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District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
June 19, 2008

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO. 30-025-35853
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Mae F Curry <309145>
8. Well Number 003
9. OGRID Number 873
10. Pool name or Wildcat Hardy;Bli29710:Hardy;T-D29760:Padd49210

**SUNDRY NOTICES AND REPORTS ON WELLS**  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR PROPOSALS.)

1. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other:

2. Name of Operator  
Apache Corporation

3. Address of Operator  
303 Veterans Airpark Lane, Suite 3000 Midland, TX 79705

4. Well Location  
Unit Letter D : 660 feet from the North line and 660 feet from the West line  
Section 7 Township 21S Range 37E NMPM County Lea

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
3490' GL

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input checked="" type="checkbox"/>			
OTHER: AMEND DHC-HOB-533 <input type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Apache would like to Amend DHC-HOB-533, adding the Paddock pool:

Pool Names:	Perforations:
Paddock 49210	Paddock 5664'-5685' (proposed)
Hardy; Blinebry 29710	Blinebry 5708'-5878' (proposed)
Hardy; Tubb-Drinkard 29760	Tubb/Drinkard 6420'-6810' (existing)

The allocation method will be as follows based on offset production. (See attached application for exception to Rule 303-C.)

	OIL	GAS	WATER
Paddock	37%	26%	36%
Blinebry	50%	34%	47%
Tubb/Drinkard	13%	40%	17%

Downhole commingling will not reduce the value of these pools. Ownership is the same for each of these pools.

Spud Date: 04/03/2002

Rig Release Date: 04/20/2002

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

SIGNATURE Reesa Fisher TITLE Sr. Staff Regulatory Analyst DATE 06/04/2015

Type or print name Reesa Fisher E-mail address: Reesa.Fisher@apachecorp.com PHONE: 432/818-1062

**For State Use Only**

APPROVED BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

Conditions of Approval (if any):

JUN 09 2015

# Downhole Commingle Request



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Date: June 1, 2015  
From: Bret Shapot  
Subject: Downhole Commingle Request  
Mae F Curry #3 (API: 30-025-35853)  
Lea County, New Mexico  
(APA: 100% WI, 87.53% NRI)

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## Summary

The Mae F. Curry #3 is located at 660' FNL & 660' FWL of Section 7, Township 21S & Range 37E, Lea County, NM. The well was drilled in April 2002, and completed and placed on production from the Hardy Tubb-Drinkard in May 2002. An off-set well to the east, Mae F. Curry #5, was completed in the Hardy Blinebry pool in October 2014. The original plan was to complete the Mae F. Curry #3 in the Hardy Blinebry pool similar to the Mae F. Curry #5. However, after review of the downhole logs for Mae F. Curry #3, the best course of action is to also complete the lower Hardy Paddock zone. We request approval to downhole commingle the Hardy Tubb-Drinkard with the Hardy Blinebry pool and Hardy Paddock pool in this well.

## Discussion

The Hardy-Tubb Drinkard has been producing in the Mae F. Curry #3 since May 2002 and is currently producing at a rate of approximately 3 BOPD, 84 MCFD, and 15 BWPD based on recent well tests. Estimated remaining recoverable reserves from the Hardy-Tubb Drinkard are 6.3 MBO, 200.0 MMCF, along with 35.4 MBW (see attachments). Remaining oil reserves were determined using decline curve analysis. Remaining gas reserves were forecasted using a gas-oil ratio of 31.7 MMCF/MBO (average over the last 12-months) and water production forecasted at a water-oil ratio of 5.6 MBW/MBO (average over the last 12-months).

Neither the Hardy Blinebry nor the Hardy Paddock has been completed in the Mae F. Curry #3; however, similar zones have been completed and produced commercially from several offset wells, with the average ultimate reserve recovery from the Hardy Blinebry for six of these offset wells estimated to be 46 MBO, 281.5 MMCF, along with 224.2 MBW. These offsets were chosen for evaluation due to their proximity to the Mae F. Curry #3 and availability of quality production data for the Hardy Blinebry.

Based on well logs, the performance of the Hardy Blinebry in the Mae F. Curry #3 is expected to be comparable to these offsets; however, there is a decent pay zone approximately 90 feet above the Blinebry top marker that appears to be productive. This bottom most Paddock pay zone is comparable to the upper Blinebry in off-set wells. For this reason it is recommended to include the lower Paddock in the downhole comingle. The combined EUR will still be the same as the Blinebry only off-sets since the producing zone is similar, but the Paddock allocation will be estimated based on percent net pay in the completed section.

