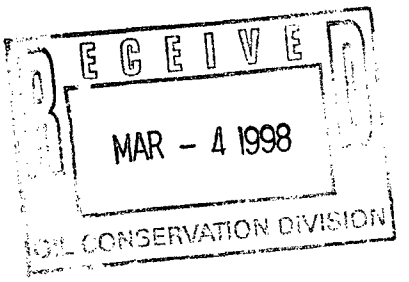
CAULKINS OIL COMPANY

P.O. BOX 340
BLOOMFIELD, NEW MEXICO 87413

1868



March 2, 1998

State of New Mexico
Oil Conservation Division
ATTN: Mr. David Catanach
2040 S. Pacheco
Santa Fe, NM 87505

Re: Downhole Commingling Application – Breech "F" 8-M

Dear Mr. Catanach:

In reference to your letter dated January 21, 1998 requesting additional information to be submitted for commingling approval. Caulkins Oil Company (COC) is resubmitting form C-107-A with the following additional information.

Item no. (5) – Bottom hole pressure data, current and original

Bottom hole pressure test was run February 3, 1998. This is the original test.
A bottom hole pressure test was also run on our Breech "F" 4-M well located in section 33-27N-6W, unit "I" on the same day. This is the only dual completed Dakota – Mesa Verde well located within a one-mile radius of Breech "F" 8-M that has not been commingled, but is approved to be commingled under order #DHC-659.

Also included are bottom hole pressure test data from wells surrounding Breech "F" 8-M within a one-mile radius and a map showing locations in relationship to Breech "F" 8-M. This information is submitted as exhibit "A".

Item no. (6) – Gas BTU content

A gas sample was taken February 3, 1998. This sample is representative of commingled Dakota – Mesa Verde BTU content.

Gas samples were also taken on the above-mentioned Breech "F" 4-M well representing separated Dakota – Mesa Verde zones. Also included is BTU contents of COC operated wells within a one-mile radius surrounding Breech "F" 8-M. This information is submitted as exhibit "B".

Item no. (7) – Current producing rates

The only production data available for production rates on the Breech "F" 8-M well are from the potential test taken on November 7, 1997. Calculated rate of flow from commingled zones was 2,138 MCF/D

Recommended Production Split:
Mesa Verde 21% = 448 MCF/D
Dakota 79% = 1690 MCF/D

Estimated sustained rate of production after well has been produced to pipeline for over 30 days.

Estimated Commingled production: 700 MCF/D
Mesa Verde 21% = 147 MCF/D
Dakota 79% = 553 MCF/D

Included for review are total gas volumes, days wells produced and average production rates for Dakota – Mesa Verde wells within a one-mile radius operated by COC. This information is submitted as exhibit "C".

All Dakota – Mesa Verde wells within a one-mile radius of Breech "F" 8-M have either been commingled or are approved for commingling. We hope that support data submitted with form C-107-A will be sufficient information to obtain an approved commingling order and an approved C-104 so that well may be first produced.

If you have any questions or more information is required, please contact me at (505) 632-1544.

Sincerely,

Robert L. Verquer

Robert L. Verquer
Superintendent

xc: OCD - Aztec

EXHIBIT "B" - CASE NO. 11353, ORDER NO. R-10470-A

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
811 South First St., Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 S. Pacheco
Santa Fe, New Mexico 87505-6429

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

APPROVAL PROCESS:
__ Administrative __ Hearing

EXISTING WELLBORE
__ YES __ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Caulkins Oil Company (Operator) — P.O. Box 340, Bloomfield, NM 87413 (Address)

Breech "F" (Lease) — 8-M (Well No.) — O 34-27N-6W (Unit Ltr. - Sec - Twp - Rge) — Rio Arriba (County)

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 003824 Property Code 002460 API NO. 30-039-25688 Federal X, State ___, (and/or) Fee ___

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zones	Lower Zone
1. Pool Name and Pool Code	Blanco Mesa Verde 72319		Basin Dakota 71599
2. Top and Bottom of Pay Section (Perforations)	4809' to 5656'		7363' to 7556'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure Zones - Artificial Lift: Estimated Current & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	a. (Current)	a.	a.
	b. (Original)	b.	b.
6. Oil Gravity (°API) or Gas BTU Content			
7. Producing or Shut-In?	Potential Test 11-7-97 2515 AOF		Potential Test 11-7-97 2515 AOF
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: Rates:	Date: Rates:	Date: Rates:
* If Producing, give date andoil/gas/water rates of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: Rates:
8. Fixed Percentage Allocation Formula -% for each zone	Oil: 23 % Gas: 21 %	Oil: % Gas: %	Oil: 77 % Gas: 79 %

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? X 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? X Yes ___ No

11. Will cross-flow occur? ___ Yes X 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? X Yes ___ No

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

14. If this well is 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(C) Exceptions: ORDER NO(S). R-5649, R-5924, DHC 659

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 explaination.)
* 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 Robert L Verquer TITLE Superintendent DATE 12-1-97

TYPE OR PRINT NAME Robert L. Verquer TELEPHONE NO. (505) 632-1544

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised October 18, 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	[2] Pool Code	[3] Pool Name
30-039-25688	MV-72319 / DK-71599	Blanco Mesa Verde and Basin Dakota

[4] Property Code	[5] Property Name	[6] Well Number
2460	Breech "F"	8-M

[7] OGRID No.	[8] Operator Name	[9] Elevation
3824	Caulkins Oil Company	6610

[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
O	34	27N	6W		896'	South	1604'	East	Rio Arriba

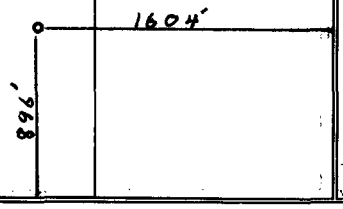
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
E-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



