

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:**

**CASE NO. 14862  
ORDER NO. R-12984-B**

**APPLICATION OF CONOCOPHILLIPS COMPANY AND  
BURLINGTON RESOURCES OIL & GAS COMPANY FOR PRE-  
APPROVAL OF DOWNHOLE COMMINGLING OF PRODUCTION ON  
A POOL-WIDE BASIS FOR THE BASIN-MANCOS GAS POOL, SAN  
JUAN, RIO ARriba AND SANDOVAL COUNTIES, NEW MEXICO.**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on June 25, 2012, at Santa Fe, New Mexico, before Examiner David K. Brooks.

NOW, on this 15<sup>th</sup> day of August, 2012, the Division Director, having considered the testimony, the record and the recommendations of the Examiner,

**FINDS THAT:**

- (1) Due notice has been given, and the Division has jurisdiction of the subject matter of this case.
- (2) ConocoPhillips Company and Burlington Resources Oil & Gas Company ("Applicant") filed this application pursuant to 19.15.12.11.D(2) NMAC seeking pre-approval on a pool-wide basis for downhole commingling of production from the Mancos formation, within any and all wells now or hereafter completed in the Basin-Mancos Gas Pool, with production from the Blanco-Mesaverde Gas Pool, the Basin-Dakota Gas Pool, or both of said pools.
- (3) Applicant appeared at the hearing through counsel and presented evidence as follows:

Land

(a) Applicant has given notice to all operators in the Basin-Mancos Gas Pool by certified mail.

(b) The Division has previously issued orders pre-approving downhole commingling of production from various "Gallup" pools with production from the Mesaverde and Dakota.

(c) In Order No. R-12991, issued in Case No. 14146 on September 5, 2008, the Division granted pre-approval for downhole commingling of Basin-Mancos production with Basin-Dakota and Blanco-Mesaverde production throughout the Rosa Unit, operated by WPX Energy Production, LLC ("WPX"), formerly known as Williams Production Company.

(d) WPX and Energen Resources Corporation have furnished letters in support of this Application.

Geological:

(e) The Mancos formation in the San Juan Basin is a marine deposit that exhibits a large degree of continuity across the Basin. Accordingly it is reasonable to infer that known data points are representative of a large area.

(f) Specifically in regard to fluid compatibility, development in the San Juan Basin demonstrates compatibility of fluids within the pore space of different formations.

(g) Downhole commingling between the Dakota formation and the Gallup member of the Mancos formation has occurred from the beginning of Gallup production in the area.

(h) Experience with both Gallup wells pre-approved for commingling and other Mancos wells specifically approved for commingling indicates that there are no fluid incompatibility issues with either the Dakota or the Mesaverde.

(i) In regard to pressure differentials, the stratigraphy of the Mesaverde, Mancos and Dakota are such that they get deeper together, so that one would not expect different gradients between them anywhere in the San Juan Basin.

(j) Type logs presented in evidence from three selected areas in the Mancos dispersed around the basin confirm the consistency of the stratigraphy of these formations.

(k) This consistency of stratigraphy makes it reasonable to estimate pressure in these formations based on interpolation from known data points even if the data points are a considerable distance apart.

(l) Logs are available for more than 9,000 wells that penetrate the Mancos, affording a large number of data points.

(m) Based on the available geologic evidence and well experience it is reasonable to conclude that neither fluid compatibility nor pressure differentials will be an issue between the Mancos, Mesaverde and Dakota formations.

Engineering

(n) The Mancos formation is generally at or below hydrostatic pressure, so that it will not pose problems for the Mesaverde or Dakota in the event of a prolonged shut-in.

(o) BTU content of gas is not greatly different between these formations; so there is no reason why commingling would adversely affect the value of gas produced.

(p) BTU differences between the Mancos and the Mesaverde, and between the Mancos and the Dakota are less than expected between the Mesaverde and the Dakota, formations already pre-approved for downhole commingling.

(q) Economic analysis of Mancos prospects indicates that stand-alone wells to produce the gas in the Mancos are not justified. Thus without commingling with other formations, this gas may be left in the ground.

(4) No other person appeared at the hearing or otherwise communicated to the Division any opposition to this Application.

(5) The Division concludes that (a) Applicant has satisfied all of the evidentiary requirements of 19.15.12.11.D(2) NMAC for pre-approval of downhole commingling, and (b) granting this Application will prevent waste by facilitating production of hydrocarbons which might otherwise be uneconomic, and will not impair correlative rights.

**IT IS THEREFORE ORDERED THAT:**

(1) The application of ConocoPhillips Company and Burlington Resources Oil & Gas Company for pre-approval on a pool-wide basis for downhole commingling of production from the Mancos formation, within any and all wells now or hereafter completed in the Basin-Mancos Gas Pool (Pool Code 97232), with production from the

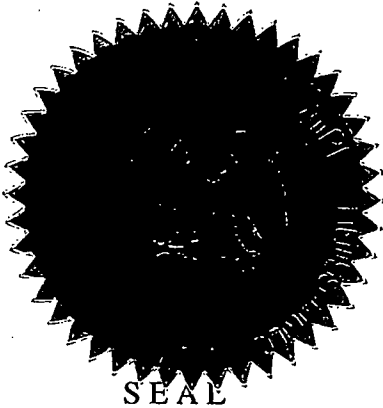
Blanco-Mesaverde Gas Pool (Pool Code 72319), the Basin-Dakota Gas Pool(Pool Code 71599), or both of said pools, is hereby approved.

