



Texaco E & P

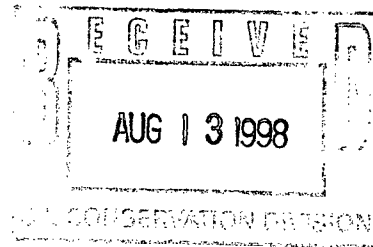
205 E. Bender Blvd.  
Hobbs NM 88240  
505 393 7191

DHC 9/2/98

2092

August 10, 1998

NMOCD  
2040 South Pacheco  
Santa Fe, New Mexico 87505



Attn : Mr. David Catanach

RE : Nash Draw Downhole Commingling Application  
Remuda Basin State #4  
660 FSL & 1980 FWL, N-19-23S-30E  
Eddy County, New Mexico

Dear Mr. Catanach,

Texaco Exploration & Production, Inc. respectfully requests to downhole commingle the Brushy Canyon and Bone Spring intervals in our Remuda Basin State #4 well. Interest ownership between the Brushy Canyon and Bone Spring formations is common. Due to the current wellbore configuration, dual completion of the Brushy Canyon and Bone Spring intervals would likely result in numerous mechanical difficulties. Texaco proposes that the subject downhole commingled well be assigned an oil allowable equal to the top unit allowable of the shallowest commingled horizon. In this instance, the proposed allowable would equal 142 barrels of oil per day, which is the current top allowable of the Nash Draw – Brushy Canyon pool. The proposed allowable is in conformance with Division Rule No. 303(C) (Downhole Commingling). The producing characteristics of both the Brushy Canyon and Bone Spring formations in the area are unique and downhole commingling is necessary in order to economically and efficiently drain and develop the oil and gas reserves associated with this well. Allocation percentages will be based upon Bone Spring production tests dated 8/21/95 and 9/20/95 and a Brushy Canyon production test dated 7/23/98. Bottomhole pressure and oil gravity estimates for the Bone Spring interval are inferred from intervals currently producing from the nearby South Sand Dunes – Bone Spring pool. Texaco respectfully requests that approval be granted at the earliest possible convenience so that operations can be advanced in a prudent manner. If you have any questions concerning the request, please contact me at (505) 397-0405.

Sincerely,

Denise Leake  
Engineering Assistant

## 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 87505-6429Form C-107-A  
New 3-12-96

APPROVAL PROCESS:

☐ Administrative ☐ Hearing

EXISTING WELLBORE

☐ YES ☐ NO

## APPLICATION FOR DOWNHOLE COMMINGLING

Texaco Exploration & Producing Inc. 205 East Bender Hobbs, New Mexico 88240  
Operator Address

Remuda Basin State 4 N-19-23S-30E Eddy  
Lease Well No. Unit Ltr. - Sec - Tws - Rge County

Spacing Unit Lease Types: ( check 1 or more)

OGRID NO. 022351 Property Code 17551 API NO. 30-015-28420 Federal , State X , ( and/or ) Fee

The following facts are submitted in support of downhole commingling:	Lower Zone	Intermediate Zone	Upper Zone
1. Pool Name and Pool Code	Nash Draw - Bone Spring		Nash Draw - Brushy Canyon 47545
2. Top And Bottom of Pay Section (Perforations)	7160' - 8338'		6976' - 7012'
3. Type of production (Oil or Gas)	Oil		Oil
4. Method of Production (Flowing or Artificial Lift)	Artificial Lift		Artificial Lift
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current  Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	(Current) a.  320 psig	a.	a.  158 psig
	(Original) b.	b.	b.
6. Oil Gravity (* API) or Gas BTU Content	37.9 deg API @ 60 deg F		41.2 deg API @ 60 deg F
7. Producing or Shut-In? Production Marginal? (yes or no)	Shut-In Yes		Producing 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  * If Producing, give date and oil/gas/ water rates of recent test (within 60 days)	Date: 08/21/95 8207' - 8338' Rates: 15 bopd, 100 bwpd, 0 mcf/gpd Date: 09/20/95 7160' - 7196' Rates: 6 bopd, 61 bwpd, 28 mcf/gpd		
	Date: Rates:		07/23/98 13 bopd, 62 bwpd, 170 mcf/gpd
8. Fixed Percentage Allocation Formula -% for each zone	Oil: 62 % Gas: 14 %	Oil: % Gas: %	Oil: 38 % Gas: 86 %

