

Order Number  
DHC  
503-0364

API Number  
30-025-39551

Operator  
Apache Corp

County  
Lea/Kee

Order Date  
3/25/10

Well Name  
Marshall B

Number  
14

Location  
255

UL  
K

T (+Dir)  
255

R (+Dir)  
370

Pool 1  
72480

Oil %  
22%

Gas %  
35%

WTR  
19%

Blindry DAG <GAS>

Pool 2  
86440

99%

40%

Tubb DAG <GAS>

Pool 3  
1990

69%

25%

Drinkard

Pool 4

Comments: Posted KBOMS 3/28/10 dm

DOWNHOLE COMMINGLE CALCULATIONS:

DHC-HOB-0364

API# 30-025-39551

OPERATOR: Apache Corp

PROPERTY NAME: Marshall B

WNULSTR: #14-K, 27-2LS-37e

SECTION I:

POOL NO. 1 Blinebry O&G <GAS>

ALLOWABLE AMOUNT

107 428 MCF 4000

POOL NO. 2 Tubb O&G <GAS>

142 284 MCF 2000

POOL NO. 3 Drinkard

142 852 MCF 6000

POOL NO. 4 \_\_\_\_\_

POOL TOTALS 391

1564 MCF

SECTION II:

POOL NO. 1 Blinebry O&G <GAS>

0.1

22%

POOL NO. 2 Tubb O&G <GAS>

9%

POOL NO. 3 Drinkard

69% X 391 = 269.79

<270>

POOL NO. 4 \_\_\_\_\_

GAS

35%

40%

25%

OIL

GAS

SECTION III:

69% ÷ 142 = 205.79 <206>

SECTION IV:

22% X 206 = 45.32 <45>

9% X 206 = 18.54 <19>

69% X 206 = 142.14 <142>

about 3 copies To Appropriate District  
Office  
Sheet 1  
25 N. French Dr., Hobbs, NM 88240  
Sheet II  
01 W. Grand Ave., Artesia, NM 88210  
Sheet III  
00 Rio Chizos Rd., Aztec, NM 87410  
Sheet IV  
20 S. St. Francis Dr., Santa Fe, NM 87505  
505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
June 19, 2008

RECEIVED

CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, NM 87505

MAR 24 2010

HOBBSOCD

WELL API NO. 30-025-39551
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
6. State Oil & Gas Lease No. NA
7. Lease Name or Unit Agreement Name Marshall B
8. Well Number 014
9. OGRID Number 873
10. Pool name or Wildcat Bli O&G (Gas), Tubb O&G (Gas), Drinkard

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.

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

Name of Operator  
Apache Corporation

Address of Operator  
20 S Yale Avenue, Suite 1500, Tulsa, OK 74136-4224

Well Location

Unit Letter K : 1845 feet from the South line and 1765 feet from the West line  
Section 27 Township 21S Range 37E NMPM County Lea

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
3412' GR

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
WELL OR ALTER CASING ☐ MULTIPLE COMPLETIONS ☐  
OWNED OR COMMINGLED ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPERATIONS ☐ PLUG AND ABANDON ☐  
CASING/CEMENT JOB ☐

OTHER ☐

OTHER: ☐

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. R-11363

Pool Names:

Blinebry Oil & Gas (Pro Gas) 72480  
Tubb Oil & Gas (Pro Gas) 86440  
Drinkard 19190

Proposed Perforations:

Blinebry 5486' - 5788'  
Tubb 5962' - 6196'  
Drinkard 6443' - 6608'

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

	OIL	GAS	Water
Blinebry	22%	35%	19%
Tubb	9%	40%	8%
Drinkard	69%	25%	73%

DHC-HOB-0363

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

and Date:

Rig Release Date:

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

SIGNATURE

*Sophie Mackay*

TITLE Engineering Technician

DATE 03/19/2010

Operator Print name Sophie Mackay

E-mail address: sophie.mackay@apachecorp.com

PHONE: 918-491-4164

Operator Stat: Use Only

APPROVED BY:

*[Signature]*

TITLE

PETROLEUM ENGINEER

DATE

MAR 25 2010

Condition of Approval (if any):

*Amended*

Office  
25 N. French Dr., Hobbs, NM 88240  
01 W. Grand Ave., Artesia, NM 88210  
00 Rio Brazos Rd., Aztec, NM 87810  
20 S. St. Francis Dr., Santa Fe, NM 87505

**RECEIVED**  
**CONSERVATION DIVISION**  
**MAR 24 2010**  
**HOBBSOCD**

1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO.  
30-025-39551

5. Indicate Type of Lease  
STATE ☐ FEE ☒

6. State Oil & Gas Lease No.  
NA

7. Lease Name or Unit Agreement Name  
Marshall B

8. Well Number 014

9. OGRID Number  
873

10. Pool name or Wildcat  
Bli O&G (Gas), Tubb O&G (Gas), Drinkard

**SUNDRY NOTICES AND REPORTS ON WELLS**

DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A  
FUTURE RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH  
PROPOSALS.

