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. 11728
Order No. R-10819

APPLICATION OF THOMPSON ENGINEERING & PRODUCTION COMPANY FOR AN UNORTHODOX COAL GAS WELL LOCATION, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on March 20, 1997, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 13th day of June, 1997, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Thompson Engineering & Production Company (Thompson), seeks approval to drill its Steward Com Well No. 1 at an unorthodox coal gas well location 790 feet from the South and East lines (Unit P) of Section 28, Township 32 North, Range 13 West, NMPM, Basin-Fruitland Coal Gas Pool, San Juan County, New Mexico. The E/2 of Section 28 is to be dedicated to the subject well forming a standard 320-acre gas spacing and proration unit for said pool.

(3) The proposed well is located within the Basin-Fruitland Coal Gas Pool which is currently governed by special rules and regulations as promulgated by Division Order No. R-8768, as amended, which require wells to be located in either the NE/4 or SW/4 of a single governmental section no closer than 790 feet from the outer boundary of the proration unit nor closer than 130 feet from any quarter section line nor closer than 10 feet from any quarter-quarter section line or subdivision inner boundary.

(4) The subject well is unorthodox with respect to the quarter section location but is standard with respect to the setback requirements.

(5) Texakoma Oil & Gas Corporation (Texakoma), who currently operates two Basin-Fruitland Coal Gas Pool wells within the affected offset acreage in Section 33, Township 32 North, Range 13 West, being the La Plata "33" Well No. 1 located 795 feet from the South line and 1755 feet from the West line (Unit N), said well having a W/2 dedication, and the La Plata "33" Well No. 2 located 790 feet from the North and East lines (Unit A), said well having an E/2 dedication, appeared at the hearing in opposition to the application.

(6) In support of its proposed unorthodox gas well location, the applicant presented geologic evidence and testimony which indicates that:

a) the proposed Steward Com Well No. 1 is situated in the northwest portion of the San Juan Basin and is adjacent to a structural feature known as the Hogback Anticline. The Fruitland Coal formation outcrops within the W/2 of Section 28 along a line which runs approximately from the SW/4 SW/4 to the NE/4 NW/4;

b) from the outcrop, the Fruitland Coal formation dips steeply to the southeast;

c) coal thickness within the "basal coal" interval, being the target interval, is fairly constant within the E/2 of Section 28, ranging from approximately 31 feet to 36 feet;

d) it is attempting to locate the Steward Com Well No. 1 at a point below the "synclinal flexure" located at the base of the Fruitland Coal formation monocline. Wells located above the "synclinal flexure" tend to be difficult to de-water due to their structural position and close proximity to the Fruitland Coal formation outcrop. Consequently, these wells are uneconomic due to high water and low gas production rates;

e) its geologic interpretation indicates that this "synclinal flexure" is at a structural position of approximately +4,100- +4,200 feet above mean sea level;

f) its geologic interpretation further indicates that the entire NE/4 of Section 28, which is a standard quarter section location for a Basin-Fruitland Coal Gas Pool well, is located at a structural position greater than +4,500 feet;

g) its geologic interpretation further indicates that only a portion of the SE/4 of Section 28, being the SE/4 SE/4, is located at a structural position less than +4,200 feet.

(7) In support of its contention that wells located above the "synclinal flexure" tend to be uneconomic, the applicant presented further geologic and engineering evidence and testimony which indicates that:

a) there is an area in Section 31, Township 33 North, Range 11 West, La Plata County, Colorado, which exhibits structural position within the Fruitland Coal reservoir similar to that encountered in the La Plata area in Section 28. There are currently three wells completed in the Fruitland Coal formation within Section 31, being the Valencia Canyon "SU" Well Nos. 31-1, 31-3 and 31-4. Production history from these wells shows low cumulative gas production and high water production over a period of several years for the Valencia Canyon "SU" Well Nos. 31-3 and 31-4, which are located, respectively, in the SW/4 and NE/4, and high cumulative gas production and relatively low water production for the Valencia Canyon "SU" Well No. 31-1, which is located in the SE/4 in a structural position similar to that of the proposed Steward Com Well No. 1;

b) an economic forecast conducted on Texakoma's La Plata Well No. 1, located in the SW/4 of Section 4, and Texakoma's La Plata "5" Well No. 1, located in the NE/4 of Section 5, both in Township 31 North, Range 13 West, and on Texakoma's La Plata "33" Well No. 1, located in the SW/4 of Section 33, Township 32 North, Range 13 West, yielded the following results:

Well No.	Structural Position	Cumulative Ultimate Recovery	Rate of Return
La Plata No. 1	+3,834 feet	4.5 BCFG	58.7%
La Plata "5" No. 1	+4,111 feet	0.4 BCFG	0.0%
La Plata "33" No. 1	+3,854 feet	1.0 BCFG	12.5%

c) as indicated by the economic forecast, Texakoma's La Plata "5" Well No. 1, which is located relatively high on structure and close to the Fruitland Coal outcrop, should be an uneconomic well.

(8) Applicant anticipates that its Steward Com Well No. 1 will be at a structural position within the Fruitland Coal reservoir similar to the Texakoma La Plata "33" Well No. 1. Given its structural position, applicant further estimates that gas production and ultimate gas recovery from its proposed Steward Com Well No. 1 will be similar to Texakoma's La Plata "33" Well No. 1.

(9) Based upon the production forecast described above, the applicant testified that imposing a production penalty on its proposed well would likely render the prospect uneconomic.