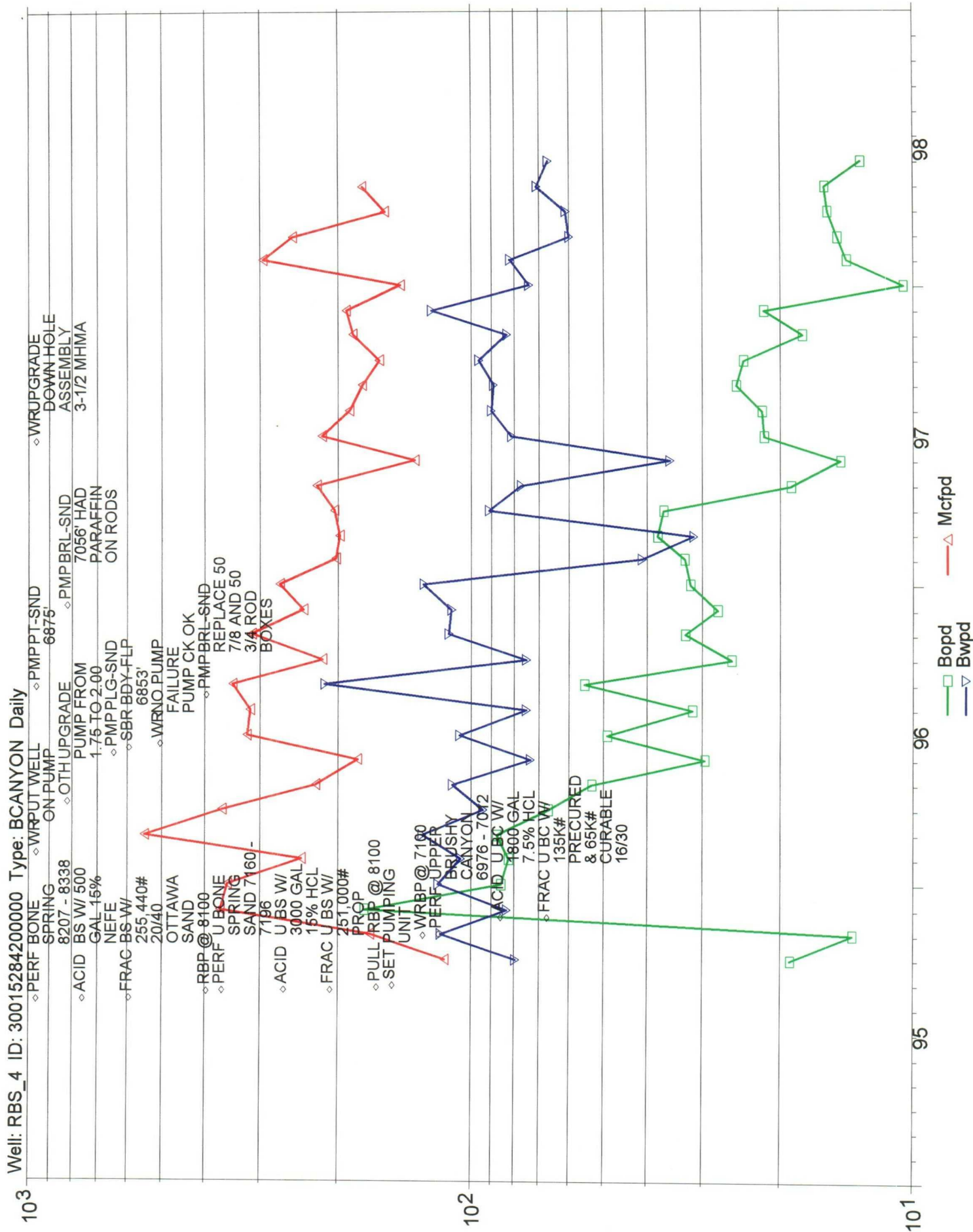
9. If allocation Formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.
10. Are all working, overriding, and royalty interests identical 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 other? ☒ Yes ☐ No
13. Will the value of production be decreased by commingling? ☐ Yes ☒ No (If Yes, attach explanation)
14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Land or the United States Bureau of Land Management has been notified in writing of this application. ☒ Yes ☐ No
15. NMOC Reference Cases for Rule 303(C) Exceptions: ORDER NO(S) \_\_\_\_\_
16. ATTACHMENTS:

- \* C-102 for each zone to be commingled showing its spacing unit and acreage deication.
- \* Production curve for each zone for at lease one year. (If not available, attach explanation.)
- \* For zones with no production history, estimated production rates and supporting data.
- \* 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.

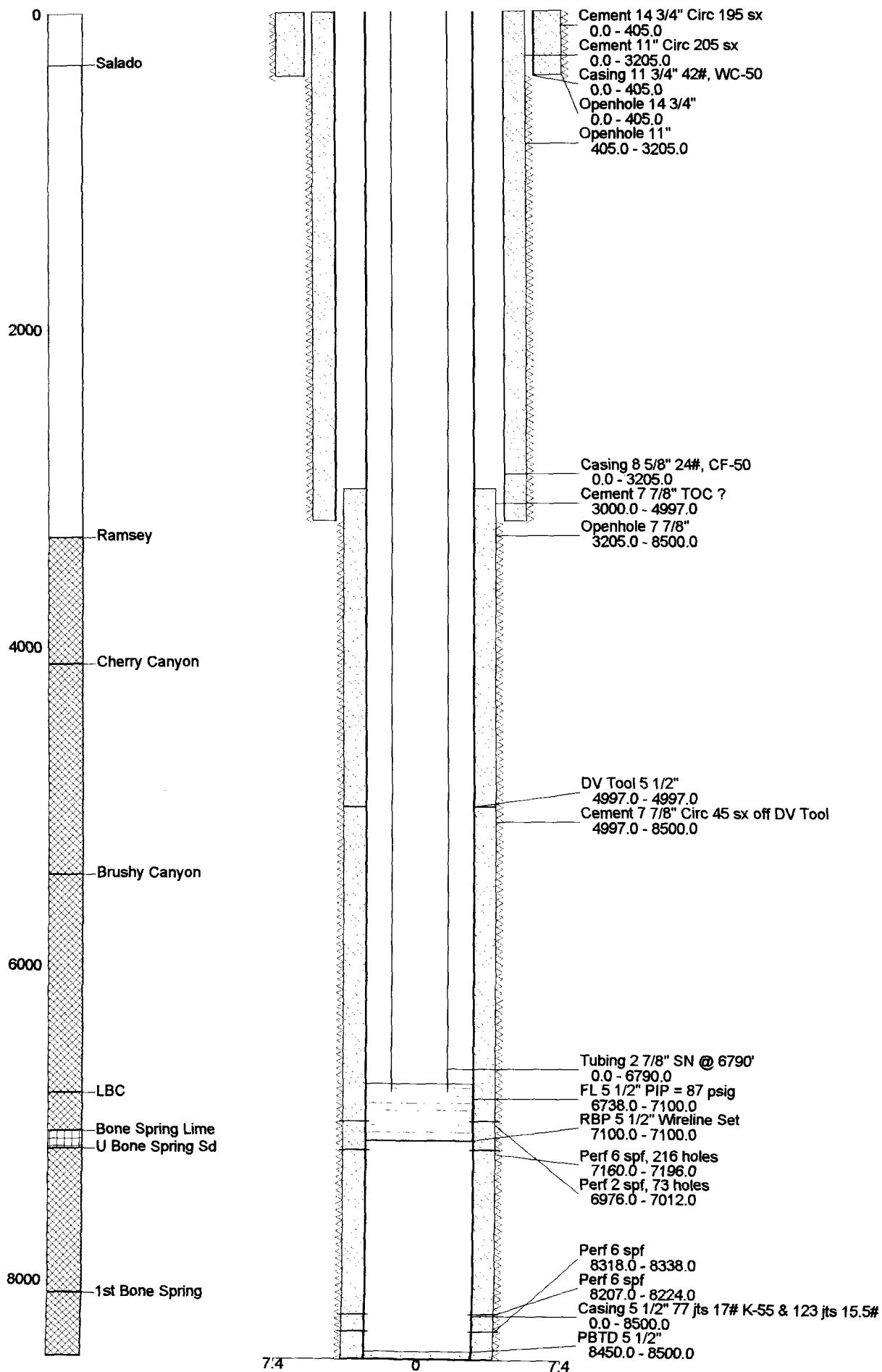
I hereby certify that the information above is true and complete to the best of my knowledge and belief

