ANALYSIS OF CHEROKEE GROUP CORE SAMPLES FOR GAS CONTENT
-- LAYNE-CHRISTENSEN #13-28 BEURSKENS;
SW SW 28-T.31S.-R.16E., MONTGOMERY COUNTY, KANSAS

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SUMMARY

Thirteen three-inch diameter core samples from the Pennsylvanian Cherokee Group were collected from the Layne-Christensen #13-28 Beurskens well, SW SW 28-T.31S.-R.16E., Montgomery County, KS from April 7 to April 9, 2003. The following as-received gas contents were measured, based on the dry weight of the sample:

- 677.8' to 678.8' (Excello Shale) (21.6 scf/ton)
- 681.5' to 682.4' (Excello Shale) (16.1 scf/ton)
- 682.4' to 683.2' (Mulky coal) (154.9 scf/ton)
- 706.0' to 707.0' (Iron Post coal) (135.6 scf/ton)
- 731.5' to 732.2' (Croweburg coal) (118.5 scf/ton)
- 772.0' to 773.0' (Mineral coal) (148.6 scf/ton)
- 838.3' to 839.1' (Tebo coal) (119.0 scf/ton)
- 847.0' to 848.0' (Weir-Pittsburg coal) (135.9 scf/ton)
- 848.0' to 849.0' (Weir-Pittsburg coal) (139.5 scf/ton)
- 888.2' to 889.2' (Bluejacket coal) (72.9 scf/ton)
- 1003.7' to 1004.7' (Rowe coal) (215.3 scf/ton)
- 1053.7' to 1054.7' (Riverton coal) (120.9 scf/ton)
- 1054.7' to 1055.7' (Riverton coal) (125.3 scf/ton)

Analyses of five desorbed coal gases indicate that these are dry gases, ranging from 1035 to 1057 BTU/scf. Nitrogen is the major non-combustible component gas. Carbon dioxide contents range from 0.7% to 1.7%. Isotopic analysis indicate the gas is mixed thermogenic and biogenic in origin.

Based on gas content, density, and thickness measurements, the gas-in-place estimates for the respective units are:

unit	*gas per acre (thousand cubic ft)*
Excello Shale	307.6
Mulky	254.0
Iron Post	311.6
Croweburg	131.5
Mineral	506.7
Tebo	238.5
Weir-Pittsburg	466.0
Bluejacket	131.1
Rowe	444.4
Riverton	533.9

BACKGROUND

The Layne-Christensen #13-28 Beurskens well; SW SW 28-T.31S.-R.16E., in Montgomery County, KS was selected for desorption tests in association with an on-going coalbed-gas research project at the Kansas Geological Survey. The samples (3-inch-diameter cores) were gathered from April 7, 2003 to April 9, 2003 by K. David Newell and Donghong Pei of the Kansas Geological Survey, with assistance by Jim Stegeman of Colt Energy. Samples were obtained by wireline coring on a rig owned by Layne-Christensen, Canada.

Bottom-hole times (i.e., the time the core sample was lifted from the bottom of the hole) and canistering times (i.e., the time the sample was placed in the desorption canister) were noted in order to determine lost gas and start of desorption. Approximate wet weight of the sample was determined by subtraction of the weight of the empty canister from the weight of the canister with the sample in it. After the sample was removed from the canister, it was weighed again before air-drying, then weighed after drying. The weight loss is noted in the desorption table (Table 1).

Temperature baths for the desorption canisters were on site, with temperatures at 75 ˚F for the Mineral coal and shallower samples. Samples deeper than the Mineral coal were desorbed at 80˚ F. The canistered samples were transported to the laboratory at the Kansas Geological Survey in Lawrence, KS after their collection at the wellsite and desorption measurements were continued at these temperatures. Desorption measurements were periodically made until the canisters produced no more gas upon testing for at least two successive measurements.

DESORPTION MEASUREMENTS

The equipment and method for measuring desorption gas is that prescribed by McLennan and others (1995). The volumetric displacement apparatus is a set of connected dispensing burettes, one of which measures the gas evolved from the desorption canister. The other burette compensates for the compression that occurs when the desorbed gas displaces the water in the measuring burette. This compensation is performed by adjusting the cylinders so that their water levels are identical, then figuring the amount of gas that evolved by simply reading the difference in water level using the volumetric scale on the side of the burette.

