

DATE IN 10/22/12	SUSPENSE	ENGINEER W Jones	LOGGED IN 10/22/12	TYPE DHC 4591	APP NO. PKUR1229650021
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505



Apache Corp
LW Ward #1
RECEIVED OCD

2012 OCT 22 P 12:33

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

- [NSL-Non-Standard Location]** **[NSP-Non-Standard Proration Unit]** **[SD-Simultaneous Dedication]**
[DHC-Downhole Commingling] **[CTB-Lease Commingling]** **[PLC-Pool/Lease Commingling]**
[PC-Pool Commingling] **[OLS - Off-Lease Storage]** **[OLM-Off-Lease Measurement]**
[WFX-Waterflood Expansion] **[PMX-Pressure Maintenance Expansion]**
[SWD-Salt Water Disposal] **[IPI-Injection Pressure Increase]**
[EOR-Qualified Enhanced Oil Recovery Certification] **[PPR-Positive Production Response]**

- [1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]
- [A] Location - Spacing Unit - Simultaneous Dedication
 NSL NSP SD
- Check One Only for [B] or [C]
- [B] Commingling - Storage - Measurement
 DHC CTB PLC PC OLS OLM
- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
 WFX PMX SWD IPI EOR PPR
- [D] Other: Specify _____
- [2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply
- [A] Working, Royalty or Overriding Royalty Interest Owners
- [B] Offset Operators, Leaseholders or Surface Owner
- [C] Application is One Which Requires Published Legal Notice
- [D] Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

REESA HOLLAND
Print or Type Name

Reesa Holland
Signature

SR STAFF REG TECH
Title

10/18/2012
Date

APACHE - LW WARD #1

Reesa.Holland@apachecorp.com
e-mail Address

District I
1625 N. French Drive, Hobbs, NM 88240

District II
1301 W. Grand Avenue, Artesia, NM 88210

District III
1000 Rio Brazos Road, Aztec, NM 87410

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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107A
Revised June 10, 2003

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

APPLICATION TYPE
 Single Well
 Establish Pre-Approved Pools
EXISTING WELLBORE
 Yes No

APPLICATION FOR DOWNHOLE COMMINGLING

DHC-4591

Apache Corporation 303 Veterans Airpark Lane Suite 3000 Midland TX 79705
Operator Address

L W Ward 001 O 11 13S 38E Lea
Lease Well No. Unit Letter-Section-Township-Range County

OGRID No. 873 Property Code 26474 API No. 30-025-07230 Lease Type: Federal State Fee

DATA ELEMENT	UPPER ZONE <input checked="" type="checkbox"/>	INTERMEDIATE ZONE	LOWER ZONE <input checked="" type="checkbox"/>
Pool Name	Bronco; Wolfcamp		Bronco; Siluro Devonian
Pool Code	7600		7410
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	9428'-9435' (Perfs)		11,601'-09' ; 11,673'-80' Perfs
Method of Production (Flowing or Artificial Lift)	Artificial Lift		Artificial Lift
Bottomhole Pressure <small>(Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)</small>			
Oil Gravity or Gas BTU (Degree API or Gas BTU)	41.6		41.51/2 &
Producing, Shut-In or New Zone	Producing		SI
Date and Oil/Gas/Water Rates of Last Production. <small>(Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.)</small>	Date: 9/20-26/2012 Rates: See Attached Tests	Date: Rates:	Date: 1/2/2012 & 2/15/2012 Rates: See Attached Tests
Fixed Allocation Percentage <small>(Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)</small>	Oil 55 % Gas 30 %	Oil % Gas %	Oil 45 % Gas 70 %

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes No
 If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? Yes No
 Are all produced fluids from all commingled zones compatible with each other? Yes No
 Will commingling decrease the value of production? Yes No
 If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application? Yes No
 NMOCD Reference Case No. applicable to this well: _____

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 explanation.)
- For zones with no production history, estimated production rates and supporting data.
- Data to support allocation method or formula.
- Notification list of working, royalty and overriding royalty interests for uncommon interest cases.
- Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

- List of other orders approving downhole commingling within the proposed Pre-Approved Pools
- List of all operators within the proposed Pre-Approved Pools
- Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
- Bottomhole pressure data.

