

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

RECEIVED

MAY 21 2003

Oil Conservation Division

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

**CASE NO. 12888
DE NOVO**

**APPLICATION OF THE FRUITLAND COALBED METHANE
STUDY COMMITTEE TO AMEND RULES 4 AND 7 OF THE
SPECIAL RULES AND REGULATIONS FOR THE BASIN-FRUITLAND
COAL (GAS) POOL AND FOR THE TERMINATION OF THE
CEDAR HILL-FRUITLAND BASAL COAL POOL AND THE
CONCOMITANT EXPANSION OF THE BASIN-FRUITLAND
COAL (GAS) POOL, RIO ARRIBA, SAN JUAN, McKINLEY,
AND SANDOVAL COUNTIES, NEW MEXICO.**

ORDER NO. R-8768-C

**CONOCOPHILLIPS COMPANY'S
WITNESS LIST AND TESTIMONY SUMMARY**

WITNESS IDENTIFICATION

ConocoPhillips Company will present expert testimony on the Application through two witnesses:

Trent Boneau, Petroleum Engineer

And

James O. Murphy, Geologist¹

TESTIMONY SUMMARY

Engineering testimony to be presented by Mr. Boneau is summarized as follows:

1. ConocoPhillips' position at the Division Examiner hearing in 2002 was that sufficient proof was not available to fully support unrestricted infill drilling within the high productivity area (HPA) of the Fruitland Coal pool.
 - a) Single layer pressures suggested portions of the HPA were depleted.

¹ Mr. Murphy's testimony may be presented by way of affidavit.

- b) It was recommended that additional study be undertaken to evaluate the effects of increased density drilling in the HPA.
- 2. Layered pressure data has since been presented that shows that individual coal seams are being differentially depleted.
 - a) The vast majority of the layered pressures exhibit some level of depletion, but the weighted average pressure is significantly higher than a commingled measurement.
 - b) This data suggests that previously used pressure data is pessimistic and only representative of a portion of the reservoir.
 - c) Higher pressure layers are indicative of lower permeability seams which are not being efficiently drained at the current well density.
- 3. Re-examination of past work indicates that a disconnect exists between material balance and volumetric estimates of original gas-in-place. Using pessimistic pressure data can grossly under-predict the original gas in place and over-predict recovery factor.
- 4. A modeling study was undertaken to tie together the production from existing wells, the estimated original gas in place, and the expected increases in recovery that could be achieved by adding infill wells
 - a) A simple homogenous 160-acre model was used to generate flowstreams and estimate recoveries for a variety of reservoir parameters.
 - b) The model used conservative estimates for gas content and lateral connectivity between wells.
 - c) For each HPA location, a two-layer model was constructed that matched the offset production, the original gas-in-place, and the available pressure data.
 - d) This two-layer model was used to predict the recovery from hypothetical infill wells drilled into a multi-seamed CBM reservoir.
 - e) While each individual model was non-unique, an examination of all 436 available 160-acre infill locations provides a meaningful statistical study of the infill potential.
- 5. Modeling results indicate that infill drilling will add significant incremental reserves
 - a) 80% of the infill wells were predicted to recover between 0.7 and 1.6 Bcf of incremental reserves.
 - b) The average recovery per available 160-acre infill location was 1.1 Bcf of incremental reserves.
 - c) The majority of the reserves were due to significant predicted increases in the recovery from lower permeability coal seams
 - d) Total HPA incremental reserves were 480 Bcf..

6. ConocoPhillips believes infill drilling is warranted in the HPA area.

Geologic testimony to be presented by Mr. Murphy is summarized as follows:

1. The Fruitland Formation, which contains the productive Fruitland coal seams, is a multi-layered, stratigraphically complex formation.
2. The coal section has been divided into at least nine separate packages, with each package representing a different geologic period of time.
3. The geologic characteristics of these coal packages vary both laterally within an individual seams and vertically between different seams. These different characteristics, are the result of depositional, and post depositional processes.
4. The coals were deposited in numerous depositional environments giving them different permeability and continuity characteristics.
5. The post depositional processes of erosion and faulting have further compartmentalized the coal reservoirs.
6. These variations in reservoir characteristics exist across the basin and are not limited to either the "High Productivity Area" or the "Low Productivity Area" of the basin.
7. Infill wells targeting the Fruitland Coal seams will increase ultimate recovery from presently producing coal seams, recover additional gas reserves from untapped coal seams, and as a result prevent waste.

MILLER STRATVERT P.A.

