Submit 3 Copies To Appropriate District  Office  District   State of New Me  Energy, Minerals and Natur			Form C-103 Revised March 25, 1999
1625 N. French Dr., Hobbs, NM 88240 District II		30-045-31163	
District II OIL CONSERVATION District III 2040 South Pach		5. Indicate Type of	
1000 Rio Brazos Rd., Aztec, NM 87410 <u>District IV</u> Santa Fe, NM 87		STATE & 6. State Oil & Ga	
2040 South Pacheco, Santa Fe, NM 87505  SUNDRY NOTICES AND REPORTS ON WELLS	IC DACK TO A		Unit Agreement
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLU DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FO PROPOSALS.)  1. Type of Well:  Oil Well  Gas Well  Other:	i	Name: NORTHEAST BL	ANCO UNIT
Name of Operator: Devon Energy Production Co. L.P.		8. Well No. 321	
Address of Operator: Attn: Diane Busch		Pool name or Wild Basin-Dakota	cat:
20 N. Broadway Oklahoma City, OK 7310	02	Dasm-Dakota	
3. Well Location			
Unit Letter O: 835 feet from the South line and 2475 f	feet from the East li	ne.	
Section: 18 Township 31N Range 6			an Juan
10. Elevation (Show whether DI 6361' GL	R, RKB, RT, GR, etc.	.)	
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APPPROVED BY Conditions of approval, if any:

## ATTACHMENTS TO APPLICATION TO DOWNHOLE COMMINGLE

The following information is being provided as supporting data for application to downhole commingle production from the following well:

Well: NEBU #321

Location: SW SE, Sec. 18, T31N, R6W San Juan County, New Mexico

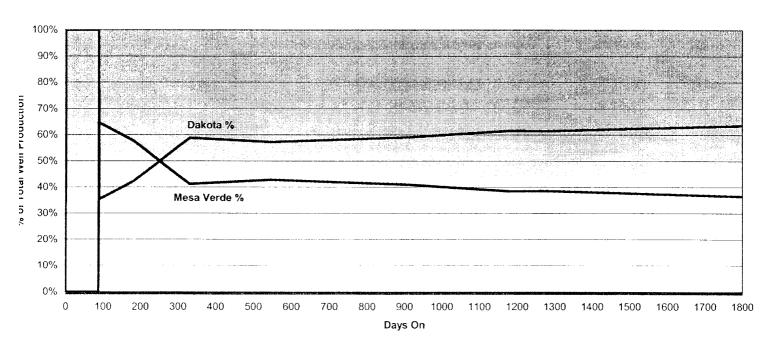
- 1. The Division order that establishes the two subject pools as pre-approved pools for commingling is Case No. 12346, Order No. R-11363.
- 2. The pools to be commingled are the Blanco-Mesaverde (72319) and the Basin-Dakota (71599).
- 3. The subject well is presently completed in the Basin-Dakota pool, the perforated interval being 7826'-7986'. Proposed perforations in the Blanco-Mesaverde are 5285'-5744'.
- 4. Commingling will not reduce the value of the total remaining production in this well. Produced waters from both the Basin-Dakota and the Blanco-Mesaverde have been found to be compatible, with no evidence of scaling problems on tubulars, or of precipitate fill in the wellbore. The increased volume of gas flowing up the tubing will facilitate the well's ability to unload itself, thus increasing production and reducing potential operational problems.
- 5. Notice has been sent to all interest owners in the spacing unit by certified mail (return receipt) of Devon Energy's intent to downhole commingle production. A copy of this notice and a list of all interest owners is attached.
- 6. A copy of this notice of intent to downhole commingle has been sent to the Bureau of Land Management.