An incremental rate and reserve profile for completing the Blinebry/Paddock in this well was generated by fitting a production profile for both oil and gas to wells that have been completed in the Blinebry with allocations.

The results predict a differential production increase from the Blinebry/Paddock to be 26.2 BOPD and 75.0 MCF with an EUR of 37.5 MBO and 268 MCF. Using the estimated remaining reserve recovery for the Hardy Tubb-Drinkard and the expected reserve recovery for completing the Hardy Blinebry and Hardy Paddock, a fixed allocation percentage allocation is recommended for the Mae F. Curry #3 as shown in Table 1 below:

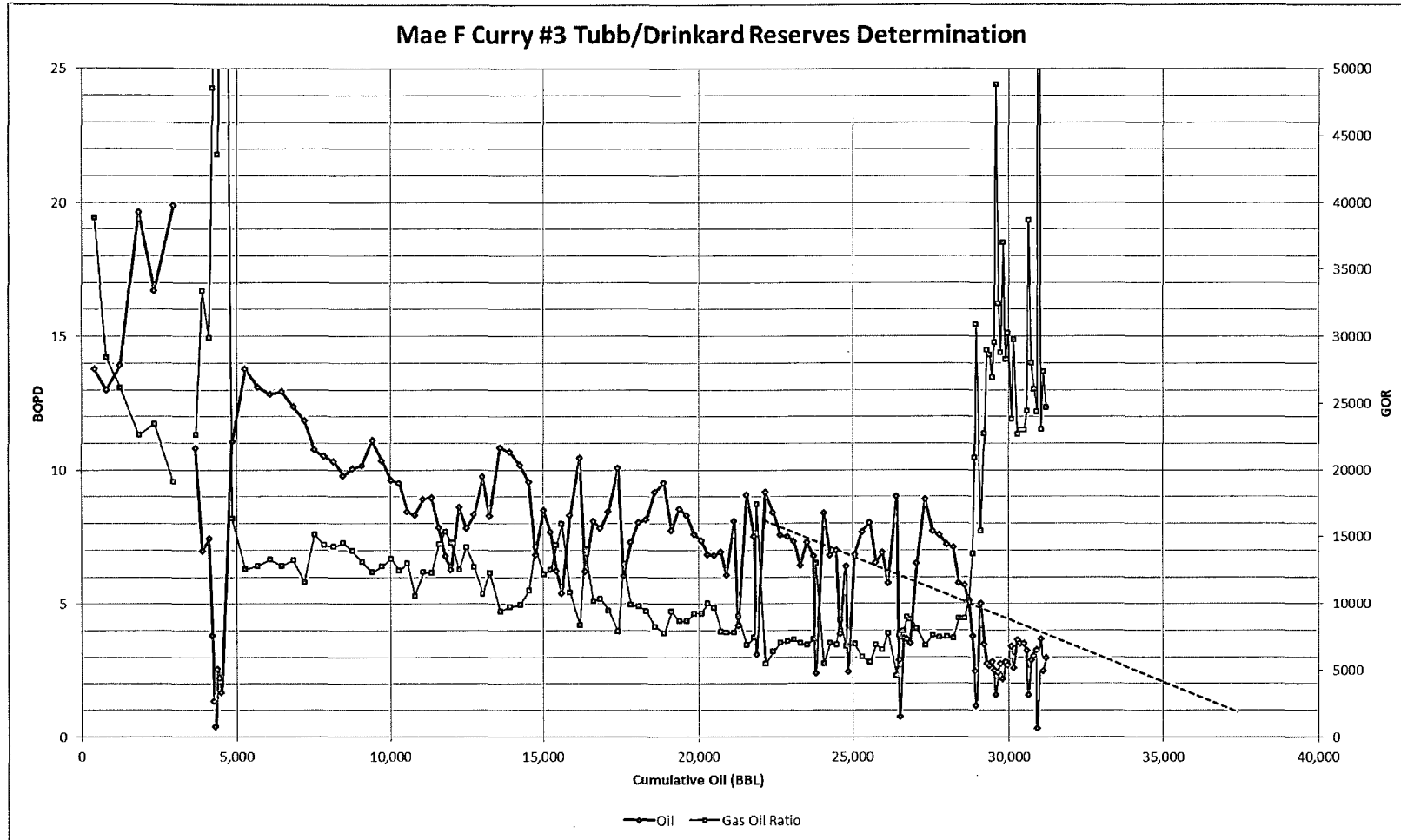
**Table 1: Mae F Curry #3 Allocations**

Pool	Fluid	Expected Recovery	Percent Allocation
<b>Hardy Paddock</b>	Oil (MBO)	16.1	37.3%
	Gas (MMCF)	115.0	25.6%
	Water (MBW)	66.4	35.6%
<b>Hardy Blinebry</b>	Oil (MBO)	21.4	49.5%
	Gas (MMCF)	152.5	34.0%
	Water (MBW)	88.2	47.2%
<b>Hardy Tubb-Drinkard</b>	Oil (MBO)	5.7	13.2%
	Gas (MMCF)	180.9	40.3%
	Water (MBW)	32.0	17.2%
<b>Cumulative</b>	Oil (MBO)	43.2	100%
	Gas (MMCF)	448.4	100%
	Water (MBW)	186.7	100%

#### **List of Attachments**

- A1. Mae F. Curry #3 Production Plot and Remaining Reserve Determination
- A2. Hardy Blinebry Reserve Determination for Offset Wells
- A3. Mae F. Curry #3 Area Map
- A4. Proposed Wellbore Diagram
- A5. Proposed Procedure

# A1. Mae F. Curry #3 Production Plot and Remaining Reserve Determination



	Oil (BBL)	Gas (MCF)	Water (BBL)
Cumulative Production	31,797	448,426	60,241
Estimated EUR	37,500	636,369	93,418
Remaining Recoverable	5,703	187,943	33,177

## A2. Hardy Blinebry Reserve Determination for Offset Wells

Lease	Well No.	API	Hardy Blinebry Production Dates		Hardy Blinebry Cumulative Production to Date			Hardy Blinebry Estimated EUR*			Hardy Blinebry Peak IP30	
			Start	End	Oil (BBL)	Gas (MCF)	Water (BBL)	Oil (BBL)	Gas (MCF)	Water (BBL)	(BOPD)	(MCFD)
Deck Estate 7	1	30-025-33677	Apr-05	Dec-14	43,280	145,307	37,295	135,000	275,000	106,977	23.6	67.5