By: J. Scott Hall
J. Scott Hall
Attorneys for ConocoPhillips Company
Post Office Box 1986
Santa Fe, New Mexico 87504-1986
(505) 989-9614

Certificate of Mailing

I hereby certify that a true and correct copy of the foregoing was delivered via facsimile to counsel of record on the 20th day of May 2003, as follows:

Steve Ross, Esq.
New Mexico Oil Conservation
Commission
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

James Bruce, Esq.
Post Office Box 1056
Santa Fe, New Mexico 87504
Attorneys for XTO Energy, Inc. and
San Juan Coal Company

Steve Hayden
Fruitland Coalbed Methane Study
Committee
New Mexico Oil Conservation
Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

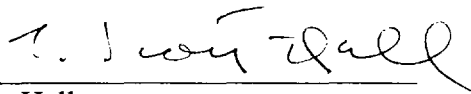
William F. Carr, Esq.
Holland & Hart LLP and
Campbell & Carr
Post Office Box 2208
Santa Fe, New Mexico 87504
Attorneys for BP Amoco and
Williams Production Company

W. Thomas Kellahin, Esq.
Kellahin & Kellahin
Post Office Box 2265
Santa Fe, New Mexico 87504-2265
Attorneys for Burlington Resources
Oil & Gas Company

Ned Kendrick
Montgomery & Andrews, P.A.
Post Office Box 2307
Santa Fe, New Mexico 87401
Attorney for Dugan Production Co.

Larry P. Ausherman, Esq.
Modrall Sperling Roehl Harris &
Sisk, P.A.
Post Office Box 2168
Albuquerque, New Mexico 87103
Attorneys for San Juan Coal
Company

Charles E. Roybal, Esq.
300 West Arrington, #200
Farmington, New Mexico 87401
Attorneys for San Juan Coal
Company



J. Scott Hall

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

RECEIVED

MAY 21 2003

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

Case No. 12888

Oil Conservation Division

**APPLICATION OF THE FRUITLAND COALBED
METHANE STUDY COMMITTEE TO AMEND RULES 4
AND 7 OF THE SPECIAL RULES AND REGULATIONS
FOR THE BASIN-FRUITLAND COAL (GAS) POOL AND
FOR THE TERMINATION OF THE CEDAR HILL-FRUITLAND
BASAL COAL POOL AND THE CONCOMITANT EXPANSION
OF THE BASIN-FRUITLAND COAL(GAS) POOL, RIO ARRIBA,
SAN JUAN, MCKINLEY AND SANDOVAL COUNTIES, NEW MEXICO.**

WITNESS LIST OF SAN JUAN COAL COMPANY

At the hearing in this matter, San Juan Coal Company ("SJCC") may call the following witnesses, depending upon the ruling on SJCC's pending Motion to Incorporate the Record. SJCC witnesses will testify only concerning those state and federal lands that are subject to coal leases held by SJCC as described in SJCC's Application for Hearing *De Novo*, filed November 14, 2002 ("Coal Lease Lands").

A. Witness List if SJCC's Motion To Incorporate The Record Is Granted.

If the Motion to Incorporate the Record is granted, SJCC may call:

1. Dan Paul Smith to testify concerning the gas content of the coal in and around the SJCC underground mine area, the economics of the gas resource within the mine area, desorption data and production of gas from the coal seam and adjoining formations. Mr. Smith will endeavor not to duplicate testimony in the record, but would instead focus his testimony on Dugan Production Corporation wells and related matters not at issue in Case No. 12734.

2. John Mercier, Steve Bessinger, or George Gilfillan to testify concerning gob vent boreholes and horizontal drilling, with particular emphasis on the experience of SJCC since the hearing before the Secretary of the Energy, Mineral and Natural Resources Department on February 10 and 11, 2003 in Case No. 12734.

B. Witness List if SJCC's Motion To Incorporate The Record Is Denied.

If SJCC's Motion to Incorporate the Record is denied, SJCC may call the following witnesses:

<u>Witness</u>	<u>Estimated Time¹</u> <u>(approx.)</u>	<u>Estimated Exhibits</u> <u>(approx.)</u>
Dr. Steve Bessinger (Mining Engineer)	2 Hrs.	25
John Mercier (Geologist)	30 Min.	5
John Hattner (Geologist)	30 Min.	5
Dan Paul Smith (Engineer)	60 Min.	20
George Gilfillan (San Juan Senior Contract Analyst)	30 Min.	5
Paul Bertoglio (Engineer)	30 Min.	5

¹ Time estimates are for direct examination.

With respect to the Coal Lease Lands, Dr. Bessinger would testify concerning the subjects of his testimony before the Secretary in her review of OCC Case No. 12734 (*De Novo*). He will address longwall mining operations, mine roof and floor conditions, safety concerns

associated with hydraulic fracturing, MSHA regulations, quantities of bypassed coal, the San Juan mine plan, SJCC's investments in the mine, the value of the coal reserves, the history of SJCC's operations and leases, supply of coal to SJGS, public benefit of the coal supply, ventilation and mine degassing, and potential recovery of CBM in mining operations.

With respect to Coal Lease Lands, John Mercier would testify concerning the subjects of his testimony before the Commission in OCC Case No. 12734. His testimony may address coal desorption data and geology of the mine area, including coal thickness.