[17] OPERATOR CERTIFICATION

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

Signature Robert L Verquer

Printed Name Robert L. Verquer

Title Superintendent

Date November 26, 1997

[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

Date of Survey

Signature and Seal of Professional Surveyer:

Certificate Number

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test: [X] Initial [ ] Annual [ ] Special		Test Date: 11-7-97	
Company: Caulkins Oil Company	Connection:		
Pool: Basin Dakota-Blanco Mesa Verde	Formation: Dakota - Mesa Verde Commingled		Unit:
Completion Date: 11-1-97	Total Depth: 7662'	Plug Back TD: 7646'	Elevation: 6610
Farm or Lease Name: Breech "F"			
Csg. Size: 5 1/2" / Wt.: 15.5# / 17# / d: 4.800 / Set At: 7646'	Perforations: From 4809' To 5656' / From 7363' To 7556'		Well No.: 8-M
Tbg. Size: 2 3/8" / Wt. / d / Set At: 7560'	Perforations: From 4809' To 5656' / From 7363' To 7556'		Unit: O / Sec.: 34 / Twp.: 27N / Rge.: 6W
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single Commingled Dakota-Mesa Verde	Packer Set At: None		County: Rio Arriba
Producing Thru: Tubing	Reservoir Temp. °F:	Mean Annual Temp. °F:	Baro. Press. – P_a: State: New Mexico

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps

	FLOW DATA				TUBING DATA		CASING DATA		
NO.	Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI					1300		1325		7 day SI
1.	3/4"				139		578		3 hours
2.									
3.									
4.									
5.									

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	14.1605		151	1.000	1.000	1.000	2,138
2.							
3.							
4.							
5.							

NO.	P_t	Temp. °R	T_r	Z
1.				
2.				
3.				
4.				
5.				

Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
Specific Gravity Separator Gas _____ XXXXXXXXXX
Specific Gravity Flowing Fluid XXXXX _____
Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
Critical Temperature _____ R _____ R

P_c 1337 P_c^2 1,787,569

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	22,801	590	348,100	1,439,469
2				
3				
4				
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.2418$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.1764$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2515$

Absolute Open Flow 2515 Mcfd @ 15.025 Angle of Slope θ _____ Slope, n .75

Remarks: As per recommended production split - 21% Mesa Verde = 448 MCF and 79% Dakota = 1690 MCF

Approved By Division	Conducted By:	Calculated By:	Checked By:

CAULKINS OIL COMPANY

DATA TO SUPPORT ALLOCATION METHOD AND FORMULA
Breech "F" 8-M, Unit O, Sec. 34-27N-6W

Offset Mesa Verde & Dakota Commingled Wells	Unit Letter	Location S-T-R	Order No.	Mesa Verde Oil	Mesa Verde Gas	Dakota Oil	Dakota Gas
Breech "F" 4	M	33-27N-6W	R-5649	7%	15%	93%	85%
Breech "F" 45	M	35-27N-6W	R-5649	2%	34%	98%	66%
Breech "F" 45-M	D	35-27N-6W	DHC 659	46%	13%	54%	87%
Breech "F" 8	A	34-27N-6W	R-5924	23%	21%	77%	79%
Breech "E" 58	A	3-26N-6W	R-5649	18%	27%	82%	63%
State "A" 62-M	D	2-26N-6W	DHC 659	24%	12%	76%	88%
Average Production Percentages				20%	22%	80%	78%
Breech "F" 8 Production Precentages				23%	21%	77%	79%

Recommend new well allocations to be the same as Breech "F" 8, original well on proration unit.

Robert L. Verquer,
Superintendent

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-104
Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
5 Copies

☐ AMENDED

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

[1] Operator name and Address	[2] OGRID Number
Caulkins Oil Company P. O. Box 340 Bloomfield, NM 87413	003824
	[3] Reason for Filing Code NW

[4] API Number	[5] Pool Name	[6] Pool Code
30 – 039 – 25688	Basin Dakota, Blanco Mesa Verde	71599 & 92319
[7] Property Code	[8] Property Name	[9] Well Number
002460	Breech "F"	8-M

II. [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
O	34	27N	6W		896'	South	1604'	East	RIO ARRIBA

[11] Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

[12] Lse Code	[13] Producing Method Code	[14] Gas Connection Date	[15] C-129 Permit Number	[16] C-129 Effective Date	[17] C-129 Expiration Date
	F				

III. Oil and Gas Transporters

[18] Transporter OGRID	[19] Transporter Name and Address	[20] POD	[21] O/G	[22] POD ULSTR Location and Description
025244	Williams Field Services Company Salt Lake City, Utah 84158-0900	0659530	G	Unit O, Sec. 34-27N-6W 896' F/S 1604' F/E Breech "F' 8-M location
009018	Giant Refinery Farmington, New Mexico 87401	0659510	O	Unit O, Sec. 34-27N-6W 896' F/S 1604' F/E Breech "F' 8-M location

IV. Produced Water

[23] POD	[24] POD ULSTR Location and Description
0659550	Unit O, Sec. 34-27N-6W 896' F/S 1604' F/E Breech "F" location

V. Well Completion Data

[25] Spud Date	[26] Ready Date	[27] TD	[28] PBTD	[29] Perforations	[30] DHC, DC,MC
8-24-97	11-1-97	7662'	7647'	4829' - 5656' & 7363' – 7556'	DHC

[31] Hole Size	[32] Casing & Tubing Size	[33] Depth Set	[34] Sacks Cement
9 5/8"	36#	341'	250 sacks (272.5 cu. ft.)
5 1/2"	15.5# & 17#	7565'	1250 sacks (2028 cu. ft.)

