

Order Number

497

API Number

30-025-39637

Operator

Apache Corporation

County

Lea

Order Date

7-3-2012

Well Name

DC Hardy

Number

11

Location

P

UL

20

Sec

215

T (+Dir)

37E

R (+Dir)

Pool 1

100240

Tubb Oil + Gas (Oil)

Oil %

4

Gas %

30

Pool 2

19190

Drinkard

66

50

Pool 3

102700

Wantz Abo

30

20

Pool 4

Comments:

Posted in RBDMS 7-3-2012 CHM

30-025-39637
 DHC-HOB-497

DOWNHOLE COMMINGLE CALCULATIONS:

OPERATOR: Apache Corporation

PROPERTY NAME: DC Hardy 1

WNULSTR: 11-P-20-215-37E

SECTION I:		ALLOWABLE AMOUNT	
POOL NO. 1	<u>Tubb Oil + Gas (Oil)</u>	<u>142</u>	<u>284</u> MCF
POOL NO. 2	<u>Drinkard</u>	<u>142</u>	<u>852</u> MCF
POOL NO. 3	<u>Wantz - Abo</u>	<u>187</u>	<u>1122</u> MCF
POOL NO. 4	_____		
	POOL TOTALS	<u>471</u>	<u>2258</u> MCF

SECTION II:		<u>Oil</u>	<u>Gas</u>
POOL NO. 1	<u>Tubb Oil + Gas (Oil)</u>	<u>4%</u>	<u>30%</u>
POOL NO. 2	<u>Drinkard</u>	<u>66%</u>	<u>50%</u>
POOL NO. 3	<u>Wantz - Abo</u>	<u>30% x 471 = 141.3</u>	<u>20%</u>
POOL NO. 4	_____	<u>< 141.7</u>	

SECTION III:	<u>OIL</u>	<u>GAS</u>
	<u>30% ÷ 187 = 623.33</u>	_____

SECTION IV:		
	<u>4% x 623 = 24.92</u>	<u>< 257</u>
	<u>66% x 623 = 411.18</u>	<u>< 4117</u>
	<u>30% x 623 = 187.20</u>	<u>< 1879</u>

Submit 3 Copies To Appropriate District Office
 District I
 1625 N French Dr., Hobbs, NM 88240
 District II
 1301 W Grand Ave., Artesia, NM 88220
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV
 1220 S. St. Francis Dr., Santa Fe, NM 87505

HOBBS OGD

State of New Mexico
 Minerals and Natural Resources
 CONSERVATION DIVISION
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

Form C-103
 June 19, 2008

JUL 0 2 2012

RECEIVED

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 SUCH PROPOSALS.) 1. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other.		WELL API NO. 30-025-39637 ✓
2. Name of Operator Apache Corporation		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
3. Address of Operator 303 Veterans Airpark Lane, Suite 3000 Midland, TX 79705		6. State Oil & Gas Lease No.
4. Well Location Unit Letter <u>P</u> : 1310 feet from the <u>South</u> line and <u>1250</u> feet from the <u>East</u> line Section <u>20</u> Township <u>21S</u> Range <u>37E</u> NMPM County <u>Lea</u>		7. Lease Name or Unit Agreement Name DC Hardy ✓
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3489' GL		8. Well Number <u>011</u> ✓
		9. OGRID Number 873 ✓
		10. Pool name or Wildcat Tubb O&G (Oil) / Drinkard / Wantz; Abo

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

NOTICE OF INTENTION TO: PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/> PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPL <input type="checkbox"/> DOWNHOLE COMMINGLE <input checked="" type="checkbox"/>		SUBSEQUENT REPORT OF: REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input type="checkbox"/> COMMENCE DRILLING OPNS. <input type="checkbox"/> P AND A <input type="checkbox"/> CASING/CEMENT JOB <input type="checkbox"/>	
OTHER AMEND DHC-HOB-360 <input checked="" 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.