With respect to Coal Lease Lands, John Hattner would testify concerning the subjects of his testimony before the Commission in OCC Case No. 12734 concerning geology of the mine area and foundational matters of geology for the testimony of Dan Paul Smith.

With respect to the Coal Lease Lands, Dan Paul Smith would testify concerning the subjects of his testimony in OCC Case No. 12734. He will address the gas content of the coal in the area in and around the Coal Lease Lands, the economics of the gas resource and wells in the Coal Lease Lands, desorption data, and production of gas from the coal seam and adjoining formations.

With regard to the Coal Lease Lands, George Gilfillan may testify concerning SJCC's coal leases, the history of SJCC's operations, the value of the coal reserves, the royalty and associated benefits of coal mining to the public and governments, the coal sales contract with SJGS, and issues related to proceedings before the BLM.

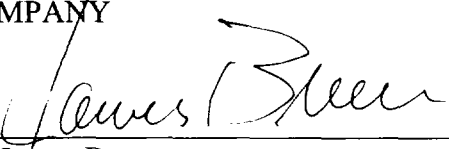
With regard to the Coal Lease Lands, Paul Bertoglio may testify concerning the subjects of his testimony before the OCC in OCC Case No. 12734. He would address the economics of the gas resource and CBM wells in the area of the Coal Lease Lands, gas content of the coal, gas production techniques, and production from the Pictured Cliffs formation.

The resumes of the witnesses SJCC may call are attached hereto.

Respectfully Submitted,

ATTORNEYS FOR SAN JUAN COAL
COMPANY

By:


James Bruce
Post Office Box 1056
Santa Fe, New Mexico 87504
(505) 982-2043

-and-

Larry P. Ausherman
Walter E. Stern
Modrall, Sperling, Roehl, Harris & Sisk, P.A.
Post Office Box 2168
Albuquerque, New Mexico 87103-2168
(505) 848-1800

-and-

Charles E. Roybal
San Juan Coal Company
300 W. Arrington, Suite 200
Farmington, New Mexico 87401
(505) 598-4358

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing pleading was served upon the following counsel of record via first class mail this 20th day of May, 2003.

W. Thomas Kellahin
Kellahin & Kellahin
P.O. Box 2265
Santa Fe, NM 87504
Fax No. (505) 982-2047

William F. Carr
Robert J. Sutphin, Jr.
Holland & Hart
P.O. Box 2208
Santa Fe, NM 87504-2208
Fax No. (505) 983-6043

Stephen C. Ross
Oil Conservation Commission
1220 South St. Francis Drive
Santa Fe, NM 87505
Fax No. (505) 476-3462

J. Scott Hall
Miller Stratvert, P.A.
P.O. Box 1986
Santa Fe, NM 87504-1986

John A. Dean, Jr.
Curtis & Dean
P.O. Drawer 1259
Farmington, NM 87499

David K. Brooks
New Mexico Oil Conservation Division
1120 South St. Francis Dr.
Santa Fe, NM 87508

Steve Henke
Bureau of Land Management
Farmington Field Office
1235 La Plata Highway
Farmington, NM 87401-8731



James Bruce

W0299478.DOC



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Farmington Field Office
1235 La Plata Highway, Suite A
Farmington, New Mexico 87401

Facsimile Transmission Cover Sheet

Date: May 20, 2003

Facsimile Number: 505 476-3462

To: Lori Wrotenbery (attn. Florine Davidson)

From: David J. Mankiewicz

No. of Pages:

Steve Henke, Field Office Manager for Farmington, will present the Bureau of Land Management's position on Fruitland infill drilling in the "High Productivity" portion of the San Juan Basin (Case No. 12888) scheduled June 3-6. Attached is a copy of his testimony.

Regards,

David J. Mankiewicz



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Farmington Field Office
1235 La Plata Highway, Suite A
Farmington, New Mexico 87401

May 20, 2003

RE: Bureau of Land Management, Farmington Field Office
Position concerning increased well density in the
Fruitland Coal within the "High Productivity Area"
Standard Gas Proration Unit (320 acres)
New Mexico portion of the San Juan Basin

On October 15, 2002 the New Mexico Oil Conservation Division issued a Fruitland Coal infill order (Case No. 12888, Order No. R-8768-C) allowing 160 acre spacing for all areas except the 'High Productivity' portion of the basin also referred to as the "Fairway". The Division Order states "A preponderance of the evidence [submitted] establishes that current 320-acre spacing is adequate in the High Productivity Area." The Order further declares that "Based on the relative lack of direct evidence of the potential effects from infill drilling within the High Productivity Area, it would not be prudent for the Division to amend the pool rules to provide for increased density within the High Productivity Area at this time. The more prudent course of action would be to refer the matter of infill drilling within the High Productivity Area back to the Committee for further study." The Bureau of Land Management (BLM) realizes that in certain areas of the fairway the existing well spacing is adequately draining the Fruitland Coal reservoir. The BLM also acknowledges that portions of the fairway probably require additional drilling to optimally recover the gas resource. Consequently, the BLM concurs with the order but would welcome the opportunity to review additional technical data that would support infill drilling in the Fruitland Fairway. The Federal lands in this area have high aesthetic appeal and are prime areas for wildlife habitat. The impacts of additional surface disturbance associated with infill drilling in the Fairway cannot be justified merely to accelerate gas production.