SIGNATURE J. Denise Leake TITLE Engineering Assistant DATE 08-10-98  
TYPE OR PRINT NAME J. Denise Leake TELEPHONE NO. ( 505 ) 397-0405

## Well: RBS\_4 ID: 30015284200000 Type: BCANYON Daily



Name: RBS 4 ID: 30015284200000 Type: BCANYON Date: 19980807  
KB: 11.8 TD: 8500.0 PBTD: 8450.0 Comp Date: 19950812





**WELL :** REMUDA BASIN 19 STATE 4  
**FIELD :** WILDCAT  
**TATE :** NM EDDY  
**AREA :** DEN-HB  
**OBJECTIVE :** BONE SPRINGS

**ACTIVITY:** PUMP TEST ...  
**TD :** 8,500    **ATD :** 8,500  
**FTG :** 0    **GL :**  
**HRS :** 0.00    **PBTD :** 8,450  
**LITH :** /    /  
**IDC\$/Ft :** 19.39    **CLASS :** OSWC

**RPT No:** 68    **DSS:** 68    **CD :** 49  
**API :** 30 015 28420  
**EST No :** 656004  
**SUPRV :** LOCKLAR  
**PH :** 505-393-4994  
**CONTR :** PETERSON    **FTG**

RUN	BIT#	MAKE	SIZE	TYPE	FROM	TO	FEET	HRS	N1	N2	N3	WOB	RPM	I	O	D	L	B	G	O	R

BHA#	LENGTH	DEPTH IN	HOURS	TYPE	STRING WT	DRAG UP	DRAG DOWN	TORQUE
	0.00							

**DESCRIPTION:**
**BOP DAYS :**

MUD PROPERTIES	
Time :	Solids :
MW : 9.0	Oil :
VIS : 29	10 sec Gel : 1
pH : 10.0	10 min Gel : 1
Chl :	CA :
WL : 10.0	Pm :
HTHP :	Pf :
FC :	Ex Lime :
PV : 1	Elec Stab :
YP : 1	MBT :

HYDRAULICS			
PUMP#1		PUMP#2	
Liner Size :	5.500	Liner Size :	5.500
Lngh Strk :	16.00	Lngh Strk :	16.00
SPM :		SPM :	52
GPM :	0	GPM :	308
PSI :	1200	PSI :	
AV (DP) :	0.0	AV (DC) :	0.0
PSI Drop :	0	HP/IN2 :	0.0
SLOW PUMP RATES			
PUMP#1	psi @		spm
PUMP#2	600 psi @	36	spm

