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November 12, 2002

Hand Delivered

Lori Wrotenbery Oil Conservation Commission 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Re: Case No. 12734 (de novo)

Dear Ms. Wrotenbery:

Enclosed are an original and four copies of San Juan Coal Company's Motion to Supplement the Record. The affidavit attached to the motion describes the desorption data relied upon by San Juan's witnesses at hearing. The complete data is in two binders, each approximately 3 inches thick, which is why the motion contains only a summary of the data. If the Commission desires to review all of the underlying data, San Juan will copy it and provide it to the Commission (as well as to Richardson Operating Company).

Very truly yours,

James Brucé

Attorney for San Juan Coal Company

cc: Stephen C. Ross w/encl. W. Thomas Kellahin w/encl.

> Application of Richardson Operating Co. Record on Appeal, 2052.

OIL CONSERVATION DIV 02 NOV 22 PM 4:07

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. 02 NOV 22 FH 4: Case No. 12734 (*de novo*)

Order No. R-11775

SAN JUAN COAL COMPANY'S MOTION TO SUPPLEMENT THE RECORD

San Juan Coal Company ("SJCC") moves the Commission for an order allowing it to supplement the record in Case No. 12734 (*de novo*), and in support thereof, states:

1. On October 31, 2002, during the testimony of SJCC's witness Dan Paul Smith, Commissioner Lee questioned Mr. Smith about the desorption data used by SJCC and Netherland, Sewell & Associates, Inc.

2. Mr. Smith did not have the underlying desorption data with him, but upon returning to his office in Dallas reviewed the data. Mr. Smith's summary of the data is attached hereto, in affidavit form, as Exhibit A.

3. Commissioner Lee also questioned Richardson Operating Company's ("Richardson") witness Dave O. Cox about backup information related to Mr. Cox's model, and Mr. Cox was given the opportunity to provide it to the Commission by November 12, 2002 (the date this motion is being filed).

> Application of Richardson Operating Co. Record on Appeal, 2053.

4. By this motion, SJCC seeks to respond to Commissioner Lee's questions about its desorption data, just as Mr. Cox may respond to questions about his model.

5. The underlying data reviewed and summarized by Mr. Smith was previously offered to Richardson, and SJCC will again make the underlying data available to Richardson, as well as the Commission, if they so desire.

WHEREFORE, SJCC requests that the record be supplemented by admitting into evidence Exhibit A, and if the Commission so desires, the underlying desorption data summarized in Exhibit A.

Respactfully 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

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

Application of Richardson Operating Co. Record on Appeal, 2054.

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 $\mathcal{V}\mathcal{N}$ day of November, 2002:

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

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 Bruc

Application of Richardson Operating Co. Record on Appeal, 2055.

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:

My name is Dan Paul Smith, and I testified in this proceeding on October 31,
2002.

2. During my testimony, Commissioner Lee asked me questions about the back-up desorption data from the San Juan Underground mine area that I used in my analysis. I testified that I had no reason to doubt the validity of the desorption data, collected by several firms expert in the field, but the desorption data itself was not with me in Santa Fe during the hearing.

3. I have reviewed that data again, and I summarize it here to further address Commissioner Lee's questions. Because the desorption data itself is voluminous and contained in two binders, each about 3" thick, I prepared the summary which is Exhibit 1. The Exhibit 1 summary fairly and accurately summarizes the desorption data collected for the San Juan Underground mine area. The two binders are on file in my offices in Dallas, Texas and are available to submit to the Commission and counsel for Richardson Operating Company, if the Commission desires.

> Application of Richardson Operating Co. Record on Appeal, 2056.



4. During the third quarter of 2002, San Juan Coal Company provided my firm, Netherland, Sewell & Associates, Inc. (NSAI), with the two binders of data and associated reports from desorption tests to assist the NSAI analysis, which was the subject of my testimony. These tests were conducted on San Juan Coal Company test wells located in their Deep Lease and Deep Lease Extension. The data was taken by firms with experience in collecting, analyzing and reporting coalbed methane desorption test results: Rocky Mountain Geo-Engineering Corp., Commercial Testing and Engineering Co. and Raven Ridge Resources Incorporated.

5. Gas content of the coal cores were measured by placing the core samples in desorption canisters at reservoir temperature and measuring the gas that evolved from the cores. Gas content is the volume of gas at standard temperature and pressure conditions per unit weight of coal.

6. Estimating the total sorbed gas content of coal requires estimates of three components: desorbed gas, lost gas and residual gas. Desorbed gas is the volume of gas that is released from the desorption canister as a function of time and measurement conditions. Lost gas is the volume of gas that is lost before sealing a sample in the canister. Residual gas is the volume of gas that remains sorbed on the coal at the conclusion of the desorption test; these volumes were negligible in relation to desorbed gas in the San Juan Mine data.