Within the "High Productivity Area", the BLM reserves the right to request technical data from operators, especially if the Bureau suspects that rate acceleration alone is involved in the new drill and/or additional surface disturbance is required. These data may include, but are not limited to, geologic cross-sections, reservoir isopachs, reservoir simulations and other pertinent information.

The BLM supports the orderly and efficient exploration, development and production of oil and gas on Federal and Indian lands. The BLM is responsible for managing public lands for multiple use and maximizing the resource values for the American people.

In summary, the BLM is in support of the increased well density in the Fruitland Coal formation. We encourage the development of the Fruitland Coal formation by means of re-completions in existing wellbores, commingling and drilling from existing well pads. This type of development will minimize surface disturbances, decrease development costs and maximize utilization of existing wellbores.

Sincerely,

Steve Henke
Field Office Manager

OF COUNSEL
William R. Federici

MONTGOMERY & ANDREWS

PROFESSIONAL ASSOCIATION
ATTORNEYS AND COUNSELORS AT LAW

Post Office Box 2307
Santa Fe, New Mexico 87504-2307

J.O. Seth (1883-1963)
A.K. Montgomery (1903-1987)
Frank Andrews (1914-1981)
Seth D. Montgomery (1937-1998)

May 20, 2003

www.montand.com

Victor R. Ortega
Gary Kilpatric
Thomas W. Olson
Walter J. Melendres
John B. Draper
Nancy M. King
Sarah M. Singleton
Stephen S. Hamilton
Edmund H. Kendrick
Louis W. Rose

Andrew S. Montgomery
Jennifer L. Weed
Paul R. Owen
Randy S. Bartell
Jeffery L. Martin
Emma Rodriguez Brittain
Karen L. Brooks
Germaine R. Chappelle
Tonia Ouellette Klausner
Jeffrey J. Wechsler

HAND DELIVERED

325 Paseo de Peralta
Santa Fe, New Mexico 87501

Telephone (505) 982-3873
Fax (505) 982-4289

OF COUNSEL
Earl Potter, P.A.

Ms. Florene Davidson
Oil Conservation Commission
1220 South St. Francis Drive
Santa Fe, NM 87505

RECEIVED

MAY 20 2003

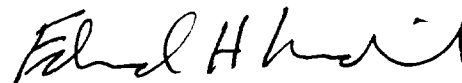
Oil Conservation Division

**Re: Fruitland Infill Case
NMOCD Case No. 12888; De Novo; Order No. R-8768-C**

Dear Ms. Davidson:

In accordance with Pre-Hearing Order No. R-8768-D dated May 9, 2003, please find enclosed an original and two copies of the Witness List and Summary of Expected Testimony of Dugan Production Corporation.

Sincerely,



Edmund H. Kendrick

EHK:nlb

Enclosures

cc (w/encl): Stephen C. Ross, Esq.
W. Thomas Kellahin, Esq.
William F. Carr, Esq.
James G. Bruce, Esq.
Larry P. Ausherman, Esq.
Charles E. Roybal, Esq.
J. Scott Hall, Esq.
David K. Brooks, Esq.
Steve Henke
Steve Hayden

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

APPLICATION OF THE FRUITLAND COALBED
METHANE STUDY COMMITTEE TO AMEND RULES
4 AND 7 OF THE SPECIAL RULES AND
REGULATIONS FOR THE BASIN-FRUITLAND COAL
(GAS) POOL AND FOR THE TERMINATION OF THE
CEDAR HILL-FRUITLAND BASAL COAL POOL AND
THE CONCOMITANT EXPANSION OF THE BASIN-
FRUITLAND COAL (GAS) POOL, RIO ARRIBA, SAN
JUAN, McKINLEY, AND SANDOVAL COUNTIES,
NEW MEXICO

RECEIVED

MAY 20 2003

Oil Conservation Division

CASE NO. 12888
DE NOVO
ORDER NO. R-8768-C

WITNESS LIST AND SUMMARY OF EXPECTED TESTIMONY
OF DUGAN PRODUCTION CORPORATION

In accordance with the Pre-Hearing Order of the Oil Conservation Commission dated May 9, 2003 (Order No. R-8768-D), Dugan Production Corporation ("Dugan") submits this witness list and summary of expected testimony. This document restates Dugan's Pre-Hearing Statement of February 28, 2003 while providing more detail concerning the expected testimony of witnesses.