TUBULARS			
Proposed		Actual	
SIZE	MD	SIZE	MD
11.750	400	11.75	405
8.630	3,200	8.63	3,205
		5.50	8,500

MUD COST	
DAILY TOTAL :	\$0
CUM. TOTAL :	\$1,497

ESTIMATE COSTS		
MOH	CASH	TOTALS
D.H. : \$28,100	\$177,100	\$205,200
Comp. : \$66,000	\$121,600	\$187,600
Total : \$94,100	\$298,700	\$392,800

ACTUAL COSTS		
MOH	CASH	TOTALS
D.H. : \$28,349	\$164,789	\$193,138
Comp. : \$43,180	\$171,018	\$214,198
Total : \$71,529	\$335,807	\$407,336
Daily : \$0	\$0	\$0

quantity - item name	MUD MATERIAL	
0 - CAUSTIC SODA	0 - GEL	0 - STARCH

HRS	DESCRIPTION OF WORK
24.00	PM 6 BO, 61 BW, 28 MCF, FL-6804.

DIRECTIONAL SURVEYS			
M Dpth	INCL	AZIM	DLS
7,440	0.75	N 0.0 E	0.05
7,932	1.75	N 0.0 E	0.20
8,430	1.75	N 0.0 E	0.00
8,500	1.25	N 0.0 E	0.71

PERFS		
ZONE	FROM	TO
BONE SPRINGS	7,160	7,196

PACKERS	
DEPTH	MODEL
8,100	RBP

**REMARKS**

**PERCY****PUMP TEST REPORT**

WELLNAME: REMUDA BASIN 19 STATE 4  
FIELD: WILDCAT  
AFE NO.: 656004

WELL ID NO.: 656004  
API NO.: 30 015 28420

ZONE NO:	<u>2</u>	REPORT DATE:	<u>09/21/95</u>
TEST DATE :	<u>09/20/95</u>	TEST DURATION (hrs) :	<u>24.00</u>
OIL VOLUME :	<u>6.0</u>	LOAD OIL LEFT TO RECOVER :	
WATER VOLUME :	<u>61.0</u>	LOAD WATER LEFT TO RECOVER :	
GAS VOLUME :	<u>28.0</u>	PUMP SIZE :	<u>2.500</u>
LOAD OIL RECOVERED :		PUMP BORE :	<u>1.500</u>
LOAD WATER RECOVERED :		STROKE LENGTH :	<u>144.000</u>
GOR :	<u>5</u>	PUMP STROKES (spm) :	<u>9</u>
FLUID LEVEL :	<u>6.804</u>	PUMP EFFICIENCY (%) :	
PUMP TEST COMMENTS :		FLUID LEVEL CHANGE (+/-) :	
17% AUTO			



**WELL :** REMUDA BASIN 19 STATE 4      **ACTIVITY:** PREP TO PERF....      **RPT No:** 38      **DSS:** 38      **CD :** 19  
**FIELD :** WILDCAT      **TD :** 8,500      **ATD :** 8,500      **API :** 30 015 28420  
**STATE :** NM EDDY      **FTG :**      **GL :**      **EST No:** 656004  
**AREA :** DEN-HB      **HRS :**      **PBTD :** 8,450      **SUPRV :** ELMORE  
**OBJECTIVE :** BONE SPRINGS      **LITH :** /      **PH :** 505-393-4994  
**IDC\$/Ft :** 19.39      **CLASS :** OSWC      **CONTR :** PETERSON      **FTG**

