

**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. 14300
ORDER NO. R-13148**

**APPLICATION OF CHESAPEAKE OPERATING, INC. FOR SPECIAL POOL
RULES FOR THE SOUTHWEST WILLOW LAKE-DELAWARE POOL, EDDY
COUNTY, NEW MEXICO**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on June 2, 2009, at Santa Fe, New Mexico before Examiner William V. Jones.

NOW, on this 24th day of July, 2009, the Division Director, having considered the testimony, the record and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given, and the Division has jurisdiction of this case and its subject matter.

(2) By Division Order No. R-11120 issued in Case 12116, dated and effective February 1, 1999, the Division created and defined the Southwest Willow Lake-Delaware Pool (Pool Code No. 96855) for the production of oil from the Delaware formation, initially consisting of the NW/4 of Section 10, Township 25 North, Range 28 East, NMPM. The horizontal limits for this pool currently comprise the following lands in Eddy County, New Mexico:

Township 25 South, Range 28 East, NMPM

Section 3:	All
Section 4:	E/2
Section 9:	NE/4
Section 10:	All
Section 15:	NE/4

(3) The Southwest Willow Lake-Delaware Pool has no special pool rules and is currently governed by Division Rule 15.9, which requires standard 40-acre spacing and proration units with wells to be located no closer than 330 feet to the outer boundary of the unit. At depths of 0 to 4,999 feet, Division Rule 20.12 provides for a top proration unit depth bracket allowable of 80 barrels of oil per day per 40-acre spacing and proration unit, while Division Rule 20.13 provides for a limiting gas-oil ratio of 2000 cubic feet of gas per barrel of oil.

(4) The Applicant, Chesapeake Operating, Inc. ("Chesapeake") seeks to establish a Special Pool Rule for the Southwest Willow Lake-Delaware Pool to allow an increase in this depth-bracket allowable for oil production. Chesapeake also asks this Special Pool Rule be made effective as of January 1, 2009, thereby canceling overproduction of oil and gas from the Chesapeake operated "project area" consisting of the N/2 S/2 of Section 34, Township 24 South, Range 28 East, NMPM, Eddy County, New Mexico.

(5) No other party entered an appearance or otherwise signified opposition to the application.

(6) Chesapeake operates the Mosaic 34 Federal Well No. 3H as a horizontal producer in the Cherry Canyon member of the Delaware Mountain Group within the Undesignated Southwest Willow Lake-Delaware Pool. The well was drilled and completed in December of 2008 from a non-standard surface location (approved July 30, 2008 with NSL-5888) 1670 feet from the South line and 25 feet from the East line (Unit I) of Section 34, Township 24 South, Range 28 East, NMPM, Eddy County, New Mexico, to a bottomhole location 1670 feet from the South line and 350 feet from the West line (Unit L) of Section 34. The well is dedicated to a voluntary "project area" consisting of the N/2 S/2 of Section 34 comprising four, 40-acre spacing and proration units.

(7) Chesapeake presented testimony from expert witnesses at the hearing as follows.

a. All Delaware operators within the Southwest Willow Lake-Delaware Pool and within 1 mile of the pool boundaries were notified of the proposed Special Pool Rule and no objection was received.

b. From December of 2008 through May of 2009, this 160-acre project area was overproduced by approximately 12,834 barrels of oil. The maximum overproduction of 14,000 barrels is expected to occur in June of 2009, with declining overproduction after that time. The overproduction is expected to net to zero by the end of 2009.

c. Gas production was not overproduced except in April and May and net gas production from December through May is not overproduced. Gas production in all months after May, 2009 is not expected to exceed the allowable.

d. The 14,000 maximum barrels of overproduction, which is expected in June, is calculated to affect only 1.3 to 8 acres of additional reservoir.

e. The Delaware pay interval target for this horizontal drilling consists of a fine grained, coarsening-upward sandstone, with gross interval bounded within 174 feet by shales; which are expected to vertically confine the fracture stimulation treatments. East-West drilling is preferred but North-South horizontal wells are almost as good for intersecting the natural fractures.

f. Chesapeake's strategy to optimally produce this reservoir is to form project areas and drill long-reach horizontal wells and stimulate the wells with multiple, large hydraulic fracture treatments. The longer horizontal wells seem to produce better than shorter reach wells. Larger, multistage fracture treatments are needed to contact additional reservoir rock.

g. The increased allowable is needed in order to decrease time to payout of drilling and treatment costs and to therefore encourage this optimum development of the reservoir.

h. This reservoir consists of multiple rock layers with no defined oil-water contact. The primary drive mechanism is "solution gas drive" which is not adversely affected by high initial rates of production.

The Division concludes as follows:

(8) Chesapeake has not demonstrated satisfactorily why the depth bracket allowable of 800 barrels per day for this well should be granted. There is no compelling evidence in the record to demonstrate that waste would not occur and that correlative rights would be protected.

(9) The applicant testified that the drive mechanism in this well is solution gas drive. It is not clear from the evidence presented if this solution gas drive is with or without gas cap. There is no pressure, volume, temperature (PVT) analysis to determine the nature of the reservoir fluids, including the initial and bubble point pressures. The Division could not determine with any degree of accuracy whether the well is currently producing above or below the bubble point.

(10) According to Chesapeake's testimony, the well has overproduced by approximately 14,000 barrels of oil through June 2009. Because no party objected in this matter, Chesapeake should be allowed to make up the overproduction by the end of December 2009.

(11) This application should therefore be denied without prejudice, and Chesapeake should be ordered to make-up the overproduction by the end of December 2009, in order to prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The application of Chesapeake Operating, Inc. ("Chesapeake") to create a Special Pool Rule for the Southwest Willow Lake-Delaware Pool increasing the depth-bracket allowable from 80 barrels of oil per day limit to 200 barrels of oil per day per 40-acre spacing and proration unit (320 barrels of oil per day per 160-acre project area) is hereby **denied** without prejudice.

(2) Chesapeake is further ordered to make-up the 14,000 barrel of oil overproduction by the end of December 2009. Chesapeake shall submit a plan on how it intends to make up this overproduction to the Engineering Bureau of the Division for approval, no later than August 24, 2009. After satisfactorily making up this overproduction, Chesapeake can then re-apply for an increased allowable for this well if it still believes that it is necessary to do so.

(3) 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

A handwritten signature in black ink, appearing to read "Mark E. Fesmire".

MARK E. FESMIRE, P.E.
Director