## **Method of Allocation**

Devon Energy recommends the following procedure to allocate downhole commingled production between the Basin-Dakota and the Blanco-Mesaverde pools within the Northeast Blanco Unit:

- The Mesaverde and Basin-Dakota formations will be completed simultaneously.
- A single 2-3/8" tubing string will be run in the well, with a packer isolating the two horizons.
- The Dakota completion will be produced up the tubing string.
- The Mesaverde completion will be produced up the 2-3/8" x 4-1/2" annulus.
- Production from each zone will be measured separately using a 3 phase metering device prior to flowing through a mutual production separator. Total well stream gas will be measured using a conventional orifice plate meter tube located downstream of the production separator.
- The completions will be flow tested separately for 90 days to establish a stabilized rate and trend.
- Following the testing period the packer will be removed and the two pools will be downhole commingled. Total well production will flow through common surface facilities and total produced gas will be measured using a conventional orifice plate meter tube.
- Production will be allocated between the Mesa Verde and Dakota intervals by applying the variable percentage schedule to the daily total well production.

The Variable Percentage Schedule was derived using Mesa Verde and Dakota production type curves. These type curves were generated by normalizing production data from surrounding wells. The variable percentage schedule is required due to the dissimilar decline trends exhibited by the Mesa Verde and Dakota. Figure 1 depicts a typical Mesa Verde – Dakota production allocation. The actual percentages will vary from well to well, depending on well productivity.



Typical MV - DK Downhole Commingle Production % Schedule

Figure 1

The Basin-Dakota type curve was generated from normalized production of 40 offsetting Basin-Dakota producers. The Basin-Dakota type curve clearly defines the decline rate for the life of a well. Comparison of this type curve with the production schedule obtained by using flow test data demonstrates the reliability of this method for projecting production. (See Figure 2) The curve covers a three and one half year period with a variance in cumulative normalized production of only 165 MCF.

## Dakota Type Curve

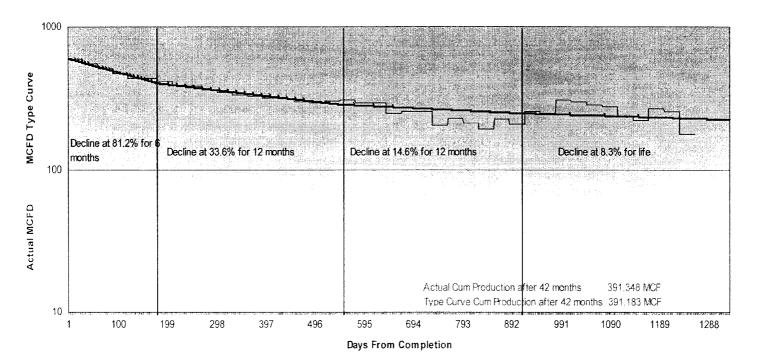


Figure 2

The Blanco – Mesa Verde type curve was generated from normalized production of 12 offsetting Blanco-Mesa Verde producers. Comparison of this type curve with the production schedule obtained by using flow test data demonstrates the reliability of this method for projecting production. (See Figure 3) The curve covers a four year period with a variance in cumulative normalized production of only 3,382 MCF.

## Mesa Verde Type Curve

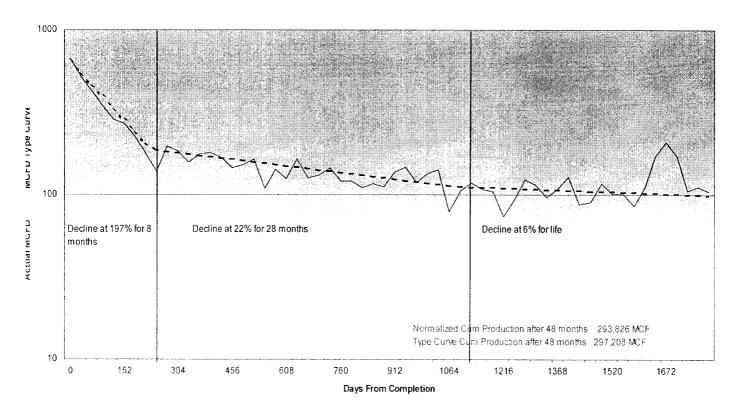


Figure 3