RUN#	BIT#	MAKE	SIZE	TYPE	FROM	TO	FEET	HRS	N1	N2	N3	WOB	RPM	I	O	D	L	B	G	O	R

BHA#	LENGTH	DEPTH IN	HOURS	TYPE	STRING WT	DRAG UP	DRAG DOWN	TORQUE
	0.00							

**DESCRIPTION:**
**BOP DAYS :**

MUD PROPERTIES	
Time :	Solids :
MW : 9.0	Oil :
VIS : 29	10 sec Gel : 1
pH : 10.0	10 min Gel : 1
Chl :	CA :
WL : 10.0	Pm :
HTHP :	Pf :
FC :	Ex Lime :
PV : 1	Elec Stab :
YP : 1	MBT :

HYDRAULICS			
PUMP#1		PUMP#2	
Liner Size :	5.500	Liner Size :	5.500
Length Strk :	16.00	Length Strk :	16.00
SPM :		SPM :	52
GPM :	0	GPM :	306
PSI :	1200	PSI :	
AV (DP) :	0.0	AV (DC) :	0.0
PSI Drop :	0	HP/IN2 :	0.0
SLOW PUMP RATES			
PUMP#1	psi @	spm	
PUMP#2	600 psi @	36	spm

TUBULARS			
Proposed		Actual	
SIZE	MD	SIZE	MD
11.750	400	11.75	405
8.630	3,200	8.63	3,205
		5.50	8,500

MUD COST	
DAILY TOTAL :	
CUM. TOTAL :	\$1,497

ESTIMATE COSTS		
MOH	CASH	TOTALS
D.H. :		
Comp. :		
Total : \$0	\$0	

ACTUAL COSTS		
MOH	CASH	TOTALS
D.H. : \$28,349	\$164,789	\$193,138
Comp. : \$43,180	\$90,968	\$134,148
Total : \$71,529	\$255,757	\$327,286
Daily : \$0	\$3,400	\$3,400

**quantity - item name**
**MUD MATERIAL**

0 -CAUSTIC SODA      0 -GEL      0 -STARCH

HRS	DESCRIPTION OF WORK
1.00	SITP 1200#. FL TST. 5 BO.
1.00	SW TST. 35 BLW.
5.00	FL TST. 10 BO, 46 BLW, 54 BW.
	KILL WELL W/100 BBLS KCL. ND TREE. TOH W/ 3 1/2". <-100 BLW>.

Zone #1

DIRECTIONAL SURVEYS			
M Dpth	INCL	AZIM	DLS
7,440	0.75	N 0.0 E	0.05
7,932	1.75	N 0.0 E	0.20
8,430	1.75	N 0.0 E	0.00
8,500	1.25	N 0.0 E	0.71

PERFS		
ZONE	FROM	TO

PACKERS	
DEPTH	MODEL

**REMARKS**

Today's Date : 08/22/95

**PERC**

**SWAB TEST REPORT**

WELLNAME: REMUDA BASIN 19 STATE 4  
 FIELD: WILDCAT  
 AFE NO.: 656004

WELL ID NO.: 656004  
 API NO.: 30 015 28420

ZONE NO.: 1      REPORT DATE: 08/22/95  
 TEST DATE : 08/21/95      TEST HRS : 1.0      SHUT IN TIME :  
 NIPPLE DEPTH : 8.100      TOTAL SWABS : 5      FLUID LAST HRS :  
 INITIAL CSG PSI :      FINAL CSG PSI :  
 INITIAL TBG PSI :      FINAL TBG PSI : 100  
 INITIAL FLUID LEVEL : 600      FINAL FLUID LEVEL : 1.000  
 BO TAKEN :      BLO LEFT :      BLO RECOVD :  
 BW TAKEN :      BLW LEFT : 46.0      BLW RECOVD : 35.0  
 GAS TAKEN :  
 SWAB TEST COMMENTS:

RUN #	TIME	INITIAL LEVEL	PULLED FROM	FLD RECVD	OIL CUT	TOTAL GAS
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**PERC**