VI. Well Test Data

[35] Date New Oil	[36] Gas Delivery Date	[37] Test Date	[38] Test Length	[39] Tbg. Pressure	[40] Csg. Pressure
	Waiting on tie-in	11-7-97	3 hours	151#	590#
[41] Choke Size	**[42] Oil**	**[43] Water**	**[44] Gas**	**[45] AOF**	**[46] Test Method**
3/4"	0	0	267 MCF	2515 MCF	Flowing

[47] I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature: Robert L Verquer

Printed name: Robert L. Verquer

Title: Superintendent

Date: 12-1-97 Phone: (505) 632-1544

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

[48] If this is a change of operator fill in the OGRID number and name of the previous operator

Previous Operator Signature	Printed Name	Title	Date

CAULKINS OIL COMPANY
P.O. BOX 340
BLOOMFIELD, NEW MEXICO 87413

November 25, 1997

State of New Mexico
Oil Conservation Division
1000 Rio Brazos
Aztec, NM 87410

Dear Sirs:

Re: Downhole commingle Breech "F" 8-M, Section 34-27N-6W

The following list is all the offset operators that Caulkins Oil Company has notified of the application to downhole commingle the above-referenced well.

Burlington Resources
P.O. Box 4289
Farmington, NM 87499

Unocal
ATTN: Heather Dahlgren
1004 Big Spring
Midland, TX 79702

If you have any questions, please contact Robert L. Verquer at (505) 632-1544.

Sincerely,

Robert L. Verquer
Superintendent

RLV/smf

CAULKINS OIL COMPANY
P.O. BOX 340
BLOOMFIELD, NEW MEXICO 87413

CERTIFIED MAIL RETURN RECEIPT REQUESTED

November 25, 1997

Unocal
ATTN: Heather Dahlgren
1004 Big Spring
Midland, TX 79702

Dear Sirs:

Caulkins Oil Company has requested permission from the New Mexico Oil Conservation Division to downhole commingle production from the Basin Dakota and Blanco Mesa Verde formations in the following well:

Breech "F" 8-M
896' F/S 1604' F/W
Section 34, T26N, R6W
Rio Arriba County, New Mexico

If you have any objections to this proposal, please notify the NMOCD. If you have any questions about this application, please contact Robert L. Verquer at (505) 632-1544.

Sincerely,

Robert L. Verquer
Superintendent

RLV/smf

CAULKINS OIL COMPANY
P.O. BOX 340
BLOOMFIELD, NEW MEXICO 87413

CERTIFIED MAIL RETURN RECEIPT REQUESTED

November 25, 1997

Burlington Resources
P.O. Box 4289
Farmington, NM 87499

Dear Sirs:

Caulkins Oil Company has requested permission from the New Mexico Oil Conservation Division to downhole commingle production from the Basin Dakota and Blanco Mesa Verde formations in the following well:

Breech "F" 8-M
896' F/S 1604' F/W
Section 34, T26N, R6W
Rio Arriba County, New Mexico

If you have any objections to this proposal, please notify the NMOCD. If you have any questions about this application, please contact Robert L. Verquer at (505) 632-1544.

Sincerely,

Robert L. Verquer
Superintendent

RLV/smf

EXHIBIT "B" - CASE NO. 11353, ORDER NO. R-10470-A

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
811 South First St., Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 S. Pacheco
Santa Fe, New Mexico 87505-6429

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

APPROVAL PROCESS:
X Administrative __ Hearing

EXISTING WELLBORE
X YES __ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Caulkins Oil Company (Operator) P.O. Box 340, Bloomfield, NM 87413 (Address)

Breech "F" (Lease) 8-M (Well No.) O - Sec. 34-26N-6W (Unit Ltr. - Sec - Twp - Rge) Rio Arriba (County)

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 003824 Property Code 2460 API NO. 30-039-25688 Federal X, State ___, (and/or) Fee ___

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zones	Lower Zone
1. Pool Name and Pool Code	Blanco Mesa Verde		Basin Dakota
2. Top and Bottom of Pay Section (Perforations)	4809' to 5656'		7363' to 7556'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure Zones - Artificial Lift: Estimated Current & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	a. (Current) 1257 b. (Original)	a. b.	a. 1923 b.
6. Oil Gravity (°API) or Gas BTU Content	1158.9		1158.9
7. Producing or Shut-In?	Shut-in		Shut-in
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: New well Rates: See potential test	Date: Rates:	Date: New well Rates: See potential test
• If Producing, give date and oil/gas/ water rates of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: Rates:
8. Fixed Percentage Allocation Formula -% for each zone	Oil: 23 % Gas: 21 %	Oil: % Gas: %	Oil: 77 % Gas: 79 %

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? X 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? X Yes ___ No

11. Will cross-flow occur? ___ Yes X 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? X Yes ___ No

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

14. If this well is 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. X Yes ___ No

15. NMOCD Reference Cases for Rule 303(C) Exceptions: ORDER NO(S). R-10476-B, R-5649, R-5924, DHC 659

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 explaination.)
- 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 Robert L Verquer TITLE Superintendent DATE 3-2-98

TYPE OR PRINT NAME Robert L. Verquer TELEPHONE NO. (505) 632-1544

CAULKINS OIL COMPANY
EXHIBIT "A"

Bottom hole pressure data from wells within a one-mile radius of Breech "F" 8-M.