(10) The applicant further testified that the correlative rights of Texakoma will not be violated if the Steward Com Well No. 1 is drilled at the proposed unorthodox gas well location. In support of its contention, applicant presented geologic and engineering testimony which indicates that:

a) face cleat fracture orientation in the Fruitland Coal formation in this area is generally east-west;

b) the face cleat fracture is the dominant fracture set within the Fruitland Coal formation and drainage is typically three to four times higher in the direction of the face cleat as opposed to the butt cleat;

c) drainage from the Steward Com Well No. 1 should occur in an elliptical pattern with the long axis being oriented in an east-west direction, and, the short axis being oriented in a north-south direction, thereby limiting the potential impact on Texakoma's La Plata "33" Well No. 2.

(11) Texakoma presented geologic and engineering evidence and testimony in support of its request that Thompson's application be denied. Texakoma testified that approval of an "off pattern" location within the Basin-Fruitland Coal Gas Pool in this area will set an undesirable precedent, and that approval of the proposed unorthodox coal gas well location will impair its correlative rights.

(12) Texakoma's geologic and engineering testimony indicates that:

a) there are other significant differences between the Fruitland Coal reservoir in the Valencia Canyon area and the La Plata area in Section 28. These differences, described as follows, render applicant's analogy to the Valencia Canyon area inaccurate inasmuch as these factors may also affect gas and water production:

1) coal thickness within the Valencia Canyon area is approximately 60-90 feet thick. Coal thickness within the La Plata area is 30-40 feet thick;

2) gas content within the coal in the Valencia Canyon area is approximately 1000 SCF/ton compared to 200-300 SCF/ton in the La Plata area;

3) the Valencia Canyon wells are in an area of greater fracturing which increases the conductivity to gas and water;

4) the Valencia Canyon wells are in an area of greater water recharge within the Fruitland Coal formation.

b) wells located in a structurally high position and in close proximity to the Fruitland Coal outcrop do not generally show excessive water production relative to wells located further down structure and further away from the Fruitland Coal outcrop;

c) according to its geologic interpretation, a well drilled at a standard location within the NE/4 of Section 28 should encounter a thicker coal section and actually recover more gas reserves than a well drilled at the proposed unorthodox gas well location;

d) contrary to the engineering evidence presented by the applicant, its La Plata "33" Well No. 1 should ultimately recover approximately 3.0 BCF gas from the Fruitland Coal reservoir;

e) contrary to the engineering evidence presented by the applicant, its La Plata "5" Well No. 1 should ultimately recover approximately 3.0 BCF gas from the Fruitland Coal reservoir;

f) there are other factors which may have an effect on water production within a given Basin-Fruitland Coal Gas Pool well, including the method by which the well is completed.

(13) Texakoma presented no geologic evidence which indicates that the Fruitland Coal reservoir within the Valencia Canyon area is dissimilar to the Fruitland Coal reservoir within the La Plata area in Section 28. In addition, Texakoma presented no geologic and engineering evidence to show that other factors, such as coal thickness, gas content, fracture density, etc., are responsible for the high water/gas producing ratios exhibited by the analogous Valencia Canyon wells.

(14) Texakoma presented no engineering evidence which disputes applicant's estimated ultimate gas recoveries from the La Plata "33" Well No. 1 and the La Plata "5" Well No. 1.

(15) Upon consideration of the geologic and engineering evidence and testimony presented by both parties in this case, the Division finds that:

a) there are recoverable gas reserves within the E/2 of Section 28 in the Fruitland Coal reservoir which the applicant has the right to recover;

b) there is sufficient evidence to demonstrate that wells located in a structurally high position in the Fruitland Coal reservoir near the Fruitland Coal outcrop tend to produce at high water/gas ratios;

c) there is no evidence to show that factors other than the well's structural position and proximity to the Fruitland Coal outcrop are responsible for production at such high water/gas ratios;

d) there is sufficient evidence to demonstrate that these wells which produce at high water/gas ratios in the La Plata area are likely to be uneconomic wells to drill and operate;

e) there is sufficient geologic evidence to show that a well drilled at a standard location within the NE/4 of Section 28 will be located both structurally higher in the Fruitland Coal reservoir and closer to the Fruitland Coal outcrop than a well drilled at the proposed unorthodox location;

f) a well drilled within the NE/4 of Section 28 will likely be uneconomic and will preclude the applicant from recovering its fair share of the gas reserves within the E/2 of Section 28;

g) approval of the application will afford the applicant the opportunity to produce its just and equitable share of the gas in the Basin-Fruitland Coal Gas Pool underlying the E/2 of Section 28.

(16) A production penalty should not be imposed on the Steward Com Well No. 1 for the following reasons:

a) Texakoma's acreage in the E/2 of Section 33 is adequately protected from drainage from the proposed Steward Com Well No. 1 by its La Plata "33" Well No. 2;

b) the Texakoma La Plata "33" Well No. 2, which has already been drilled and is ready to produce, should have a head start in terms of de-watering the Fruitland Coal reservoir, and should be capable of effectively competing with the Steward Com Well No. 1;

c) Texakoma has already gained a certain advantage in the E/2 of Section 33 by virtue of Hallwood Petroleum Corporation completing its F Montoya "27" Well No. 1 in the Basin-Fruitland Coal Gas Pool at an "off pattern" coal gas well location in the SE/4 of Section 27, being the diagonal offset acreage to the northeast.

(17) No other offset operator and/or interest owner appeared at the hearing in opposition to the application.

(18) Approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the gas in the Basin-Fruitland Coal Gas Pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Thompson Engineering & Production Company, is hereby authorized to drill its Steward Com Well No. 1 at an unorthodox coal gas well location 790 feet from the South and East lines (Unit P) of Section 28, Township 32 North, Range 13 West, NMPM, Basin-Fruitland Coal Gas Pool, San Juan County, New Mexico.

(2) The E/2 of Section 28 shall be dedicated to the subject well forming a standard 320-acre gas spacing and proration unit for said pool.

(3) Jurisdiction is hereby 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

WILLIAM J. LEMAY
Director