Per R-11363

Apache would like to amend DHC-HOB-360 with the completion of the Abo formation:

Pool Names:	Perforations:
Tubb Oil & Gas (Oil) 60240	Tubb 6128'-6304'
Drinkard 19190	Drinkard 6601'-6731'
Wantz; Abo 62700	Abo 6881'-6958'

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

	OIL	GAS	WATER
Tubb	4%	30%	3%
Drinkard	66%	50%	67%
Abo	30%	20%	30%

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

Spud Date: 01/28/2010 Rig Release Date: 02/07/2010

DHC-HOB-497

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

SIGNATURE *Reesa Holland* TITLE Sr Staff Engr Tech DATE 07/02/2012

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

For State Use Only

APPROVED BY: *[Signature]* TITLE **PETROLEUM ENGINEER** DATE **JUL 0 3 2012**

Conditions of Approval (if any):

JUL 0 3 2012

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-39637		² Pool Code 60240	³ Pool Name Tubb Oil & Gas (Oil)
⁴ Property Code 16814	⁵ Property Name DC Hardy		⁶ Well Number 011
⁷ OGRID No. 873	⁸ Operator Name Apache Corporation: 303 Veterans Airpark Lane, Suite 3000 Midland, TX 79705		⁹ Elevation 3489'

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
P	20	21S	37E		1310	South	1250	East	Lea

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 40	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. DHC-HOB-360
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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>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division</i>	
				<i>Reesa Holland</i>	07/02/2012
				Signature	Date
				Reesa Holland Printed Name	
			¹⁸ SURVEYOR CERTIFICATION <i>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</i>		
			Date of Survey		
			Signature and Seal of Professional Surveyor.		
			Certificate Number		

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Form C-102
Revised October 12, 2005
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AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-39637		² Pool Code 62700	³ Pool Name Wantz, Abo
⁴ Property Code 16814	⁵ Property Name DC Hardy		⁶ Well Number 011
⁷ OGRID No. 873	⁸ Operator Name Apache Corporation 303 Veterans Airpark Lane, Suite 3000 Midland, TX 79705		⁹ Elevation 3489'

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	Signature <i>Reesa Holland</i>			Date 07/02/2012
	Printed Name Reesa Holland			
16	¹⁸ SURVEYOR CERTIFICATION <i>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</i>			
	Date of Survey			
	Signature and Seal of Professional Surveyor			
Certificate Number				

July 2, 2012

Mr. Paul Kautz
New Mexico Oil Conservation Division
1625 N French Drive
Hobbs, New Mexico 88240

RE: Application for Exception to Rule 303-C – Downhole Commingling
DC Hardy #11 API 30-025-39637
Unit P, Section 20, T21S, R37E
Tubb Oil & Gas (Oil) 60240; Drinkard 19190 & Wantz; Abo 62700
Lea County, New Mexico

Dear Mr. Kautz,

Enclosed please find form C-103 and attachments for downhole commingling the captioned well. The ownerships (WI, NRI and ORRI) of these pools are identical in this wellbore. The fluids from each of these pools are compatible as seen in other similar commingles in the area. Combining these fluids will not result in any damage to these pools. Commingling will improve the efficiency of present and future recovery operations. Cross flow will not be a problem due to having a production lift system capable of keeping the well pumped off thereby maximizing production. This commingling will not reduce the value of the total remaining production.

The allocation method used for this well was determined by analyzing the cumulative oil, gas and water production in a nine section area of review surrounding this well. Supporting documentation is shown on the attached spreadsheet. Production for active and inactive wells was grouped by pool in the area of review. The totals for each phase were then divided by the number of wells associated with this pool yielding an average. This average was used to determine the percentage allocation.

The main reason for using this method is based on economics and minimizing reservoir damage. Past completion practices had all three zones perforated and fracture stimulated during one full week. Each zone was isolated by a retrievable bridge plug to allow for production testing of each zone for allocation purposes. This testing period lasted as long as one month before a stabilized rate was observed thus allowing the next zone to be brought on and tested. During this time period the completion fluids used were still confined to the other reservoirs causing gel damage. It is a common practice to get these fluids out of the wellbore as soon as possible to help maximize productivity. On a cost basis it is more expensive to have a completion rig move in and out multiple times to bring on each new zone. Several other factors such as weather, other new completions and regulatory well work may interfere with these new wells.

The area of review used encompasses what has been accepted as a good statistical representation for allocation purposes. By using this allocation method all zones will be brought online in a more effective and efficient manner. This will in turn generate a higher productive rate and quicker revenue streams not only for the operator but for the State of New Mexico too.

If you need additional information or have any questions, please give me a call at (432) 818-1062.

Sincerely,

A handwritten signature in cursive script that reads "Reesa Holland".

Reesa Holland
Sr. Staff Engineering Technician