7. The desorbed gas and lost gas estimates summarized in the columns labeled "Desorption" and "Lost Gas" in Exhibit 1 are from 95 samples taken from 18 holes spread throughout the mine area, as shown on San Juan Exhibit 46, submitted at hearing. Multiple desorption tests were performed on the 95 samples at various depths within coal seams 8 and 9. For any given sample, the "Desorption" number in Exhibit 1 is the sum of the desorbed gas estimate for that sample plus the corresponding "Lost Gas" number.

> Application of Richardson Operating Co. Record on Appeal. 2057.

8. In general, the tests measured desorption time, gas volume, temperature, pressure, gas volume at standard conditions, desorption rate and cumulative gas volume. The samples were desorbed according to standard protocols until they stopped releasing measurable gas volumes. These methods are commonly used and accepted in the industry as valid.

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9. The Exhibit 1 summary shows as "Time To Closed Canister" (in the far right column) the time from starting to surface with the core sample until the canister is sealed with the core sample inside. This time is an important item in assessing the validity of the desorption tests, and it was raised by Mr. Dave Cox, on behalf of Richardson Operating Company. In general, as shown in Exhibit 1, this time varied from 18 to 78 minutes with an average of approximately 45 minutes. This time is reasonable and does not materially diminish the validity of the tests.

10. The Exhibit 1 summary also shows the magnitude of the "lost gas" correlation. Lost gas is generally considered to be the greatest potential source of error in the total gas content estimate. Several methods are used to estimate the lost gas. The USBM method uses a plot of cumulative desorbed gas versus the square root of time since the start of desorption to estimate lost gas. The Smith and Williams method estimates lost gas by multiplying the volume of desorbed gas by a volume correction factor and subtracting this from the desorbed gas. Other methods are used including the decline curve method and the Raven Ridge method.

11. The Exhibit 1 summary shows that the lost gas volumes are generally small in comparison to desorbed gas volumes. In the 95 samples, average lost gas for the three techniques is in the range of 5 to 10 percent of total desorbed gas. This result is expected in relatively low permeability coals such as those contained in the Deep Lease and Deep Lease Extension. Therefore, large errors could occur in the measurement of lost gas volumes and still

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not materially effect the total gas content estimates from the desorption tests. Even if there were a 100% error in the lost gas correlation, the gas content estimate is still an order of magnitude less than the fully saturated isotherm value proposed by Mr. Cox, as compared on San Juan Exhibit 47, submitted at hearing.

Dan Paul Smith

STATE OF TEXAS)) ss. COUNTY OF _____)

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

Notary Public

(Seal)

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My commission expires: _____

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Application of Richardson Operating Co. Record on Appeal, 2059. not materially effect the total gas content estimates from the description tests. Even if there were a 100% error in the lost gas correlation, the gas content estimate is still an order of magnitude less than the fully saturated isotherm value proposed by Mr. Cox, as compared on San Juan Exhibit 47, submitted at bearing.

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Application of Richardson Operating Co. Record on Appeal, 2060.