Some of the canisters utilized for this study (i.e., canisters with the prefix "Mer") were obtained from PEL-I-CANS (by J.R. Levine) in Richardson, TX. These canisters are approximately 11.2 inches high (28.5 cm), 3.8 inches (9.7 cm) in diameter, and enclose a volume of approximately 127 cubic inches (2082 cm^3). The rest of the canisters utilized for this study were obtained from SSD, Inc. in Grand Junction, CO. On average, these canisters are approximately 12.5 inches high (32 cm), 3 1/2 inches (9 cm) in diameter, and enclose a volume of approximately 150 cubic inches (2450 cm^3). The desorbed gas that collected in the desorption canisters was periodically released into the volumetric displacement apparatus and measured as a function of time, temperature and atmospheric pressure.

The time and atmospheric pressure were measured in the field using a portable weather station (model BA928) marketed by Oregon Scientific (Tualatin, OR). The atmospheric pressure was displayed in millibars on this instrument, however, this measurement was not the actual barometric pressure, but rather an altitude-compensated barometric pressure automatically converted to a sea-level-equivalent pressure. In order to translate this measurement to actual atmospheric pressure, a regression correlation was determined over several weeks by comparing readings from the Oregon Scientific instrument to that from a pressure transducer in the Petrophysics Laboratory in the Kansas Geological Survey in Lawrence, Kansas (Figure 1). The regression equation shown graphically in Figure 1 was entered into a spreadsheet and was used to automatically convert the millibar measurement to barometric pressure in psi.

A spreadsheet program written by K.D. Newell (Kansas Geological Survey) was used to convert all gas volumes at standard temperature and pressure. Conversion of gas volumes to standard temperature and pressure was by application of the perfect-gas equation, obtainable from basic college chemistry texts:

$$n = PV/RT$$

where n is moles of gas, T is degrees Kelvin (i.e., absolute temperature), V is in liters, and R is the universal gas constant, which has a numerical value depending on the units in which it is measured (for example, in the metric system R = 0.0820 liter atmosphere per degree mole). The number of moles of gas (i.e., the value n) is constant in a volumetric conversion, therefore the conversion equation, derived from the ideal gas equation, is:

$$(P_{stp}V_{stp})/(RT_{stp}) = (P_{rig}V_{rig})/(RT_{rig})$$

Customarily, standard temperature and pressure for gas volumetric measurements in the oil industry are 60 ˚F and 14.7 psi (see Dake, 1978, p. 13), therefore P_{stp}, V_{stp}, and T_{stp}, respectively, are pressure, volume, and temperature at standard temperature and pressure, where standard temperature is degrees Rankine (˚R = 460 + ˚F). P_{rig}, V_{rig}, and T_{rig}, respectively, are ambient pressure, volume, and temperature measurements taken at the rig site or in the desorption laboratory.

The universal gas constant R drops out as this equation is simplified and the determination of V_{stp} becomes:

$$V_{stp} = (T_{stp}/T_{rig})\ (P_{rig}/P_{stp})\ V_{rig}$$

The conversion calculations in the spreadsheet were carried out in the English metric system, as this is the customary measure system used in American coal and oil industry. V is therefore converted to cubic feet; P is psia; T is ˚R.

The desorbed gas was summed over the time period for which the coal samples evolved all of their gas.

Lost gas (i.e., the gas lost from the sample from the time it was drilled, brought to the surface, to the time it was canistered) was determined using the direct method (Kissel and others, 1975; also see McLennan and others, 1995, p. 6.1-6.14) in which the cumulative gas evolved is plotted against the square root of elapsed time. Time zero is assumed to be the instant the core sample is lifted from the bottom of the hole. Characteristically, the cumulative gas evolved from the sample, when plotted against the square root of time, is linear for a short period after the sample reaches ambient pressure conditions, therefore lost gas is determined by a line projected back to time zero. The period of linearity generally is about two hours for core samples.

LITHOLOGIC ANALYSIS

Upon removal from the canisters, the cores were washed of drilling mud, and air-dried for several days. After drying, the cores were weighed again to obtain a dry-weight based gas content.

DATA PRESENTATION

Data and analyses accompanying this report are presented in the following order: 1) data tables for the desorption analyses, 2) lost-gas graphs, 3) desorption graphs for individual samples, and 4) desorption graph for all samples at a common scale, 5) gas chemistry diagrams, and 6 reserve diagrams.