H.T. Mattern NCT-C	12	30-025-25547	Mar-78	Sep-87	20,679	131,604	194,812	22,500	152,000	264,588	24.9	179.3
Oxy State F 1	1	30-025-35176	May-03	Dec-14	23,831	194,629	265,505	37,500	340,000	567,538	21.2	105.6
State F-1	10	30-025-27034	Sep-86	Aug-08	34,999	213,861	32,583	40,500	570,000	36,154	32.2	151.5
State F-1	11	30-025-35466	Jan-04	Dec-14	25,054	119,878	173,773	38,000	160,000	202,254	18.4	44.2
State F-1	17	30-025-38429	Sep-07	Dec-14	27,077	178,965	315,745	37,500	220,000	532,207	55.6	249.9
State F-1	15	30-025-35771	Jan-04	Dec-14	24,550	187,793	59,219	32,500	260,000	75,602	13.5	74.6
WBDU	25	30-025-26265	Jul-80	Feb-07	21,939	186,114	24,738	25,000	275,000	30,518	19.9	79.7
			Mean		27,676	169,769	137,959	46,063	281,500	226,980	26.2	119.1
			P50		24,802	182,540	116,496	37,500	267,500	154,615	22.4	92.7

\*Oil and gas EUR forecast using decline curve analysis. Water forecast using last 12 months average WOR

Lease	Well No.	API	Notes
Deck Estate 7	1	30-025-33677	Blinebry completed and zone tested to determine allocation. Placed on production DHC with Drinkard April 2005
H.T. Mattern NCT-C	12	30-025-25547	Blinebry completed and zone tested to determine allocation. Placed on production DHC with Drinkard January 1979. No digital log
Oxy State F 1	1	30-025-35176	Well produced from the Blinebry only from May 2003 to Current
State F-1	10	30-025-27034	Well produced from the Blinebry only from September 1986 to November 1996. No digital log
State F-1	11	30-025-35466	Blinebry completed and zone tested to determine allocation. Placed on production DHC with Tubb/Drinkard January 2004
State F-1	17	30-025-38429	Blinebry completed and zone tested to determine allocation. Placed on production DHC with Tubb/Drinkard September 2007. No digital log
State F-1	15	30-025-35771	Blinebry completed and zone tested to determine allocation. Placed on production DHC with Tubb/Drinkard January 2004. No digital log
WBDU	25	30-025-26265	Blinebry completed and zone tested to determine allocation. Placed on production DHC with Drinkard February 1981

### A3. Mae F. Curry #3 Area Map