OPERATOR	WELL NAME & NO.	S-T-R	UNIT	DAKOTA PRESSURE	MESA VERDE PRESSURE	DATE
Caulkins Oil Co.	Breech "F" 4-M	Sec. 33-27N-6W	I	426#	382#	2/3/98
Caulkins Oil Co.	Breech "F" 4	Sec. 33-27N-6W	A	1623#	----	7/8/60
Caulkins Oil Co.	Breech "F" 45	Sec. 35-27N-6W	M	3080#	----	10/5/65
Caulkins Oil Co.	Breech "E" 58	Sec. 3-26N-6W	A	1810#	----	7/8/60
Unocal	Rincon 125	Sec. 26-27N-6W	N	845#	520#	9/21/93
Unocal	Rincon 126	Sec. 27-27N-6W	N	881#	660#	9/21/93
Unocal	Rincon 126-M	Sec. 27-27N-6W	P	1637#	921#	11/10/92

EXHIBIT "A"

Company: CAULKINS [illegible] CO.
Well: BREECH F #8-M
Field: DAKOTA FORMATION
Engineer:
Gauge Type: AMERADA
Gauge Range: 0-3000
Gauge Depth: 7550 ft
Serial No.: 44537

County: RIO ARRIBA
State: NEW MEXICO
Date: 02/03/1998
Well Type:
Test Type: STATIC GRADIENT
Status: SHUT-IN
File Name: CAULKIN5

Tubing: 2 3/8" TO 7560
Tubing: TO
Casing: TO
Perfs.:

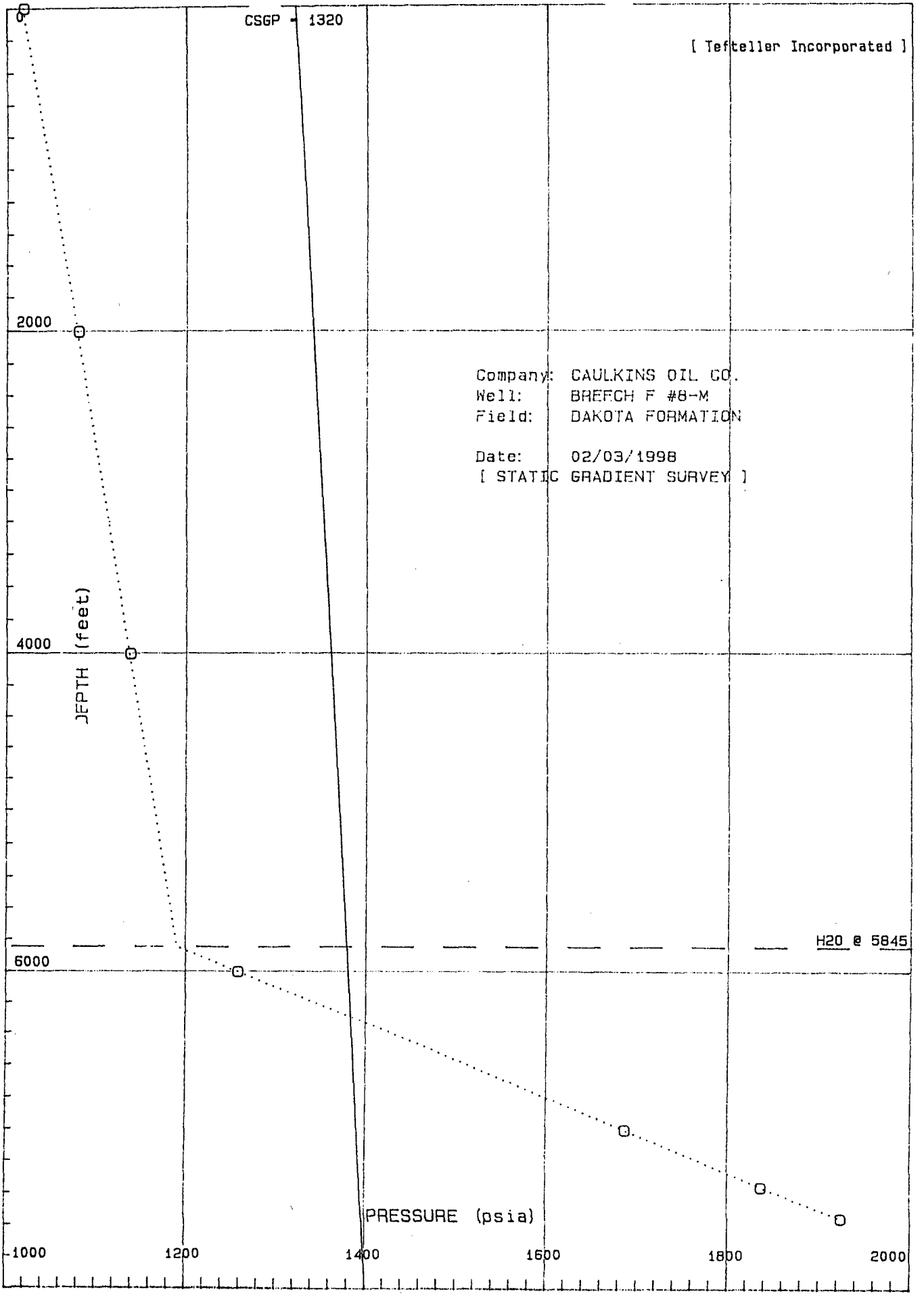
Oil Level
H2O Level 5845 ft

Shut-in BHP	1923	@	7550 ft	Shut-in BHT	0 F	@	0 ft
Shut-in WHP	1018			Shut-in WHT	0 F		
Casing CSGP	1320						

[Tefteller Incorporated]

#	MD	TVD	PRESSURE	PSI/ft
1	0	0	1018.00	
2	2000	2000	1079.00	0.031
3	4000	4000	1137.00	0.029
4	6000	6000	1257.00	0.060
5	7000	7000	1686.00	0.429
6	7350	7350	1836.00	0.429
7	7550	7550	1923.00	0.435