**FLOW TESTING SUMMARY REPORT**

**WELLNAME:** REMUDA BASIN 19 STATE 4

**FIELD:** WILDCAT

**AFE NO.:** 656004

**WELL ID NO.:** 656004

**API NO.:** 30 015 28420

**ZONE NO.:** 1

**REPORT DATE:** 08/22/95

**TEST DATE :** 08/21/95

**TEST HRS :** 6.00

**OIL VOLUME :** 15.00

**BLO LEFT TO RECOVER :**

**WATER VOLUME :** 54.00

**BLW LEFT TO RECOVER :**

**GAS VOLUME :**

**LOAD OIL RECOVERED :**

**LOAD WATER RECOVERED :** 46.00

**INITIAL TUBING PSI :** 1,200

**GOR :**

**FINAL TUBING PSI :** 100

**CHOKE SIZE (1/64in.) :** 18.00

**CASING PSI :**

**FLOW TEST COMMENTS :**

DISTRICT I  
P. O. Box 1980, Hobbs, NM 88240

DISTRICT II  
P. O. Drawer DD, Artesia, NM 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV  
P. O. Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals and Natural Resources Department

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

Form C-102  
Revised February 10, 1994

Instructions on back

Submit to Appropriate District Office

State Lease-4 copies  
Fee Lease-3 copies

☐ AMENDED REPORT

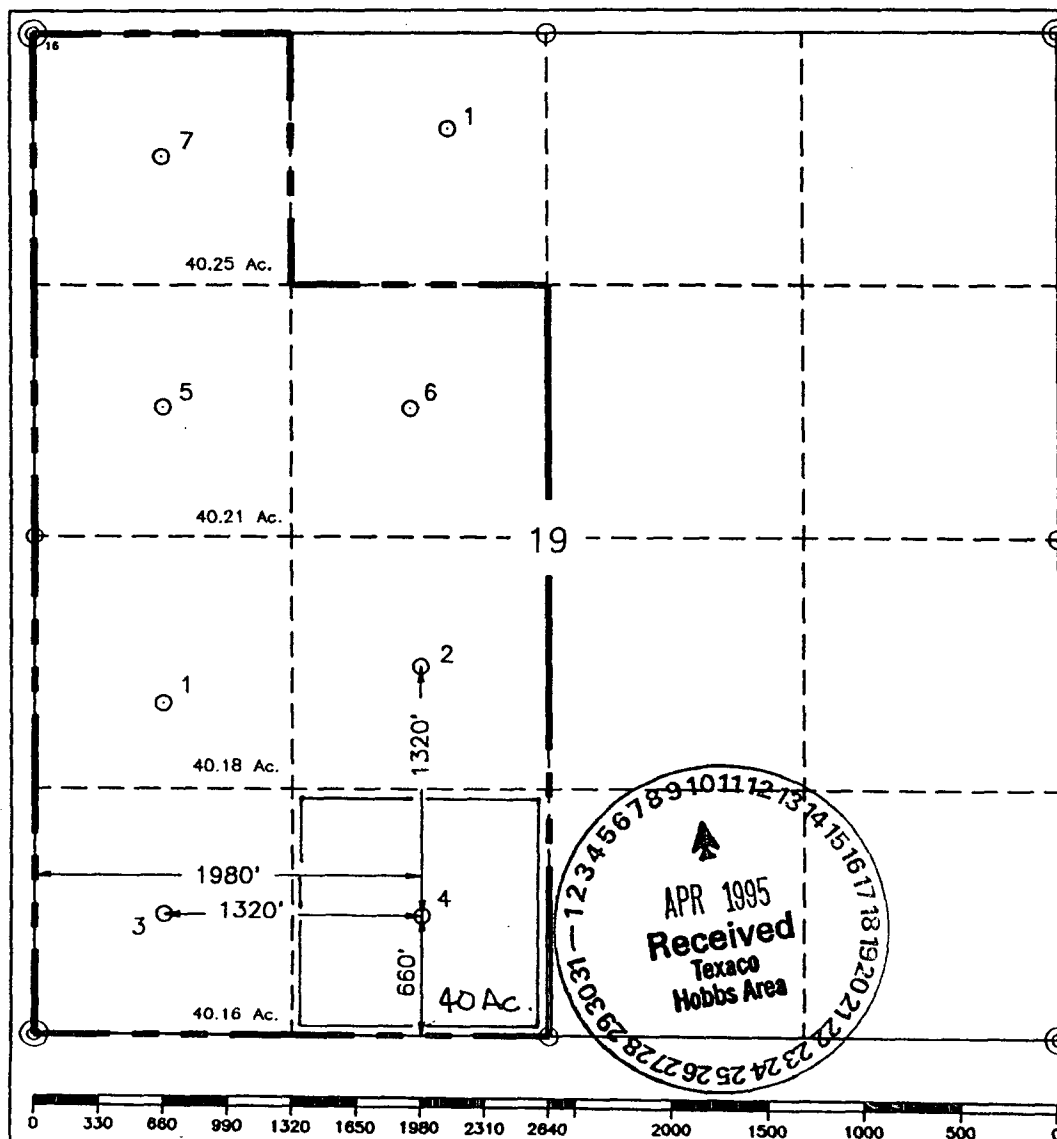
WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-015-28420		<sup>2</sup> Pool Code 96035		<sup>3</sup> Pool Name Undesignated Wildcat; Grp. 4	
<sup>4</sup> Property Code		<sup>5</sup> Property Name Remuda Basin "19" State			<sup>6</sup> Well Number 4
<sup>7</sup> GRID No. 22351		<sup>8</sup> Operator Name TEXACO EXPLORATION & PRODUCTION, INC.			<sup>9</sup> Elevation 3041