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 Regulatory Tech DATE 10/18/2012
 TYPE OR PRINT NAME Reesa Holland TELEPHONE NO. (432) 818-1062
 E-MAIL ADDRESS Reesa.Holland@apachecorp.com

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
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1220 S. St. Francis Dr., Santa Fe, NM 87505

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 30-025-07230		2 Pool Code 07410-7600		3 Pool Name Bronco; Sure-Devonian Wolfcamp	
4 Property Code 26474		5 Property Name L W Ward			6 Well Number 001
7 OGRID No. 873		8 Operator Name Apache Corporation: 303 Veterans Airpark Lane, Suite 3000 Midland, TX 79705			9 Elevation 3809' GL

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	11	13S	38E		660	South	1491	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.
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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				<p>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 previously entered by the division.</p> <p>Signature: <u>Reesa Holland</u> Date: <u>05/10/2012</u></p> <p>Printed Name: <u>Reesa Holland</u></p>
			<p>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.</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor</p>	
			Certificate Number	

District I
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State of New Mexico
 Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
 1220 South St. Francis Dr.
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Form C-102
 Revised October 12, 2005
 Submit to Appropriate District Office
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AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-07230		² Pool Code 07410		³ Pool Name Bronco; Siluro Devonian	
⁴ Property Code 26474		⁵ Property Name L W Ward			⁶ Well Number 001
⁷ OGRID No. 873		⁸ Operator Name Apache Corporation: 303 Veterans Airpark Lane, Suite 3000 Midland, TX 79705			⁹ Elevation 3809' GL

¹⁰ Surface Location

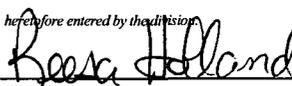
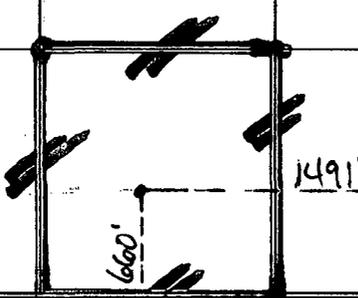
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	11	13S	38E		660	South	1491	East	Lea

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.
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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 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.</i>  05/10/2012 Signature Date Reesa Holland Printed Name
					Date of Survey Signature and Seal of Professional Surveyor:
					Certificate Number



October 18, 2012

Mr. Will Jones
New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505-4225

RE: Application for Exception to Rule 303-C – Downhole Commingling
L W Ward #1 API 30-025-07230
Unit O, Section 11, T13S, R38E
Bronco; Wolfcamp (7600) & Bronco; Siluro Devonian (7410)
Lea County, New Mexico

Dear Mr. Jones;

Enclosed please find form C-107A 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 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 black ink that reads "Reesa Holland". The signature is written in a cursive, flowing style.

Reesa Holland
Sr. Staff Reg Technician

Well Test History Report

Select By: Field
Display: All well tests between 01/01/2012 - 10/01/2012

Test Date	Effective Date	Measured Hours	Type	24 Hour Volumes					Ratios					Fluid Level
				Gr Liquid	OIL	GAS	WAT	LIFT	GOR	GLR	IGOR	IGLR	TGLR	
Field: BRONCO (NM)														
WARD, L W #1 (SILURO-DEVONIAN)														
1/2/2012	1/2/2012	24	A	258	3	8	255	0	2,667	31	0	0	31	78
2/15/2012	2/15/2012	24	A	250	5	10	245	0	2,000	40	0	0	40	210
9/20/2012	9/20/2012	24	A	122	13	3	109	0	231	25	0	0	25	200
9/21/2012	9/21/2012	24	A	43	1	3	42	0	3,000	70	0	0	70	90
9/24/2012	9/24/2012	24	A	31	2	8	29	0	4,000	258	0	0	258	90
9/25/2012	9/25/2012	24	A	266	6	3	260	0	500	11	0	0	11	54
9/26/2012	9/26/2012	24	A	25	4	3	21	0	750	120	0	0	120	70
Averages by Completion				142	5	5	137	0						

DEVONIAN
WOLFCAMP

AVG DEVONIAN 4 9 250 2250
45% 70% 73%

AVG WOLFCAMP 5 4 93 800
55% 30% 27%

9 13 343 1444

** All values are recorded using imperial units.