EXHIBIT "A"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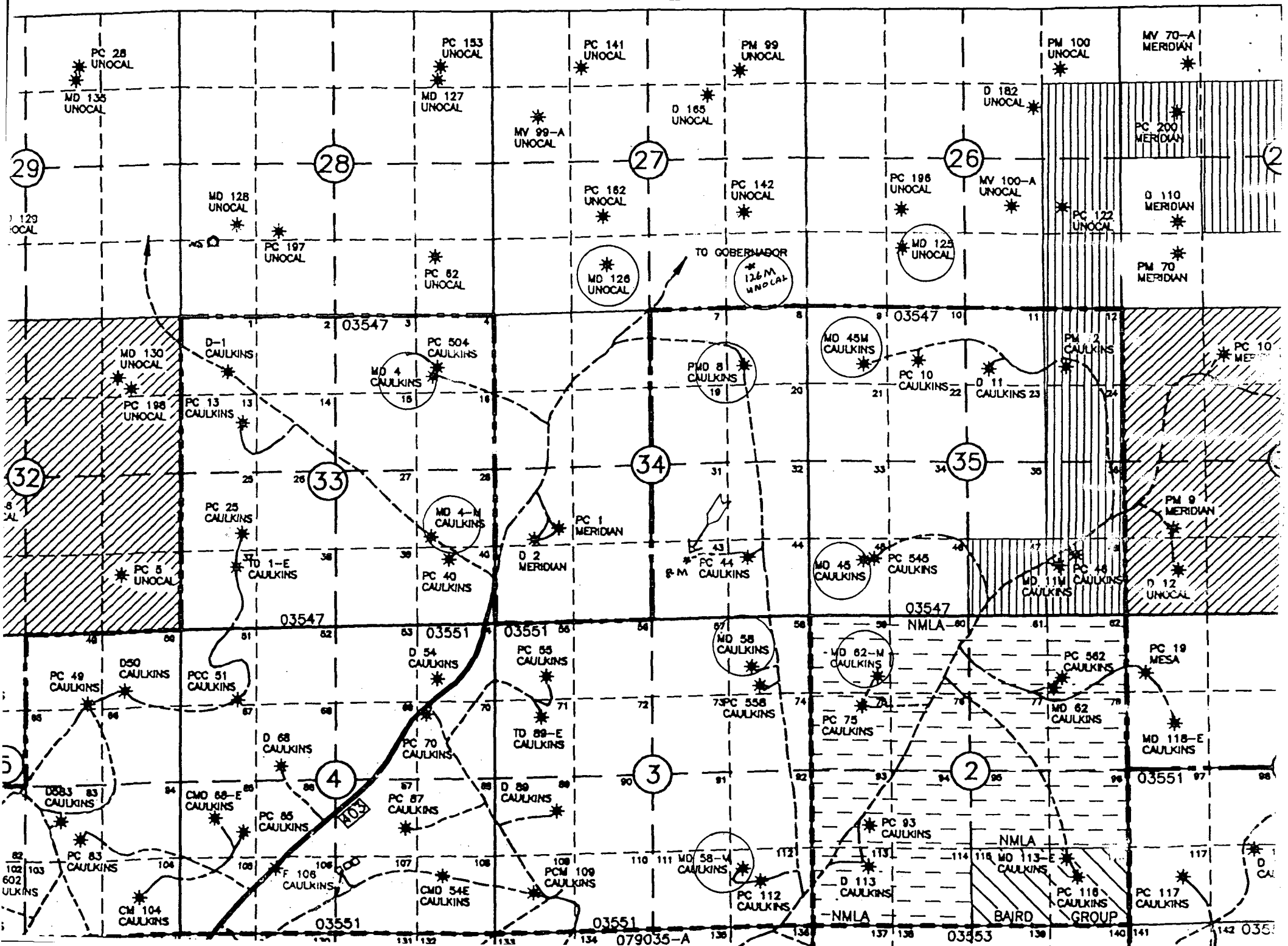
CSGP - 1320
[Tefteller Incorporated]
2000
Company: CAULKINS OIL CO.
Well: BREECH F #8-M
Field: DAKOTA FORMATION
Date: 02/03/1998
[STATIC GRADIENT SURVEY]
4000
DEPTH (feet)
H20 @ 5845
6000
PRESSURE (psia)
1000
1200
1400
1600
1800
2000

EXHIBIT "A"


PC 28 UNOCAL
MD 135 UNOCAL
PC 153 UNOCAL
MD 127 UNOCAL
PC 141 UNOCAL
PM 99 UNOCAL
D 165 UNOCAL
MV 99-A UNOCAL
D 182 UNOCAL
PM 100 UNOCAL
MV 70-A MERIDIAN
PC 200 MERIDIAN
MD 128 UNOCAL
PC 197 UNOCAL
PC 52 UNOCAL
PC 162 UNOCAL
PC 142 UNOCAL
MD 126 UNOCAL
TO GOBERNADOR
126 M UNOCAL
PC 196 UNOCAL
MV 100-A UNOCAL
PC 122 UNOCAL
D 110 MERIDIAN
MD 125 UNOCAL
PM 70 MERIDIAN
29
28
27
26
03547
MD 130 UNOCAL
PC 198 UNOCAL
D-1 CAULKINS
PC 504 CAULKINS
MD 4 CAULKINS
PMD 8 CAULKINS
MD 45M CAULKINS
PC 10 CAULKINS
D 11 CAULKINS
PM 2 CAULKINS
PC 13 CAULKINS
32
33
34
35
PC 25 CAULKINS
MD 4-M CAULKINS
PC 1 MERIDIAN
D 2 MERIDIAN
PC 44 CAULKINS
MD 45 CAULKINS
PC 545 CAULKINS
PC 46 CAULKINS
MD 11M CAULKINS
D 12 UNOCAL
PM 9 MERIDIAN
TD 1-E CAULKINS
PC 40 CAULKINS
PC 5 UNOCAL
03547
03551
NMLA
PC 49 CAULKINS
D50 CAULKINS
PCC 51 CAULKINS
D 54 CAULKINS
PC 55 CAULKINS
MD 58 CAULKINS
MD 62-M CAULKINS
PC 562 CAULKINS
PC 19 MESA
PC 558 CAULKINS
PC 75 CAULKINS
MD 62 CAULKINS
MD 118-E CAULKINS
D 68 CAULKINS
PC 70 CAULKINS
TD 89-E CAULKINS
4
3
2
D583 CAULKINS
CMD 68-E CAULKINS
PC 85 CAULKINS
403
PC 87 CAULKINS
D 89 CAULKINS
PC 93 CAULKINS
PC 83 CAULKINS
F 106 CAULKINS
CMD 54E CAULKINS
PCM 109 CAULKINS
MD 58-M CAULKINS
PC 112 CAULKINS
D 113 CAULKINS
MD 113-E CAULKINS
PC 116 CAULKINS
PC 117 CAULKINS
CM 104 CAULKINS
BAIRD GROUP
03553
079035-A