Dugan operates wells in the "under-pressured" area or "Low Productivity Area" as defined in Order No. R-8768-C. Dugan supports the conclusions of the Fruitland Coalbed Methane Study Committee ("Committee") and the provisions of

Order No. R-8768-C with respect to the under-pressured area. Wells in this area should be spaced at two wells for each 320 acres. The increased density will allow more efficient dewatering and enhance gas production rates in these low-pressure areas. Dugan does not operate wells in the "fairway" area or "High-Productivity Area" as defined in Order No. R-8768-C. Consequently, Dugan will not present any testimony concerning well spacing in the fairway area.

Dugan has participated on the Committee and supports the basin-wide amendment to the Special Rules and Regulations for the Basin-Fruitland Coal (Gas) Pool as approved by the Oil Conservation Division ("Division") in Order No. R-8768-C. Dugan understands that members of the Committee will present the findings and conclusions of the Committee concerning infill drilling in the under-pressured area, as they did in the July 9-10, 2002 hearing before the Division. Consequently, Dugan will not testify on behalf of the Committee.

Dugan also supports the provisions of Division Order No. 11775 and Oil Conservation Commission ("Commission") Order 11775-B in Case No. 12734 concerning the Richardson Operating Company acreage. That acreage is within the under-pressured area and adjoins the Dugan acreage within the San Juan Underground Mine area.

Dugan is opposed to excluding any portion of its acreage from the amendment to the Special Rules and Regulations for the Basin-Fruitland Coal (Gas) Pool. Testimony in opposition to any such exclusion will be provided as follows:

- (1) John Alexander, Petroleum Engineer
Vice President and Chief Operating Officer
Dugan Production Corporation

Within the under-pressured area of the Basin-Fruitland Coal (Gas) Pool, Dugan currently operates approximately 148 Fruitland Coal wells. The first Fruitland Coal well was drilled in 1990. Dugan has actively pursued development of the Fruitland Coal. Most of these wells are characterized by the production of large volumes of water along with natural gas. The production of water is indicative of permeability within the coal and is a precursor of gas production. A coal-well spacing of 160 acres will decrease the time needed to dewater the formation and will increase gas production. The economic return from these wells will increase as dewatering progresses. In addition, greater operational efficiencies will be realized with the installation of gathering systems to collect water along with gas. Dugan plans to continue completion of Fruitland Coal wells in the area. As more knowledge is gained about the production characteristics of these wells, Dugan will be able to capitalize on infrastructure already in place and on new completion techniques.

The estimated time for direct examination is one hour. It would be reasonable to assume that there would be one hour of cross examination.

- (2) Kurt Fagrelus, Geologist
Dugan Production Corporation

The dewatering of Dugan's Fruitland Coal wells within the under-pressured area of the Basin-Fruitland Coal (Gas) Pool continues to be a significant production characteristic. Mr. Fagrelus will present water and gas production data demonstrating that 160-acre spacing is essential to more effectively and efficiently produce gas from the under-pressured area of the Basin-Fruitland Coal (Gas) Pool.

The estimated time for direct examination is one hour. It would be reasonable to assume that there would be one hour of cross examination.

Dugan is opposed to any separate hearings regarding the issues in this case.

The application of the Committee proposed amendments to rules covering the

entire Basin-Fruitland Coal (Gas) Pool. The Division considered the entire application (except the Richardson acreage that was the subject of Case No. 12734) at the July 9-10, 2003 hearing. That scope should be retained in the de novo hearing before the Commission.

Respectfully submitted,

MONTGOMERY & ANDREWS, P.A.

By Edmund H. Kendrick
Edmund H. Kendrick
P.O. Box 2307
Santa Fe, NM 87504-2307
(505) 982-3873

CERTIFICATE OF MAILING

I hereby certify that a copy of the foregoing Witness List and Summary of Expected Testimony of Dugan Production Corporation was served on the following by depositing a copy in the United States mail, postage prepaid, addressed as follows, this 20th day of May, 2003.

Stephen C. Ross, Esq.
New Mexico Oil Conservation Commission
1220 South St. Francis Drive
Santa Fe, NM 87505

W. Thomas Kellahin, Esq.,
Kellahin and Kellahin
P.O. Box 2265
Santa Fe, NM 87504-2265

William F. Carr, Esq.
Holland & Hart
P.O. Box 2208
Santa Fe, NM 87504-2208

James G. Bruce, Esq.
P.O. Box 1056
Santa Fe, NM 87504

Larry P. Ausherman, Esq.
Modrall, Sperling, Roehl, Harris & Sisk P.A.
P.O. Box 2168
Albuquerque, NM 87103-2168

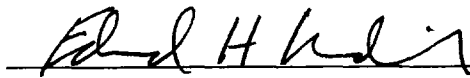
Charles E. Roybal, Esq.
BHP Minerals
300 W. Arrington, Suite 200
Farmington, NM 87401

