## 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:

APPLICATION OF RICHARDSON OPERATING COMPANY TO ESTABLISH A SPECIAL "INFILL WELL" AREA WITHIN THE BASIN-FRUITLAND COAL GAS POOL AS AN EXCEPTION TO RULE 4 OF THE SPECIAL RULES FOR THIS POOL, SAN JUAN COUNTY, NEW MEXICO.

Case No. 12734 (de novo) Order No. R-11775

#### SAN JUAN COAL COMPANY'S OBJECTION AND MOTION TO STRIKE

San Juan Coal Company ("San Juan") objects to the introduction of Richardson Operating Company's ("Richardson") coal gas modelling data, and moves the Commission for an order striking the supplemental materials submitted by Richardson regarding its coal gas modelling, and in support thereof, states:

1. On October 31, 2002, during the testimony of Richardson's witness, Dave Cox, Commissioner Lee questioned Mr. Cox about the basis of his model and the data used therein, used to derive the figures set forth in Richardson Exhibit C-26.

2. Mr. Cox did not have the underlying data with him, and on November 12, 2002 Richardson submitted five booklets of data to the Commission in support of his model. The booklets are marked Richardson Exhibits E, E-1, E-2, E-3, and E-4.

3. Richardson Exhibits E-1, E-2, E-3, and E-4 are irrelevant or outdated material, gleaned from presentations to the Division in prior Fruitland coal hearings. Richardson never requested incorporation of the record of the prior cases, and these four

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exhibits should be struck from the record based on irrelevance and failure to file a motion to incorporate the record.

4. Richardson Exhibit E contains the basic data regarding the modelling. San Juan has had its experts at Netherland, Sewell & Associates, Inc. review Mr. Cox's modelling data, and a summary of its conclusions is presented in the affidavit of Dan Paul Smith, attached hereto as Exhibit A.

5. Richardson has failed to demonstrate that the model, backup information, and associated testimony of Dave Cox is reliable and scientifically valid. The affidavit of Dan Paul Smith establishes that fact. In addition, San Juan's written Closing Argument, submitted herewith (in Section II.B) further explains the many deficiencies in the model and associated testimony of Dave Cox.

WHEREFORE, San Juan objects to the introduction of Richardson's model, backup information, and associated testimony of Dave Cox, and requests that Richardson Exhibits E, E-1, E-2, E-3, and E-4 be stricken from the record.

Respectfully submitted,

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

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

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

Attorneys for San Juan Coal Company

## CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing pleading was served upon the following counsel of record in the fashion indicated this <u>fine</u> day of November, 2002:

> Via Hand Delivery Stephen C. Ross Oil Conservation Commission 1220 South St. Francis Drive Santa Fe, New Mexico 87505

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Via Fax and U.S. Mail W. Thomas Kellahin Kellahin & Kellahin Post Office Box 2265 Santa Fe, New Mexico 87504 Fax No. (505) 982-2047

James Bruce

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Record on Appeal, 2003.

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

IN THE MATTER OF THE APPLICATION OF RICHARDSON OPERATING COMPANY TO ESTABLISH A SPECIAL "INFILL WELL" AREA WITHIN THE BASIN-FRUITLAND COAL GAS POOL AS PROVIDED BY RULE 4 OF THE SPECIAL RULES FOR THIS POOL, SAN JUAN COUNTY, NEW MEXICO.

Case No. 12734 (De Novo)

## **AFFIDAVIT OF DAN PAUL SMITH**

I, Dan Paul Smith, being first duly sworn, state the following based on my personal knowledge:

- 1. My name is Dan Paul Smith, and I testified in this proceeding on October 31, 2002.
- 2. I, and others under my supervision at Netherland Sewell & Associates, Inc. ("NSAI"), have reviewed Richardson Operating Company's Response to the Request of Commissioner Dr. Robert Lee Concerning Reservoir Simulation for Coalbed Methane Wells in the Underpressured Area of the Basin–Fruitland Coal Gas Pool, and associated materials, consisting of five bound volumes.
- 3. Based upon my review of the Response and associated materials, I believe the model and the backup data are flawed by deficiencies which render the model inaccurate and not based upon fundamental engineering and simulation principals. The model is not reliable and over estimates gas volumes, as further described below.
- 4. The model only covers a limited portion of Deep Lease or Deep Lease Extension.
- 5. Model grid blocks are very large with 880 foot sides.
- 6. There appears to be only one layer for each coal which does not allow for vertical variations in coal quality.
- 7. Gas contents are 237 scf per ton for the lower coal and 187 scf per ton for the upper coal based on the coal being fully saturated which we do not believe to be the case.
- 8. Gas production rates are arbitrarily increased over a 5 year period as a specified condition. It is our understanding that the basis of this increase is an analogy well, the Ropco Fee 6-1, located approximately 15 miles to the east of the project area that is deeper in the basin, under higher pressure, with higher permeability and in communication with a much more prolific Pictured Cliffs section.
- 9. Model rates are projected to a peak producing rate of 500 MCF per day per well again based on a well located 15 miles to the east. This projected peak is higher than any well in the project area.
- 10. Model permeability values had to be increased by a factor of 3 in order to allow producing rates at these levels.
- 11. Model permeability is not directional although it is known in San Juan Basin that a southwest to northeast directional permeability exists.

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- 12. The relative permeability curve used in the model is based on data from other regions of the San Juan Basin and is not likely to be applicable to the project area.
- 13. Infill wells in the model start at specified water rates of 20 BWPD which is less than most existing wells.
- 14. All infill wells have a -3 skin factor as compared to a range of 0 to -3 for the existing wells.
- 15. The model does not match actual water production for the existing wells. In general, the model water rates are too low which could be an indication of unrealistically high gas-in-place values in the model and/or unrepresentative relative permeability curves.
- 16. Based on performance, well WF Federal 30-1 appears to be non-commercial at current rates yet it produces at rates in excess of 100 MCFD in the model.
- 17. No information is provided regarding whether this is a dual porosity model to properly model the interaction between the coal matrix and the cleat system.
- 18. It appears that the 320 acre versus 160 acre results comparison is based on simulations run to 2020. The 320 acre spacing model is at higher pressure at the end than the 160 acre spacing model due to the lower production rate and could produce more gas.
- 19. This model can be characterized as a big cup with the 160-acre case having more straws than the 320acre case.
- 20. The model does not attempt to simulate connection of the Fruitland Coal to the Pictured Cliffs which is known to exist in actual field conditions.
- 21. The model boundary is specified to be no flow conditions which is not correct in this or other parts of the San Juan Basin.
- 22. There is no isolated historical production that can be used to calibrate the predicted model gas production from the upper coal seam.

Dan Paul Smith

STATE OF TEXAS ) ) ss. COUNTY OF )

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This instrument was acknowledged before me on \_\_\_\_\_\_, 2002, by Dan Paul Smith.

Notary Public

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My commission expires: \_\_\_\_\_

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# WITHIN THE BASIN-FRUITLAND COAL GAS POOL AS PROVIDED BY RULE 4 OF THE SPECIAL RULES FOR THIS POOL, SAN JUAN COUNTY, NEW MEXICO.

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Dan Paul Smith

STATE OF TEXAS ) SS. COUNTY OF OFUS Application of Richardson Operating Co. Record on Appeal, 2007. This instrument was acknowledged before me on <u>Morembia</u> 19

, 2002, by Dan Paul Smith,

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Hief Presus Notary Public

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