CAULKINS OIL COMPANY
EXHIBIT "B"

Gas BTU content data from wells within a one-mile radius of Breech "F" 8-M

OPERATOR	WELL NAME & NO.	S-T-R	UNIT	BTU	DATE
Caulkins Oil Co.	Breech "F" 8-M	Sec. 34-26N-6W	O	1159	2/3/98
Caulkins Oil Co.	Breech "F" 8	Sec. 34-27N-6W	A	1138	4/1/97
Caulkins Oil Co.	Breech "F" 4	Sec. 33-27N-6W	A	1178	3/24/97
Caulkins Oil Co.	Breech "F" 4-M Dak.	Sec. 33-27N-6W	I	1135	2/3/98
Caulkins Oil Co.	Breech "F" 4-M MV	Sec. 33-27N-6W	I	1182	2/3/98
Caulkins Oil Co.	Breech "F" 45	Sec. 35-27N-6W	M	1184	5/14/97
Caulkins Oil Co.	Breech "F" 45-M	Sec. 35-27N-6W	D	1149	4/11/97
Caulkins Oil Co.	Breech "E" 58	Sec. 3-26N-6W	A	1175	6/24/97
Caulkins Oil Co.	Breech "E" 58-M	Sec. 3-26N-6W	P	1166	7/9/96
Caulkins Oil Co.	State "A" 62-M	Sec. 2-26N-6W	D	1062	4/17/97

EXHIBIT "B"

2030 [illegible]ton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. CAU80012
Cust. No. 17000-10070

WELL/LEASE INFORMATION

Company	: CAULKINS OIL COMPANY	Source	:
Well Name	: BREECH F 8-M	Pressure	: 715 PSIG
County	:	Sample Temp.	: N/A DEG.F
State	:	Well Flowing	: NO
Location	:	Date Sampled	: 02/03/98
Fld/Formation	: DAKOTA/MV	Sampled By	: JW
Cust.Stn.No.	:	Foreman/Engr	:

Remarks:

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	0.205	0.0000	0.00	0.0020
CO2	0.154	0.0000	0.00	0.0023
METHANE	87.485	0.0000	885.61	0.4846
ETHANE	7.780	2.0812	137.99	0.0808
PROPANE	2.541	0.7003	64.08	0.0387
I-BUTANE	0.518	0.1694	16.88	0.0104
N-BUTANE	0.633	0.1996	20.70	0.0127
I-PENTANE	0.272	0.0995	10.91	0.0068
N-PENTANE	0.161	0.0583	6.47	0.0040
HEXANES	0.251	0.1095	12.90	0.0081
TOTAL	100.000	3.4178	1155.55	0.6504

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0029
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1158.9
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1138.7
REAL SPECIFIC GRAVITY	0.6520

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: AO19
CYLINDER PRESSURE	: 750 PSIG
DATE RUN	: 02/04/98
ANALYSIS RUN BY	: DAVE MARTIN

WFS GAS COMPARISON

EXHIBIT "C"