J. Scott Hall, Esq.
Miller Stratvert and Torgerson P.A.
P.O. Box 1986
Santa Fe, NM 87504-1986

David K. Brooks, Esq.
New Mexico Oil Conservation Division
1120 S. St. Francis Drive
Santa Fe, NM 87505

Steve Henke
Bureau of Land Management
Farmington Field Office
1235 La Plata Highway
Farmington, NM 87401-8731

Steve Hayden
Fruitland Coalbed Methane Study Committee
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410


Edmund H. Kendrick

M:\Attorneys\EHK\Dugan\Witness List and Summary of Expected Testimony.wpd

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

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

RECEIVED

MAY 20 2003

**APPLICATION OF THE FRUITLAND COALBED
METHANE STUDY COMMITTEE TO AMEND
RULES 4 AND 7 OF SPECIAL RULES AND
REGULATIONS FOR THE BASIN-FRUITLAND
COAL GAS POOL AND FOR THE TERMINATION
OF THE CEDAR HILL-FRUITLAND BASAL COAL
POOL AND THE CONCOMITANT EXPANSION
OF THE BASIN-FRUITLAND COAL (GAS) POOL,
RIO ARRIBA, SAN JUAN, MCKINLEY, AND
SANDOVAL COUNTIES, NEW MEXICO.**

Oil Conservation Division

Case No. 12,888
De Novo

WITNESS LIST

**FOR BP AMERICA PRODUCTION COMPANY, BURLINGTON OIL & GAS
COMPANY LP, CHEVRONTExACO, DEVON ENERGY CORPORATION, L. P.
AND WILLIAMS PRODUCTION COMPANY**

Pursuant to the May 9, 2003 Pre-Hearing Order of the Oil Conservation Commission, BP America Production Company, Burlington Oil & Gas Company LP, ChevronTexaco, Devon Energy Corporation, LP, and Williams Production Company file their witness list and summary of each witnesses' expected testimony for the Commission hearing in this matter scheduled to begin on June 3rd, 2003:

J. W. "Bill" Hawkins (Petroleum Engineer, BP America Production Company):

Mr. Hawkins will review the work of the Coalbed Methane Committee Fruitland Study Group from 1999 to the present. His testimony will address key events in the Fruitland Study Group meetings and provide a summary of the committee recommendations. His testimony will explain the High Productivity Area (HPA) boundary, the HPA administrative procedure and notice requirements for Applications for Permits to Drill in the HPA and provide a regulatory summary for the request to infill the Basin Fruitland Coal Pool.

James E. Fassett (Geologist, U.S.G.S retired):

Mr. Fassett will testify to the following matters:

1. Fruitland Formation coal resources were recently assessed by the USGS and total 230 billion short tons. Coal beds are typically concentrated in the lowermost 200 ft of the Fruitland, and they are usually thickest at the base of the coal-bearing interval.
2. Coal beds are generally not continuous for more than a few miles; however in some areas coal zones are continuous for tens of miles. Individual coal beds within these zones, however, are usually not laterally extensive, either.
3. Coal beds range from paper-thin to more than 50-ft thick and net-coal thicknesses range up to about 100 ft. The net-coal distribution pattern for the Fruitland is marked by a thick-coal band that trends northwest across the north-central part of the basin; this band is southwest of a large vertical buildup of the Pictured Cliffs Sandstone. Net-coal values in this band range from 40 to more than 90 ft thick.
4. Thicker coal beds in this area reflect peat-swamps that occupied the same area for a sustained period of time as the position of the Pictured Cliffs Sandstone shoreline stabilized and back-shore peat deposits built up vertically in tandem with the vertical build-up of the adjacent Pictured Cliffs shoreface sands.
5. Northeast and southwest of this thick-coal band are areas of relatively thinner net coal. A large area of less than 20 ft of net coal occupies the southwest part of the basin. A small, northwest-trending band of net coal more than 40 ft thick is present in the southwest part of the basin, just downdip from the Fruitland outcrop. Two areas containing no Fruitland coal are present on the eastern edge of the basin. A northeast-trending pattern of relatively narrow and linear thinner-net-coal bands cut across the thick northwest-trending thick-coal area. These thinner-coal bands probably represent fluvial channel systems that cut through the back-shore peat swamps to the sea.
6. In cross section, Fruitland coal beds occur in an overlapping, en echelon, pattern rising stratigraphically to the northeast. Precise, radiometric dating of altered volcanic ash beds in the Fruitland and Kirtland Formations document the fact that coal beds in the southwest part of the basin are more than 2.5 m.y. older than those in the northeast part of the basin.
7. There are hundreds, if not thousands, of individual Fruitland coal beds in the San Juan Basin, each of which probably represents a separate, lense-like, coal-bed methane reservoir.

