Mr. David Catanach at the following address:

Mr. David Catanach
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Your prompt attention to this matter is appreciated.

Sincerely,

Thomas DeLong
Production Engineer

I do not object to the proposed commingling.

By: _____ Date: _____

For: _____