			1993			1994			1995			1996			1997		
WELLNAME	METER	POOL	VOLUME	DAYS	DPA	VOLUME	DAYS	DPA	VOLUME	DAYS	DPA	VOLUME	DAYS	DPA	VOLUME	DAYS	DPA
BREECH D 342	3111-74	CP	19,867	321	62	20,194	344	59	15,617	231	68	19,355	358	54	16,910	288	59
BREECH D 345	2059-05	P	21,962	335	66	17,442	341	51	18,198	282	65	21,839	354	62	15,023	292	51
BREECH D 346	3321-30	DMC	63,672	343	186	41,912	282	149	43,455	294	148	40,310	228	177	43,344	353	123
BREECH D 346-M	9625-30	DM	59,989	338	177	56,186	330	170	53,372	301	177	55,848	287	195	62,146	348	179
BREECH D 358	3269-74	CP	15,280	344	44	14,772	341	43	11,104	261	43	14,672	277	53	13,027	302	43
BREECH D 383	3061-74	CP	20,556	313	66	19,034	341	56	17,884	241	74	19,649	366	54	15,919	291	55
BREECH D 385	3087-74	CP	24,021	319	75	22,278	341	65	19,730	241	82	23,048	358	64	19,410	298	65
BREECH D 387	3088-74	CP	34,589	310	112	30,428	341	89	22,088	241	92	35,764	357	100	27,306	298	92
BREECH D 640	3326-05	P	19,722	311	63	16,641	361	46	16,901	297	57	15,481	280	55	17,496	354	49
BREECH D 685	2832-30	D	145,921	332	440	114,535	357	321	80,909	259	312	93,677	254	369	103,982	353	295
BREECH D 685-E	9403-30	DM	42,435	334	127	58,565	305	192	32,856	273	120	50,098	245	204	72,046	354	204
BREECH E 49	2060-05	P	15,109	319	47	14,659	365	40	15,462	293	53	14,699	280	52	14,856	354	42
BREECH E 50-E	9492-21	M	8,766	326	27	7,207	335	22	6,443	242	27	6,586	261	25	3,522	189	19
BREECH E 51	3163-74	CP	24,326	342	71	20,098	365	55	19,500	296	66	19,969	278	72	21,054	346	61
BREECH E 54	2749-30	D	87,327	362	241	57,907	293	198	41,530	189	220	58,459	264	221	56,820	305	186
BREECH E 54-E	5740-30	DMC	15,953	298	54	21,312	150	142	32,428	221	147	45,522	253	180	44,633	358	125
BREECH E 55	3164-05	P	15,095	320	47	17,503	358	49	14,882	303	49	16,437	359	46	14,701	354	42
BREECH E 58	2062-30	DM	84,728	304	279	74,890	345	217	49,817	243	205	68,924	309	223	62,098	309	201
BREECH E 58-M	9609-30	D	84,354	340	248	74,499	364	205	50,606	274	185	75,087	290	259	77,399	338	229
BREECH E 58-M	9610-21	M	11,035	361	31	7,707	251	31	6,822	276	25						
BREECH E 64	2759-30	DM	64,648	326	198	42,342	191	222	40,500	260	156	41,143	282	146	47,287	347	136
BREECH E 64-M	9226-30	D	58,799	337	174	46,406	302	154	44,012	283	156	46,292	280	165	46,057	302	153
BREECH E 64-M	9253-21	M	65,921	330	200	49,515	321	154	41,328	282	147	44,689	273	164	44,077	295	149
BREECH E 68	2905-30	D	187,894	351	535	145,805	346	421	94,629	219	432	105,125	230	457	124,967	333	375
BREECH E 68-E	5738-30	DMC	64,032	327	196	72,063	359	201	54,570	190	287	66,178	249	266	59,372	275	216
BREECH E 70	3327-05	P	19,027	343	55	16,984	365	47	16,688	294	57	17,408	360	48	16,274	354	46
BREECH E 81	2063-05	P	20,204	319	63	10,499	202	52	22,200	295	75	19,634	280	70	19,676	356	55
BREECH E 83	2065-05	P	26,702	282	95	25,178	333	76	26,797	291	92	26,212	291	90	25,512	352	72
BREECH E 85	2067-05	P	21,006	338	62	19,576	347	56	15,676	251	62	20,340	339	60	16,924	354	48
BREECH E 87	2066-05	P	17,779	315	56	8,954	202	44	12,691	301	42	12,477	279	45	8,679	353	25
BREECH E 89	2868-30	D	32,802	301	109	40,077	319	126	43,251	249	174	47,076	262	180	45,382	287	158
BREECH E 89-E	9646-30	D	60,250	359	168	52,767	320	165	45,503	288	158	47,376	321	148	42,994	312	138
BREECH E 99	3106-05	P	20,475	340	60	18,425	336	55	16,478	289	57	20,405	261	78	19,178	307	62
BREECH E 102	3110-84	GA	2,899	333	9	4,049	252	16	2,538	223	11	1,539	252	6	1,578	272	6
BREECH E 104	3322-21	MC	8,476	307	28	5,067	292	17	4,658	226	21	7,082	353	20	5,943	297	20
BREECH E 109	3348-21	MCP	20,071	359	56	18,936	364	52	13,720	187	73	19,904	242	82	17,878	315	57