Data Tables of the Desorption Analyses (Table 1)
These are the basic data used for lost-gas analysis and determination of total gas desorbed from the core samples. Basic temperature, volume, and barometric measurements are listed at left. Farther to the right, these are converted to standard temperature, pressure, and volumes. The volumes are cumulatively summed, and converted to scf/ton based on the total weight of coal and dark shale in the sample. At the right of the table, the time of the measurements are listed and converted to hours (and square root of hours) since the sample was drilled.

Lost-Gas Graphs (Figures 2-14)
Gas lost prior to the canistering of the sample was estimated by extrapolation of the first few data points after the sample was canistered. The linear characteristic of the initial desorption measurements was usually lost within the first two hours after canistering, thus data are presented in the lost-gas graphs for only up to 9 hours after canistering. Lost-gas volumes derived from this analysis are incorporated in the data tables described above.

Desorption Graphs (Figures 15-26)
Desorption graphs for individual samples are presented in Figures 15-24. A summary graph showing all the samples at a common scale is presented in Figure 25. A second summary graph (Figure 26) expresses the desorption in terms of percentage of the total gas desorbed with time. Sorption times (the time it takes for 63.2% of the gas from a sample to desorb) are derived from this latter figure.

Gas Chemistry (Figure 27-28)
Gas isotopic chemistry is compared to similar analyses on other nearby coalbed gases, with respect to the local stratigraphy (Figure 27). The crossplot of chemistry and location of samples is shown in Figure 28.

Reserve Estimate (Figure 29)

Gas reserves are calculated based on desorption data, and crossplotted with sorption time, which is a semi-quantitative indicator of production rates.

Appendix 1
These are photocopies of the results of the Luman's Laboratories proximate analyses.

RESULTS and DISCUSSION

The following as-received gas contents are calculated, based on dry weight of the sample:

- 677.8' to 678.8' (Excello Shale) (21.6 scf/ton)
- 681.5' to 682.4' (Excello Shale) (16.1 scf/ton)
- 682.4' to 683.2' (Mulky coal) (154.9 scf/ton)
- 706.0' to 707.0' (Iron Post coal) (135.6 scf/ton)
- 731.5' to 732.2' (Croweburg coal) (118.5 scf/ton)
- 772.0' to 773.0' (Mineral coal) (148.6 scf/ton)
- 838.3' to 839.1' (Tebo coal) (119.0 scf/ton)
- 847.0' to 848.0' (Weir-Pittsburg coal) (135.9 scf/ton)
- 848.0' to 849.0' (Weir-Pittsburg coal) (139.5 scf/ton)
- 888.2' to 889.2' (Bluejacket coal) (72.9 scf/ton)
- 1003.7' to 1004.7' (Rowe coal) (215.3 scf/ton)
- 1053.7' to 1054.7' (Riverton coal) (120.9 scf/ton)
- 1054.7' to 1055.7' (Riverton coal) (125.3 scf/ton)

Proximate analyses were made for ten selected samples . The core was cut down its vertical axis and half was preserved for future analyses. The proximate analyses were performed on the following samples by Luman's Laboratory (see Appendix 1):

Luman's Lab proximate analysis:

unit	*depth*	*moisture*	*ash*	*moisture-free ash*
Excello Shale	681.5'	3.24%	82.89%	85.66%
Mulky	682.4'	2.04%	16.89%	17.24%
Iron Post	706.0'	1.97%	6.39%	6.52%
Croweburg	731.5'	1.51%	14.60%	14.83%
Mineral	772.0'	1.12%	13.27%	13.42%
Tebo	838.3'	1.29%	23.52%	23.83%
Weir-Pittsburg	847.0'	1.34%	7.44%	7.54%
Weir-Pittsburg	848.0'	2.05%	9.81%	10.01%
Bluejacket	888.2'	1.47%	22.83%	23.17%
Rowe	1003.7'	1.67%	18.14%	18.45%
Riverton	1053.7'	3.04%	18.95%	19.55%
Riverton	1054.7'	1.46%	14.87%	15.09%

According to the BTU/lb. (dry, ash-free) determinations, all the samples can be classified as high-volatile A bituminous coal. The dry, ash-free heating value of the Excello Shale sample, at 20,091 BTU/lb., is somewhat enigmatic. Nevertheless, this characteristic of giving a rather inflated calculation for this particular unit appears to be consistent, for a nearby well (the Layne-Christensen #1 Pierce well in sec. 16-T.31S.-R.17E.; also in Montgomery County) also yielded a high value for this measurement. These are the first two ashing measurements of the Excello Shale that has been brought to the attention of the Kansas Geological Survey, so the spatial extent of this behavior or its cause is not yet known. A possible explanation is that the Excello may contain considerable amount of oil, which may serve to increase its apparent heat content.

