# United States Department of the Interior

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

February 13, 1996

IN REPLY REFER TO:
SF-079160(WC)
3162.3-2 (07327)

Brett H. Liggett
Unocal Oil and Gas Division
913 West Broadway, P.O. Box 850
Bloomfield, New Mexico 87413

Dear Mr. Liggett:

We have completed our review of your application to downhole commingle Blanco Mesaverde and Basin Dakota production in the following well located on Federal lease No. SF-079160 :

**Rincon Unit 134, 1100' FNL - 1840' FEL**
**SECTION 12, T-26N, R-7W**
**SAN JUAN COUNTY, NEW MEXICO**

Your application indicated that UNOCAL intends to allocate production based on existing Dakota produc[tion] and a Mesaverde well test. These two rates would converted to percentage factors to calculate monthly production from each formation. The Dakota formation has been producing since 1974 and has establis[hed] known decline rate. Initial rates from the Mesaverde formation will be affected by flush production fr[om] virgin reservoir and will decline at a higher rate until the formation is stabilized.

Future Dakota volumes could be calculated by dividing the known decline rate of the formation by [?] determine the monthly decline rate. The result is then subtracted from 100 to determine what perce[nt] current months production will equal next months production.

## HYPOTHETICAL EXAMPLE

Dakota production was 3506 MCF for 30 days production in June 1995. The annual decline rat[e]
annually.

$$monthly\ decline\ rate = \frac{annual\ decline\ rate}{12}$$

$$.20558 = ?$$

$$\begin{array}{r} 100.00 \\ -\ .20558 \\ \hline 99.79442\% \end{array}$$

Dakota production for July 1995 would be 99.79442% of the volume produced in June

$$3,498.79237 = .9979442 * 3506$$

Rounded to the nearest whole MCF, July production for the Dakota would be 3

If the well produces less than a whole month, the monthly volume can be determined by dividing the monthly volume by 30 times the number of days that the well produced. For example, if the well produces 27 days in July, monthly volume would be

$$Dakota\ production\ for\ July = \frac{average\ monthly\ volume\ (3,499\ MCF)}{thirty} * number\ of\ days\ produced\ during\ the\ month$$

$$3,149 = \frac{3,499}{30} * 27$$

July gas allocation would be 3,149 MCF to the Dakota and the remaining volume to the Mesaverde. Liquid production from each formation would be allocated in a like manner. August production would be 99.79442 % of 3.499 (30 day volume for July). Each subsequent month would be calculated in a like manner.

Allowances must be made for operational changes which affect productive rates. Examples are: increased or decreased line pressure, installation of compression at the wellhead etc. Dakota allocation would have to be changed proportionally. For example if line pressure in the area is reduced due to added compression and overall production increases by 15%, then Dakota allocation would likewise increase by 15%. Major changes in the production profile such as noticeable increases in volumes of produced water may require individual formation testing to determine proper allocation.

The allocation method described above can be converted to a percentage factor as soon as it can be demonstrated that both formations are declining at equal rates. Please notify this office when allocation is converted.

Your application, revised to allocate production based on the formula outlined above is hereby approved effective the date that the formations are physically commingled.

Under provisions of 43 CFR 3165.3, you may request an Administrative Review of the order(s) described above. Such request, including all supporting documents, must be filed in writing within 20 business days of receipt of this notice and must be filed with the State Director, Bureau of Land Management, P. O. Box 27115, Santa Fe, New Mexico 87502-0115. Such request shall not result in a suspension of the order(s) unless the reviewing official so determines. Procedures governing appeals from instructions, orders or decisions are contained in 43 CFR 3165.4 and 43 CFR 4.400 *et seq*.

If you have any questions regarding this correspondence, please contact Ray Hager at (505) 599-6366.


Sincerely,


Duane Spencer
Team Lead, Petroleum Management


cc:
NMOCD, Santa FE
NMOCD, Aztec