Summary of Desorption Data for

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San Juan	Underground	Mine
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			USBM	Gas	Content - SC Smith	F per Ton	of Raw C	oal Rav	an Ridae		Time To Closed
Hole	Canister	Desorption	Lost Gas	% Lost	Desorption	Lost Gas	% Lost	Desorption L	ost Gas	% Lost	(minutes)
E/94	129	54.11	4.65	8.6%	53.02	3.56	6.7%	49.70	0.23	0.5%	43
E/94 E/94	119	48.90	4.57 11.40	9.3% 13.4%	47.66	3,33	7.0% 13.1%	44.92 82.24	0.58	1.3%	43
E/94	125	59.86	5.52	9.2%	57.93	3,59	6.2%	57.62	3.28	5.7%	60
E/94	128	70.20	11.04	15.7%	68.15	8.99	13.2%	60.47	1.31	2.2%	46
E/94 F/94	132	42.83	2.95	6.9% 8.9%	42.64	2.75	6.4% 6.1%	42.83	2.95	6.9% 6.8%	29
J/94	120	47.46	4.92	10.3%	45.61	3.06	6.7%	40.75	0.30	0.0%	43
J/94	177	43.81	5.32	12.1%	41.42	2.93	7.1%	39.59	1.10	2.8%	48
J/94	188	41.01	8.42	20.5%	37.84	5.25	13.9%	36.18	3.59	9.9%	51
J/94	193	56.22	12.49	22.2%	49.67	5.95	12.0%	49.43	5.71	11.6%	68 53
J/94	179	30.52	4.94	14.1%	25.64	2.02	7.3%	24.20	0.42	3.2%	53 61
J/94	181	44.03	9.23	21.0%	38.25	3.45	9.0%	37.93	3.12	8.2%	73
Q/94	172	43.85	3.01	6.9%	43.66	2.82	6.5%	41.80	0.91	2.2%	48
Q/94 Q/94	180	38.84	3.24	8.3%	38.16	2.56	6.7%	37.49	1.89	5.0%	50
Q/94	184	38.14	2.16	5.7%	38.50	2.40	6.5%	35.98	0.00	4.3%	35
Q/94	202	39.02	2.51	6.4%	39.13	2.63	6.7%	36.51	0.00	0.0%	37
Q/94	248	52.31	3.50	6.7%	52.48	3.66	7.0%	48.81	0.00	0.0%	43
Q/94 0/94	265	40,52	3.21	7.9% 8.2%	40.30	2.98	7.4%	37.31	0.00	0.0%	49 58
Q/94	116	56.32	3.53	6.3%	56.92	4.12	7.2%	52.97	0.72	0.3%	38
Q/94	8	0.15	0.10	66.7%	0.09	0.04	44.4%	0.05	0.00	0.0%	33
Q/94	_134	0.30	0.09	30.0%	0.25	0.04	16.0%	0.24	0.02	8.3%	32
D 294-06	1	29.95	1.25	4.2%	30.71	2.01	6.5%	28.70	0.00	0.0%	19
D 294-06	8 13	31.66	∠.59 1.62	0.9% 5.1%	37.40	2.58	6.5%	34.88	0.00	0.0%	19
D 294-06	40	35.30	3.07	8.7%	34.77	2.55	7.3%	33.11	0.89	2.7%	24
D 294-06	48	26.82	2.90	10.8%	26.36	2.44	9.3%	25.25	1.33	5.3%	24
D 294-07	58	22.24	0.35	1.6%	23.70	1.82	7.7%	21.89	0.00	0.0%	36
D 294-07	33	12.36	1.06 0.10	8.6% 1.8%	12.32	1.02 0.60	8.3% 6.1%	11.30 10 50	0.00	0.0% 0.0%	21
D 294-15	02 76	18.45	1 13	6 1%	18.67	1.35	7 2%	17.32	0.00	0.0%	
D 294-15	73	8.84	0.36	4.1%	9.15	0.67	7.3%	8.48	0.00	0.0%	59
D 294-15	81	11.69	0.45	3.8%	12.25	1.01	8.2%	11.24	0.00	0.0%	48
D 294-15	92	7.83	0.36	4.6%	8.15	0.67	8.2%	7.47	0.00	0.0%	48
D 294-15	169	10.30	2 0.23	Z.Z%	38.00	2 15	0.0% 8.2%	35.05	0.00	0.0%	40 40
D 294-17	158	44.12	1.60	3.6%	45.42	2.89	6.4%	42.52	0.00	0.0%	20
D 294-17	183	37.55	1.18	3.1%	39.24	2.87	7.3%	36.37	0.00	0.0%	34
D 294-17	202	39.86	1.87	4.7%	41.10	3.12	7.6%	37.99	0.00	0.0%	41
DLP 9705	122	15.63	2.58	16.5%	15.26	2.21	14.5%	14.20	1.15	8.1%	19
DLP 9705	123	7.69	2.10	27.3%	7.48	1.89	25.3%	8.19	2.49	31.6%	20
DLP 9705	132	3.70	1.56	42.2%	3.46	1.33	38.4%	3.12	0.98	31.4%	23
