United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Farmington District Office
1235 La Plata Highway, Suite A
Farmington, New Mexico 87401

April 27, 1999

IN REPLY REFER TO:
San Juan 32-8 Unit (GC)
3180 (07100)

Mr. Scott Prather
Phillips Petroleum Company
5525 Hwy 64, NBU 3004
Farmington, NM 87401

Dear Mr. Prather:

Phillips Petroleum Company (Phillips) made application to the New Mexico Oil Conservation Division to establish downhole commingling reference cases for the San Juan 32-8 Unit, San Juan 32-7 Unit, San Juan 29-6 Unit, and San Juan 31-6 Unit. In summary, Phillips proposes to use the subtraction method, where production is forecasted from existing or stabilized flow and the remainder allocated to the newly completed zone, for a period of 6-12 months. This 6-12 month period will allow stabilized flow to develop from both producing zones. After achieving stabilized flow from both producing zones, Phillips proposes to switch to a fixed allocation factor.

We have reviewed the production allocation methodology and concur that it is reasonable to use for downhole commingling of the Dakota, Mesaverde, Fruitland-Coal, and Pictured Cliffs formations in the above referenced unit agreement areas. A copy of the approved production allocation methodology is attached. To ensure proper production and royalty reporting, Phillips is required to submit the production allocation factors for both the subtraction and fixed allocation time periods for each well you downhole commingle. Please include the effective date you switch to fixed allocation factors.

If you have any questions, please call Duane Spencer at (505) 599-6350.

Sincerely,

/S/ Duane W. Spencer

Duane W. Spencer
Team Lead, Petroleum Management

Attachment-1
1-Allocation Methodology

cc:
NMOCD, Santa Fe, NM
NMOCD, Farmington, NM

PRODUCTION ALLOCATION METHODOLOGY

New Drill Wells & Recompletions

Initially Subtraction Method followed by Fixed Allocation (Ratio) Method

Subtraction Method (Six to Twelve Months)

- Determine stabilized flow rate for existing zone (for recompletion – decline curve) or lower zone (for new drill – initial stabilized rate) and forecast production rate by month
- Subtract forecasted rate from commingled rate to determine production rate on new commingled zone
- Utilize subtraction method for six to twelve months until new zone rate stabilizes, then utilize fixed allocation method with current rates

Fixed Allocation Method (after Subtraction Method)

- Utilize forecasted rate for existing or lower zone
- Calculate upper zone rate by subtracting existing or lower zone rate from commingled rate
- Lower zone allocation = $\frac{\text{Lower zone rate}}{\text{Commingled rate}}$
- Upper zone allocation = (Commingled rate - Lower zone rate) / Commingled rate
- Example: Lower or existing zone rate - 400 MCFD (forecast after 6 to 12 months)
  Commingled rate - 1000 MCFD

  Lower zone allocation = 400 / 1000
  = 40%

  Upper zone allocation = (1000-400) / 1000
  = 60%