(2) Any operator of any well completed in the Basin-Mancos Gas Pool may obtain approval to downhole commingle production from said pool in such well with production from the Blanco-Mesaverde Gas Pool, the Basin-Dakota Gas Pool, or both said pools without other formality than filing a Form C-103 with the Aztec District Office of the Division in accordance with 19.15.12.11.C(2) NMAC, and, if applicable, giving the notice provided in said rule.

(3) As mandated by 19.15.12.11.D(3), the Division shall propose to the Oil Conservation Commission adoption of an amendment to 19.15.12.11.E NMAC to incorporate the pre-approval granted by this Order.

(4) Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

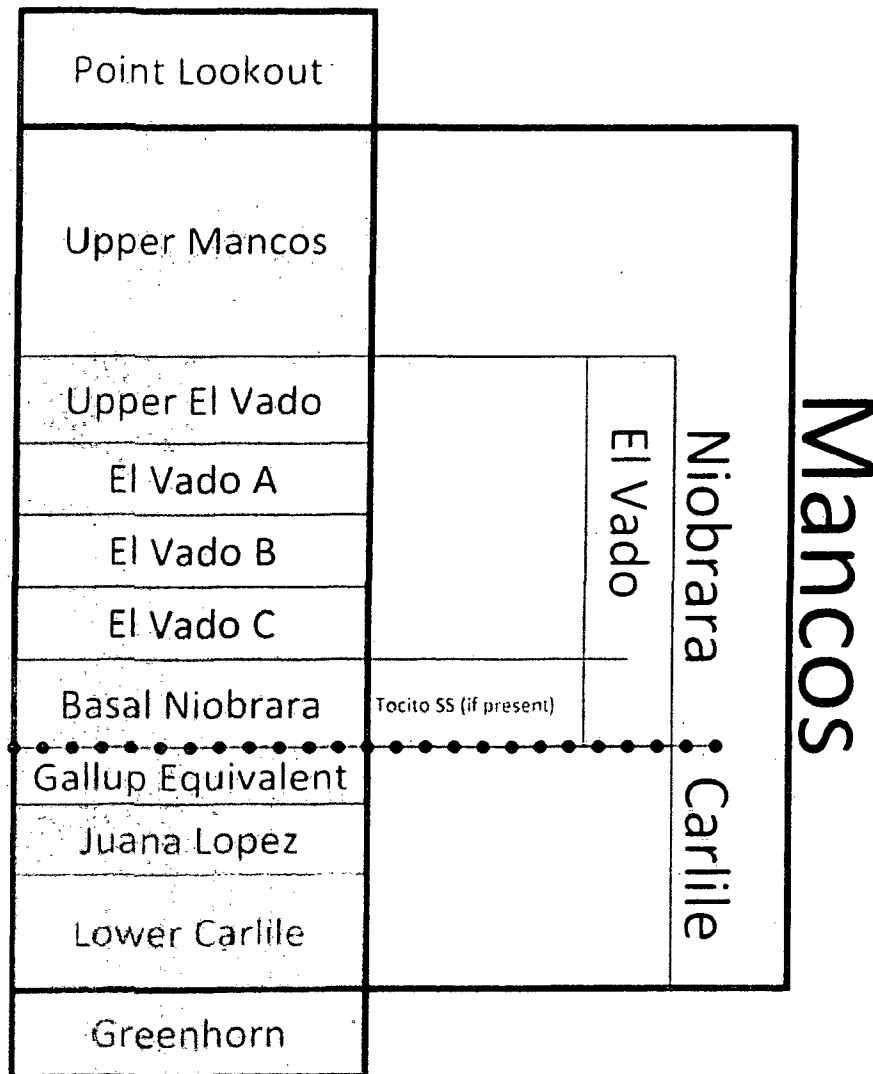


STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



JAMI BAILEY  
Director

# Mancos stratigraphic terminology summary



There is a hierarchy of terminology within the Mancos; similar to the Cliff House, Menefee, and Point Lookout within the Mesa Verde Group. The Mancos describes the entire section between the base of the Point Lookout and the top of the Greenhorn. This section is divided into the Upper Mancos (which has no further subdivisions), the Niobrara (which is subdivided into the El Vado and the Basal Niobrara), and the Carlile (which is subdivided into the Gallup equivalent, Juana Lopez, and Lower Carlile).

- Main Target:
  - El Vado (Upper, A, B, & C, variable quality)
- Possible Future Targets:
  - Juana Lopez
  - Lower Carlile
- Basal Niobrara
  - Represents the section where Tocito sands exist
  - The Basal Niobrara can be found with or without the presence of Tocito sands, though is generally not pay without the Tocito sands
- Gallup Equivalent
  - Rocks existing below the Base Niobrara unconformity (dotted line) and above the Juana Lopez
  - These are the only true Gallup age rocks in the basin, and are not sandstones. There is no Gallup sandstone in the productive part of the basin.
  - Throughout most of the basin, the unconformity has completely eroded and removed the Gallup equivalent section.