Steve Thibodeaux (Geologist, Burlington Oil & Gas Company LP):

Mr. Thibodeaux's will testify that:

1. Burlington Resources has been able to characterize the Fruitland Reservoir by identifying and mapping 9 coal packages that are correlatable throughout the San Juan Basin.
2. Using these packages as the basis for creating a geological model of the reservoir has allowed us to better understand why such a high degree of production heterogeneity exists today.
3. Correlating cross sections across the reservoir using these coal packages illustrates that individual coal seam and entire coal bed package discontinuities are prevalent in all zones and that they frequently change vertical and lateral communication partners.
4. Mapping of the coal packages has led towards an increased understanding of the diverse depositional environments each were deposited in and how these settings create both lateral and vertical heterogeneity in coal characteristics which has a direct impact on their productive capabilities.
5. Coal heterogeneity created by the diverse depositional settings in conjunction with the vertical and lateral discontinuities creates multiple permeability and communication barriers that necessitate increased density drilling in order to efficiently recover the gas resource present in this reservoir.

Rusty Riese (Geologist, BP America Production Company):

Dr. Riese will testify that:

1. The Fruitland coals were deposited in similar and related environments throughout the San Juan Basin.
2. The coals are laterally discontinuous at a scale locally approaching 80 acres.
3. The coals are vertically discontinuous at scales of millimeters to centimeters.
4. The coals are interrupted by both structural features which cause additional discontinuities.

Jay Close (Geologist, ChevronTexaco):

Dr. Close will testify that:

1. Coals contain organic materials that both generate and store the gas

Natural fractures (cleats) are the key permeability drivers

Low pressure (<2,000 psia) is typical; often pressures are < 1,000 psia and even <500 psia
2. Coal rank can be considered as a thermal maturity series

Thermal maturity is imparted primarily via time and temperature parameters

Coal rank series in general terms
 lignite, subbituminous, bituminous, anthracite
3. Coal can hold an enormous amount of gas due to its remarkably high pore surface area, where gas molecules are adsorbed via surface forces
4. Due to the microporous nature of coal matrix porosity, coal can notably more (2-3 times as much) gas as a conventional sandstone gas reservoir at low (<2,000 psia) pressures
5. The vast majority (typically >98%) of coal gas is stored in the microporous coal matrices as a function of pressure

Remaining gas is stored in the natural fractures (cleats) as solution gas in the water
6. Technologies used to estimate the gas volume per mass in coal have evolved over time into increasingly more sophisticated, accurate methods, as depicted schematically in figures A, B and C, in order of older to more recent

Gas content is measured on drill cuttings, sidewall cores, and whole cores for the purpose of gas in place resource and reserve volumetric calculations
7. The gas in place resource equation incorporates the elements of area, thickness, bulk density and gas content (and a coefficient to convert to standard cubic feet)
8. Coal gas content is frequently related to bulk density, since gas content is proportional to coal ash (mineral matter), which does not store gas, and ash content is often proportional to bulk density

Due to this relationship, in areas with a robust gas content vs. bulk density relationship, gas content, and hence gas in place, can be estimated using calibrated bulk density wireline logs

9. A typical coal gas reservoir production decline curve is depicted; as the volume declines toward the RF (recovery factor), ever-lower reservoir pressures are needed to drain the gas reserves later in reservoir life
10. The relationship of coal storage capacity (like gas content, but a measure of what the coal can hold) as a function of replicated reservoir temperature at constant, replicated reservoir temperature (hence "isotherm") is a key coal gas reservoir concept and laboratory measurement

Note steep isotherm shape, especially at low pressures

A highly important point with respect to isotherm concepts and measurements is that coals store a notable portion of reserves at low pressure, vs. conventional gas reservoirs, where gas is liberated in roughly equal increments as pressure is reduced

Recovery of coal gas at low pressures necessitates that reservoirs be depleted at lowest possible pressures.

Dale Rietz, (Geologist, Devon Energy Corporation, LP):

Mr. Rietz will testify about the disconnected nature of the coal seams, which display both vertical and lateral variability. The evidence he will present illustrates the poor coal connectivity across the Northeast Blanco Unit which is due to rapid lateral facies changes present in the continental peat swamp environment of the late Cretaceous period. He will also address the internal structure and permeability of the coal seams which show wide variations due to fracture enhancement and changes in ash content and maceral content of the plant material. These local coal variations could cause pressure compartmentalization and pressure anomalies. Mr. Rietz will testify about how the coals correlate from well to well and show that only about 30% of the individual coal seams are connected to the nearest offset well. He will conclude that the erratic deposition and compaction history of these coals, infill wells can be expected to lower field wide abandonment pressures, increase gas recovery, and reduce waste.

Gary Kump (Senior Reservoir Engineering Advisor, Devon Energy Corporation, LP)

Mr. Kump will testify about the significant variations in production performance of coalbed methane gas and conventional gas in relation to pressure depletion and show that a substantial volume of recoverable gas is still present in coal seams at low reservoir pressures. He will present pressure data that was measured in individual coal seams which shows that differential depletion is occurring and manifests the heterogeneity of these coal seams. He will show that gas recovery on a well-by-well basis in the HPA of

the Northeast Blanco Unit is very erratic and this erratic recovery is indicative of the heterogeneity nature of the reservoir.