Using the equation from McLennan and others (1995):

$$G_c = G_{pc} (1-a_d)$$

where:
G_c = gas content, scf/ton
G_{pc} = "pure coal", gas content, scf/ton
a_d = dry ash content, weight fraction

the gas content of the samples converts to:

unit	*depth*	*moisture-free ash*	*Gc*	*Gpc*
Excello Shale	677.8'	85.66%	21.6 scf/ton	150.6 scf/ton
Excello Shale	681.5'	85.66%	16.1 scf/ton	112.3 scf/ton
Mulky	682.4'	17.24%	154.9 scf/ton	187.2 scf/ton
Iron Post	706.0'	6.52%	135.6 scf/ton	145.1 scf/ton
Croweburg	731.5'	14.83%	118.5 scf/ton	139.1 scf/ton
Mineral	772.0'	13.42%	148.6 scf/ton	171.6 scf/ton
Tebo	838.3'	23.83%	119.0 scf/ton	156.2 scf/ton
Weir-Pittsburg	847.0'	7.54%	135.9 scf/ton	147.0 scf/ton
Weir-Pittsburg	848.0'	10.01%	139.5 scf/ton	155.0 scf/ton
Bluejacket	888.2'	23.17%	72.9 scf/ton	94.9 scf/ton
Rowe	1003.7'	18.45%	215.3 scf/ton	264.0 scf/ton
Riverton	1053.7'	19.55%	120.9 scf/ton	150.3 scf/ton
Riverton	1054.7'	15.09%	125.3 scf/ton	147.6 scf/ton

Samples were also tested for their density. Dried samples were weighed and immersed in water in a beaker filled to its brim. With placing the sample in the beaker, the displaced water was spilled from the beaker and subsequently weighed. The volume of the sample is thus easily converted to volume using 1 gram/cc for the density of the water. The following density measurements were calculated:

unit	*depth*	*density and uncertainty*
Excello Shale	677.8'	2.20 g/cc ± 0.05
Excello Shale	681.5'	2.38 g/cc ± 0.06
Mulky	682.4'	1.34 g/cc ± 0.01
Iron Post	706.0'	1.30 g/cc ± 0.05
Croweburg	731.5'	1.36 g/cc ± 0.02
Mineral	772.0'	1.32 g/cc ± 0.05

Tebo	838.3'	1.34 g/cc ± 0.05
Weir-Pittsburg	847.0'	1.27 g/cc ± 0.03
Weir-Pittsburg	848.0'	1.35 g/cc ± 0.01
Bluejacket	888.2'	1.47 g/cc ± 0.03
Rowe	1003.7'	1.38 g/cc ± 0.01
Riverton	1053.7'	1.43 g/cc ± 0.01
Riverton	1054.7'	1.46 g/cc ± 0.05

Compositional and isotopic chemistry were performed on five gas samples. These analyses are in Appendix II and were performed by Isotech Laboratories in Champaign, IL.

Isotopic Analyses

Analysis	**Mulky (682.4')**	**Mineral (777.0')**	**Weir-Pitt (847.0')**	**Rowe (1003.7')**	**Riverton (1054.7')**
$\delta^{13}CO_2$	3.12	3.79	-0.75	-3.42	-8.23
$\delta^{13}C_{methane}$	-60.08	-64.58	-55.05	-60.46	-65.26
$\delta DC_{methane}$	-227.5	-221.6	-214.5	-212.5	-222.7

Chemical Analyses (as reported; red = hydrocarbons; blue = non hydrocarbons, green = oxygen)

Component (%)	**Mulky**	**Mineral**	**Weir-Pitt**	**Rowe**	**Riverton**
Methane	94.21	94.83	94.38	95.47	92.93
Ethane	1.18	0.77	0.90	1.12	0.99
Propane	0.43	0.26	0.56	0.048	0.82
n-Butane	0.13	0.078	0.21	0.0025	0. 19
iso-Butane	0.036	0.021	0.048	0.0055	0.065
n-Pentane	0.018	0.012	0.026	0.0000	0.023
iso-Pentane	0.013	0.0085	0.0210	0.0000	0.022
Hexane+	0.0092	0.0072	0.015	0.0011	0.013
Nitrogen	1.84	1.91	2.61	2.47	3.50
Oxygen	0.41	0.51	0.30	0.073	0.15
Argon	0.034	0.037	0.035	0.025	0.042
Hydrogen	0.025	0.094	0.0072	0.11	0.0
Carbon Dioxide	1.66	1.46	0.89	0.67	1.26
Helium	0	0	0.0019	0	0