WFS GAS COMPARISON

WELLNAME	METER	POOL	1993			1994			1995			1996			1997		
			VOLUME	DAYS	DPA	VOLUME	DAYS	DPA	VOLUME	DAYS	DPA	VOLUME	DAYS	DPA	VOLUME	DAYS	DPA
BREECH E 112	3223-05	P	19,867	342	58	18,017	365	49	15,682	239	66	18,354	358	51	16,048	348	46
BREECH E 117	3160-05	P	18,927	310	61	15,143	337	45	15,394	251	61	14,390	280	51	14,961	354	42
BREECH E 558	3211-05	P	10,040	341	29	10,459	365	29	7,778	241	32	9,335	232	40	9,738	296	33
BREECH E 564	3060-05	P	21,526	302	71	25,471	363	70	23,420	278	84	27,479	357	77	19,424	299	65
BREECH E 583	2064-30	D	45,824	302	152	43,393	311	140	29,259	225	130	41,184	260	158	38,037	307	124
BREECH E 583-M	5729-30	DMC	57,371	308	186	46,139	271	170	25,054	148	169	51,364	255	201	46,703	331	141
BREECH E 602	7289-R2	F	12,267	53	231	57,363	365	157	31,319	330	95	20,621	363	57	18,173	364	50
BREECH F 4	2069-30	DM	56,981	277	206	63,303	276	229	62,283	313	199	60,500	302	200	64,284	330	195
BREECH F 4-M	9260-30	D	80,391	356	226	56,282	295	191	39,258	247	159	51,792	290	179	52,556	351	150
BREECH F 4-M	9259-21	M	19,414	325	60	15,315	288	53	13,595	255	53	14,267	214	67	16,429	341	48
BREECH F 8	2073-30	DM	83,722	337	248	68,478	338	203	46,745	242	193	59,022	268	220	59,933	353	170
BREECH F 8	2070-05	P	7,491	331	23	7,438	359	21	5,095	256	20	6,043	275	22	5,695	306	19
BREECH F 10	3047-05	P	15,870	294	54	8,300	210	40	15,160	289	52	15,145	344	44	12,382	344	36
BREECH F 11	2750-30	D	58,107	327	178	33,754	211	160	38,742	276	140	43,128	308	140	42,331	337	126
BREECH F 11-M	9444-30	D	74,543	338	221	42,985	187	230	64,622	272	238	56,009	253	221	65,435	314	208
BREECH F 11-M	9443-21	M	19,487	333	59	14,152	320	44	8,958	260	34	8,030	121	66			
BREECH F 12	2071-21	MP	53,007	332	160	38,315	260	147	35,740	253	141	22,472	160	140	30,348	282	108
BREECH F 13	3065-05	P	16,438	336	49	14,836	365	41	13,952	298	47	14,555	358	41	15,195	348	44
BREECH F 25	2076-05	P	12,137	317	38	10,489	356	29	9,502	297	32	11,758	271	43	10,451	346	30
BREECH F 40	3220-05	P	15,086	323	47	12,351	365	34	12,507	301	42	12,658	358	35	13,872	354	39
BREECH F 44	3212-05	P	18,811	336	56	17,192	365	47	15,671	252	62	17,481	359	49	15,503	348	45
BREECH F 45	2797-30	DM	61,860	325	190	37,236	243	153	49,677	350	142	32,808	299	110	27,400	296	93
BREECH F 45-M	9644-30	DM	80,806	311	260	78,729	358	220	68,138	320	213	60,640	282	215	66,142	307	215
BREECH F 48	3103-05	P	9,507	341	28	6,314	259	24	5,396	267	20	10,463	359	29	5,854	196	30
BREECH F 504	3152-05	P	12,331	264	47	10,862	226	48	11,208	264	42	13,349	269	50	11,515	304	38
BREECH F 545	3213-05	P	16,530	340	49	11,674	262	45	14,008	263	53	16,551	352	47	13,086	322	41
KAIME 1	2342-05	P	1,562	315	5	1,357	258	5	908	227	4	877	324	3	1,276	297	4
REUTER 297	3347-74	CP	18,390	320	57	15,562	341	46	17,519	293	60	24,246	351	69	20,662	354	58
REUTER 321	2672-30	D	61,968	312	199	48,818	223	219	50,884	280	182	54,910	256	214	49,463	307	161
REUTER 321-E	9635-30	DM	49,130	325	151	76,789	341	225	63,551	335	190	69,893	311	225	71,151	341	209
REUTER 343	3346-74	CP	18,166	317	57	18,705	341	55	16,189	270	60	15,781	359	44	11,757	297	40
STATE A 62	2703-30	DM	81,077	367	221	37,514	288	130	57,512	318	181	45,874	301	152	42,950	344	125
STATE A 62-M	9525-30	D	37,263	310	120	28,173	253	111	31,748	294	108	49,863	350	142	47,493	324	147
STATE A 62-M	9526-21	M	19,216	321	60	13,684	254	54	14,786	291	51						
STATE A 75	3161-05	P	15,396	313	49	14,539	362	40	13,867	292	47	15,583	359	43	14,196	345	41
STATE A 93	2068-05	P	9,068	342	27	8,157	308	26	8,557	308	28	9,083	355	26	7,146	272	26

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

January 21, 1998

Caulkins Oil Company
P.O. Box 340
Bloomfield, New Mexico 87413

Attention: Mr. Robert L. Verquer

Re: Downhole Commingling Application
Breech "F" No. 8M

Dear Mr. Verquer:

Please be advised that authorization to downhole commingle Basin-Dakota and Blanco-Mesaverde Gas Pool production from the subject well cannot be authorized until such time as additional information required by Form C-107-A is submitted as follows:

Item No. (5)- Bottomhole Pressure Data, Current and Original
Item No. (6)- Gas BTU Content
Item No. (7)- Current producing rates

In addition, please be advised that the method you have chosen to complete the well seriously hinders your ability to provide the data necessary to obtain approval for downhole commingling (i.e. individual zone producing rates, pressures, etc.). Upon receipt of the requested data, the Division will determine if such data is adequate to approve your application, or whether it will be necessary for Caulkins Oil Company to perform additional well tests.

If you should have any questions, please contact me at (505) 827-8184.

Sincerely,

David Catanach
Engineer

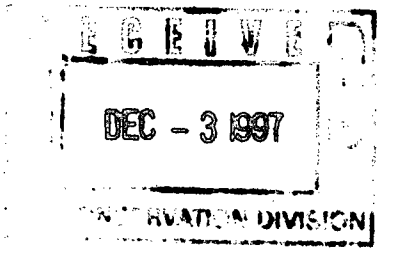
xc: OCD-Aztec
BLM-Farmington

DHC 12/23/97

CAULKINS OIL COMPANY

P.O. BOX 340
BLOOMFIELD, NEW MEXICO 87413

December 1, 1997



State of New Mexico
Oil Conservation Division
ATTN: Mr. Ben Stone
2040 S. Pacheco
Santa Fe, NM 87505

Re: Breech "F" 8-M Commingling Approval

Dear Mr. Stone:

Caulkins Oil Company (COC) request administrative approval to commingle our Breech "F" 8-M well located in section 34-27N-6W, Unit O.

In an effort to cut completion costs and waste of resources by testing zones separately, we request to commingle well in its present state. After perforating and fracturing the Dakota and Mesa Verde zones, bridge plug was retrieved from 5810'. Tubing was then run to 7590', and the well was cleaned out with air package. We then landed the tubing on doughnut at 7560' and continued to flow the well to clean up sand and frac water. A potential test was run on November 7, 1997 on commingled Dakota – Mesa Verde formations. An average percentage split from Dakota – Mesa Verde commingled wells operated by COC within a one mile radius was used to calculate percentages for this well.

Please find the enclosed documents:
A. Form C-107-A
B. Form C-122
C. Support data from surrounding commingled wells
D. Form C-104
E. Copies of letters of intent to offset operators

If you have any questions of need more information, please contact Robert L. Verquer at (505) 632-1544.

Sincerely,

Robert L. Verquer

Robert L. Verquer,
Superintendent

cc: Bureau of Land Management