<sup>10</sup> 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	19	23-S	30-E		660'	South	1980'	West	Eddy

<sup>11</sup> 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
<sup>12</sup> Dedicated Acres 40		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> 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.



<sup>16</sup> OPERATOR CERTIFICATION

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

Signature

C. Wade Howard

Printed Name

C. Wade Howard

Position

Engineer's Assistant

Company

Texaco Expl. & Prod. Inc.

Date

February 24, 1995

<sup>17</sup> 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 knowledge and belief.

Date Surveyed

February 3, 1995

Signature & Seal of Professional Surveyor

John S. Piper

Certificate No.

7254 John S. Piper

Sheet

## **Leake, J Denise**

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**From:** Sleeper, David L  
**Sent:** Monday, August 10, 1998 8:37 AM  
**To:** Wacker, Jason H  
**Cc:** Leake, J Denise; Bittel, Kevin D  
**Subject:** RE: Remuda Basin State

Jason

Here you go:

Yates Petroleum Corporation 105 So. 4th St., Artesia, NM 88210 Attn: Randy Patterson - Leasehold owner of SE/4 of Sec. 19;

Maralo Inc. 223 W. Wall, Midland, TX 79701 Attn: Dick Loughry - Operator of N/2 of Sec. 30;

I would also notify:

Bass Enterprises Production Co., Perry R. Bass, Tr., Sid R. Bass, Inc., Thru Line Inc., Keystone, Inc. and Lee M. Bass, Inc. 201 Main St., Fort Worth, TX 76102-3131 Attn: J. Wayne Bailey.

-----Original Message-----

**From:** Wacker, Jason H  
**Sent:** Friday, August 07, 1998 8:25 AM  
**To:** Sleeper, David L  
**Cc:** Leake, J Denise  
**Subject:** Remuda Basin State

David,

The Carlsbad FMT plans to downhole commingle the Bone Spring and Delaware intervals in the Remuda Basin State #4. We must notify all offset operators of this work. Please provide a list of offset operators for the subject lease, including names of contacts and business addresses. Thanks for your help!

Jason Wacker  
Texaco Exploration & Production, Inc.  
Production Engineer  
Carlsbad FMT  
Tex-Net 676-3484  
(505) 397-0484