Eddie Pippin (Geologist, Burlington Oil & Gas Company, LP):

Mr. Pippins will testify that:

1. Original Gas in Place in the HPA can be estimated, but even with the high volumes of gas there still exists considerable variability across the fairway.
2. The discontinuities seen in the LPA do still exist in the HPA, and these discontinuities persist across the entire HPA at a broad scale.
3. At a smaller scale discontinuities can be dramatic in very short distances.
4. The test wells are a good representation of what can be found anywhere in the HPA, and even our best efforts still do not fully represent every coal layer.

Jeff Balmer (Reservoir Engineer, Burlington Oil & Gas Company LP):

Dr. Balmer's testimony will introduce data and analysis regarding layered pressure testing performed in the high productivity area of the Fruitland Coal. This data will demonstrate that the coal is vertically and laterally heterogeneous, which is consistent with the geologic testimony given previously. His testimony will describe the various ways that gas will be left in the reservoir under the current well density and show that even small reductions in pressure through infill drilling will liberate large quantities of incremental gas. A map of recovery efficiency will be shown that demonstrates the variability in recovery throughout the HPA. He will provide three methodologies for estimation of incremental reserves through infill drilling. His testimony will show that current well density results in inefficient recovery and that additional wells are required to adequately drain the HPA in the Fruitland Coal.

Vu Dinh (Reservoir Engineer, BP America Production Company):

Mr. Dinh will present actual data from wells in 20 sections in Colorado which are located next to the New Mexico border. His testimony and evidence will show that production from infill wells has had no detrimental interference on the parent well's performance, that significantly higher pressure is encountered in the infill well than the parent well, and that infill gas reserves are mostly incremental reserves, not just rate acceleration. Mr. Dinh will conclude that similar infill results can be expected in New Mexico.

Respectfully submitted,

By: 

W. Thomas Kellahin

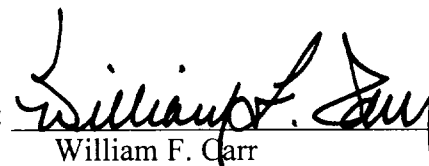
KELLAHIN & KELLAHIN

Post office Box 2265

Santa Fe, New Mexico 87504-2265

505-982-4285

ATTORNEY FOR BURLINGTON RESOURCES
OIL & GAS COMPANY LP, AND DEVON
ENERGY CORPORATION, L.P.

By: 

William F. Carr

HOLLAND & HART, LLP

Post Office Box 2208

Santa Fe, New Mexico 87504-2208

505-988-4421

ATTORNEYS FOR BP AMERICA
PRODUCTION COMPANY, CHEVRON
TEXACO, AND WILLIAMS PRODUCTION
COMPANY

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Witness List was served upon the following counsel of record via facsimile and first class mail this 20th day of May 2003.

Stephen C. Ross, Esq.
Oil Conservation Commission
1220 South St. Francis Drive
Santa Fe, NM 87505
Fax No. (505) 476-3462

David K. Brooks, Esq.
Oil Conservation Division
1120 South St. Francis Dr.
Santa Fe, NM 87508

James Bruce, Esq.
P.O. Box 1056
Santa Fe, NM 87504
Fax No. (505) 982-2151

Larry P. Ausherman, Esq.
Walter E. Stern, Esq.
Modrall Sperling Law Firm
500 Fourth St., NW, Suite 1000
P.O. Box 2168
Albuquerque, NM 87103
Fax No. (505) 848-9710

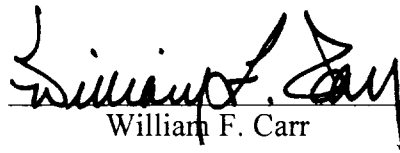
Charles E. Roybal, Esq.
San Juan Coal Company
300 W. Arrington, Suite 200
Farmington, NM 87401
Fax No. (505) 598-4300

J. Scott Hall, Esq.
Miller Stratvert, P.A.
P.O. Box 1986
Santa Fe, NM 87504-1986
Fax No. (505) 989-9857

John A. Dean, Jr., Esq.
Curtis & Dean
P.O. Drawer 1259
Farmington, NM 87499
Fax No. 95050 327-6034

Edmund H. Kendrick, Esq.
Sarah Singleton, Esq.
Montgomery & Andrews PA
Post Office Box 2307
Santa Fe, New Mexico 87504-2307
Fax No. (505) 982-4289

Michael J. Condon, Esq.
The Gallegos Law Firm P.C.
460 St. Michaels Drive, #300
Santa Fe, New Mexico 87505-7622
Fax No. (505) 986-1367



William F. Carr

3082354_1.DOC