DLP 9705	154	8.56	3.14	36.7%	8.46	3.04	35.9%	7.41	1.99	26.9%	24
DX 9707	335	50.98 47.33	1.95	3.6%	52.27 48.92	3.24	6.4%	46.00	0.00	0.0%	40 48
DX 9707	307	52.38	3.45	6.6%	52.26	3.33	6.4%	75.65	26.72	35.3%	47
DX 9708	272	77.59	8,18	10.5%	75.65	6.25	8.3%	74.68	5.27	7.1%	64
DX 9708	16	119.37	20.86	17.5%	112.50	13.99	12.4%	113.04	14.53	12.9%	64
DX 9708	251	80.43	7.42	9.2%	77.76	9.12	9.1% 6.1%	75.74	2.73	3.6%	70
DX 9708	10	95.98	12.58	13.1%	89.49	6.09	6.8%	89.95	6.55	7.3%	72
DX 9711	124	71.65	4.57	6.4%	71.44	4.36	6.1%	67.44	0.37	0.5%	34
DX 9711	118	48.26	2.40	5.0%	53.70	3.12	5.8%	45.86	0.01	0.0%	36
DX 9711	116 114	52.84 60.75	∠.30 3.20	4.4% 5.3%	61.23	≥.00 3.68	5.7% 6.0%	52.82	∠.00 4.32	3.5% 8.2%	30 34
DX 9712	157	73.68	10.54	14.3%	67.05	3.91	5.8%	67.42	4.28	6.3%	43
DX 9712	142	111.53	24.07	21.6%	107.75	20.29	18.8%	102.96	15.49	15.0%	43
DX 9712	8	72.39	9.65	13.3%	66.69	3.95	5.9%	64.50	1.76	2.7%	43
DX 9/12	127	/3.60	14.75	20.0%	65.09	0.24	9.6%	04.91	0.06	3,3%	44
DX 9713	40	45.01	2.42	5.3% 12.6%	49.38	2.50 2.97	0.5% 6.0%	50.54	4.13	8.2%	78
DX 9713	113	48.65	5.19	10.7%	46.11	2.65	5.7%	47.08	3.62	7.7%	72
DX 9713	123	34.06	3.18	9.3%	32.79	1.91	5.8%	32.12	1.25	3.9%	73
DX 9717	253	89.93	10.26	11.4%	84.68	5.02	5.9%	80.10	0.44	0.5%	48
DX 9717	1/2	94.75	11.49	12.1% 14.9%	00.43	5.16 6.77	5.9%	113.80	6.32	∠.3% 5.6%	55
DX 9717	131	117.12	18.10	15.5%	105.46	6.44	6.1%	105.10	6.06	5.8%	57
DX 9717	273	116.86	13.41	11.5%	110.17	6.72	6.1%	107.31	3.86	3.6%	57
DL 2000-07	37	21.70	0.60	2.8%	23.00	0.80	3.5%	22.20	0.00	0.0% 0.0%	37
DL 2000-07	80	21.80	0.70	3.2%	23.40	0.90	3.8%	22.50	0.00	0.0%	40
DL 2000-07	245	21.20	0.60	2.8%	21.70	0.60	2.8%	21.10	0.00	0.0%	34
DL 2000-07	919	19.50	0.60	3.1%	20.10	0.70	3.5%	19.40	0.00	0.0%	34
DL 2000-11 DL 2000-11	84	29.80	, U.UU) 0.00	0.0%	32.20	1.10	3.4% 4.7%	30.30	0.00	0.0%	28 30
DL 2000-11	86	38.40	0.50	1.3%	40.20	1.90	4.7%	38.30	0.00	0.0%	6 40
DL 2000-11	89	38,20	0.00	0.0%	42.70	2.10	4.9%	40.60	0.00	0.0%	6 37
DL 2000-11	96	5 44.00 27.40	0.20	0.5%	46.20	1.50	3.2%	44.80	0.00	0.0%	35
DL 2000-11 DL 2000-11	229	26.90	, 0.00) 0.00	0.0%	29.20	1.30	3.3% 3.4%	28.20	0.00	0.0%	37
DL 2000-13	11	5 53.10	3.60	6.8%	51.60	1.60	3.1%	50.00	0.00	0.0%	6 62
DL 2000-13	240	35.90	0.00	0.0%	37.70	1.00	2.7%	36.70	0.00	0.0%	6 50
DL 2000-13	24	42.50	0.00	0.0%	47.30	4.50	9.5%	44.90	2.10	4.7%	54 54
DL 2000-13	90	1 30.50) 0.00	0.0%	32.10	1.40	∠.5% 4.3%	31.20	0.00	0.0%	56
DL 2000-13	91	7 24.60	0.00	0.0%	26.60	1.20	4.5%	6 25.40	0.00	0.0%	6 58
DL 2000-17	1	7 14.20	0.00	0.0%	15.10	0.60	4.0%	4.50	0.00	0.09	6 50
DL 2000-17	2	9.40	J 0.00	0.0%	11.20	1.80	16.19	6 10.00 6 11 10	0.60	6.0% ⊿ 5%	57
DL 2000-17	4	7 9.10	0.00	0.0%	9.80	1.70	17.3%	9.00	1.00	11.19	6 6
DL 2000-17	26	9.50	0.00	0.0%	6 11.20	2.20	19.69	6 10.60	1.60	15.19	6 48
1	Average	al 43.18	4 22	98%	al 42.34	3.18	75%	6L 40.95	1.97	4.89	6 44.97