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

Name of Operator  
Apache Corporation

Address of Operator  
20 S Yale Avenue, Suite 1500, Tulsa, OK 74136-4224

Well Location

Unit Letter K : 1845 feet from the South line and 1765 feet from the West  
Section 27 Township 21S Range 37E NMPM County Lea

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
3412' GR

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

**NOTICE OF INTENTION TO:**

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
FULL OR ALTER CASING ☐ MULTIPLE COMPLET ☐  
OWNED OR COMINGLE ☒

**SUBSEQUENT REPORT OF:**

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ PLUG AND A ☐  
CASING/CEMENT JOB ☐

OTHER ☐

OTHER: ☐

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. R-11863

Pool Names:

Blinelby Oil & Gas (Pro Gas) 72480  
Tubb Oil & Gas (Pro Gas) 86440  
Drinkard 19190

Proposed Perforations:

Blinelby 5486' - 5788'  
Tubb 5962' - 6196'  
Drinkard 6443' - 6608'

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

	OIL	GAS	Water
Blinelby	22%	35%	19%
Tubb	9%	40%	8%
Drinkard	69%	25%	73%

*DHC-HOB-0364*

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

and Date:

[Empty box for Date]

Rig Release Date:

[Empty box for Rig Release Date]

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

Signature

*Sophie Mackay*

TITLE Engineering Technician

DATE 03/19/2010

Print name Sophie Mackay

E-mail address: sophie.mackay@apachecorp.com

PHONE: 918-491-4834

For State Use Only

PROVED BY:

*[Signature]*

TITLE

PETROLEUM ENGINEER

DATE

MAR 25 2010

and Date of Approval (if any):

March 19, 2010

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

RECEIVED

MAR 24 2010

HOBBSOCD

RE: Application for Exception to Rule 303-C – Downhole Commingling  
Marshall B #14  
Unit K, Section 27, T-21-S, R-37-E  
Blinebry Oil & Gas (Pro Gas), Tubb Oil & Gas (Pro Gas) and Drinkard Pools  
Lea County, New Mexico

Dear Mr. Kautz,

Enclosed please find an administrative application 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 were 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. This method has been used multiple times for up to five completions in the same wellbore. The NMOCD in Santa Fe and the district office in Aztec along with the BLM office in Farmington have approved this method. By using this allocation method all three 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 (918) 491-4842.

Sincerely,

A handwritten signature in cursive script that reads "Darrin Steed". The signature is written in dark ink and is positioned above the typed name.

Darrin Steed, P.E.  
Sr Staff Production Engineer

Enclosures

RECEIVED

MAR 24 2010

HOBBS

State of New Mexico

Energy, Minerals &amp; 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 -025-3 3551		2 Pool Code 72480		3 Pool Name Blinebry Oil & Gas (Pro Gas)	
4 Property Code 6608		5 Property Name Marshall B			6 Well Number 014
7 OG RID No. 3		8 Operator Name Apache Corporation			9 Elevation 3412'

## 10 Surface Location

or lot no	Section 27	Township 21S	Range 37E	Lot Idn	Feet from the 1845	North/South line South	Feet from the 1765	East/West line West	County Lea
-----------	---------------	-----------------	--------------	---------	-----------------------	---------------------------	-----------------------	------------------------	---------------

## 11 Bottom Hole Location If Different From Surface

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

dedicated acres	12 Joint or Infill	13 Consolidation Code	14 Order No. NSP-1784-A
-----------------	--------------------	-----------------------	----------------------------

allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the  
STION.

## 17 OPERATOR CERTIFICATION

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 unleased 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

*S. Mackay* 03/19/2010  
Signature Date

Sophie Mackay  
Printed Name

## 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 my supervision, and that the same is true and correct to the best of my belief

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number

RECEIVED

State of New Mexico

Form C-102

Revised October 12, 2005

Energy, Minerals &amp; Natural Resources Department

Submit to Appropriate District Office

OIL CONSERVATION DIVISION

State Lease - 4 Copies

Fee Lease - 3 Copies

1220 South St. Francis Dr.

Santa Fe, NM 87505

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 025-3 9551		2 Pool Code 86440		3 Pool Name Tubb Oil & Gas (Pro Gas)	
4 Property Code 6608		5 Property Name Marshall B			6 Well Number 014
7 OG RID No. 3		8 Operator Name Apache Corporation			9 Elevation 3412'

## 10 Surface Location

or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	27	21S	37E		1845	South	1765	West	Lea

## 11 Bottom Hole Location If Different From Surface

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

12 Dedicated Acres 0	13 Joint or Intill	14 Consolidation Code	15 Order No. NSP-1934
-------------------------	--------------------	-----------------------	--------------------------

allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the  
 ision.

## 17 OPERATOR CERTIFICATION

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.

*S. Mackay* 03/19/2010  
 Signature Date

Sophie Mackay  
 Printed Name

## 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 my supervision, and that the same is true and correct to the best of my belief.

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number

RECEIVED

MAR 24 2010

State of New Mexico

Form C-102

1. N. Francis Dr., Hobbs, NM 88240  
2. W. Grand Avenue, Artesia, NM 88210  
3. Rio Brazos Rd., Aztec, NM 87410  
4. S. St. Francis Dr., Santa Fe, NM 87505

HOBBS

Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

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

API Number 025-31 551	Pool Code 19190	Pool Name Drinkard
Property Code 3608	Property Name Marshall B	Well Number 014
OGID No.	Operator Name Apache Corporation	Elevation 3412'

<sup>10</sup> Surface Location

Section 27	Township 21S	Range 37E	Lot Idn	Feet from the 1845	North/South line South	Feet from the 1765	East/West line West	County Lea
---------------	-----------------	--------------	---------	-----------------------	---------------------------	-----------------------	------------------------	---------------

<sup>11</sup> Bottom Hole Location If Different From Surface

Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

dedicated acres	Joint or Infill	Consolidation Code	Order 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>17</sup> OPERATOR CERTIFICATION

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

Signature: *S. Mackay* Date: 03/19/2010

Printed Name: Sophie Mackay

<sup>18</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 belief.

Date of Survey

Signature and Seal of Professional Surveyor:

Certificate Number