Chemical Analyses (recalculated after removing atmospheric contamination; red = hydrocarbons; blue = non hydrocarbons)

Component (%)[1]	**Mulky**	**Mineral**	**Weir-Pitt**	**Rowe**	**Riverton**
Methane	96.09	97.20	95.75	95.81	93.59
Ethane	1.20	0.79	0.91	1.12	1.00
Propane	0.44	0.27	0.57	0.048	0.83
n-Butane	0.13	0.080	0.21	0.0025	0. 19
iso-Butane	0.037	0.022	0.049	0.0055	0.065
n-Pentane	0.018	0.012	0.026	0.0000	0.023
iso-Pentane	0.013	0.0087	0.0213	0.0000	0.022

Hexane+	0.0094	0.0074	0.015	0.0011	0.013
Nitrogen	0.32	0.01	1.51	2.27	2.96
Argon	0.016	0.015	0.022	0.022	0.036
Hydrogen	0.025	0.096	0.0073	0.11	0.0
Carbon Dioxide	1.69	1.50	0.90	0.67	1.27
Helium	0	0	0.0019	0	0

[1]atmospheric component (based on oxygen content) subtracted from the analysis, with components recalculated to 100%

OtherIsotech Data

	Mulky	**Mineral**	**Weir-Pitt**	**Rowe**	**Riverton**
Specific Gravity	0.593	0.587	0.590	0.577	0.599

Summary

	Mulky	**Mineral**	**Weir-Pitt**	**Rowe**	**Riverton**
Calculated BTU	1057	1054	1056	1035	1041
Total % non-HCs	2.05	1.62	2.45	3.01	4.27
HC Wetness (%)	1.89	1.21	1.85	1.22	2.23

Plotting of the isotopes and gas wetness (Figure 28) indicates that the gas is of mixed biogenic and thermogenic origin. Although isotopically the gases are mostly biogenic, the hydrocarbon wetness indicates some thermogenic influence.

An estimate of gas reserves per acre for the coals and shales tested can be made using thickness, density, and gas content data:

unit	*thickness*[1]	*coal/shale per acre*		*gas per acre*
	(ft)	*(ft^3)*[2]	*(ton)*[3]	*(thousand cubic ft)*[4]
Excello Shale	5.2	226,512	16,191	307.6[5]
Mulky	0.9	39,204	1,640	254.0
Iron Post	1.3	56,628	2,298	311.6
Croweburg	0.6	26,136	1,110	131.5
Mineral	1.9	82,764	3,410	506.7
Tebo	1.1	47,916	2,004	238.5
Weir-Pittsburg	1.9	82,764	3,384	466.0[6]
Bluejacket	0.9	39,204	1,799	131.1
Rowe	1.1	47,916	2,064	444.4
Riverton	2.2	95,832	4,337	533.9[7]

[1]thicknesses (ft) from Rolland Yoakum, Layne Energy (personal communication, 2005)
[2]thickness (ft) X 43,560 ft^2/acre
[3]ft^3 coal or shale per acre X density (g/cm^3) X (1/ 907,168 g/ton) X 28,317 cm^3/ft^3
[4]tons coal or shale per acre X gas content (ft^3/ton)
[5]averaged density (2.29 g/cm^3) and gas content (19.0 ft^3/ton) used
[6]averaged density (1.31 g/cm^3) and gas content (137.7 ft^3/ton) used
[7]averaged density (1.45 g/cm^3) and gas content (123.1 ft^3/ton) used

Sorption times (time required to desorb 63.2% of the total gas content) for the samples are as follows (see Figure 26):

unit	*depth*	*sorption time (days)*
Excello Shale	677.8'	182.6
Excello Shale	681.5'	17.7
Mulky	682.4'	12.8
Iron Post	706.0'	63.5
Croweburg	731.5'	16.3
Mineral	772.0'	36.7
Tebo	838.3'	23.4
Weir-Pittsburg	847.0'	27.6
Weir-Pittsburg	848.0'	20.3
Bluejacket	888.2'	42.8
Rowe	1003.7'	10.1
Riverton	1053.7'	13.0
Riverton	1054.7'	10.6

The large span for desorption time for the Excello Shale is puzzling. A possible explanation is that the sample from 681.5' was giving off gas so slowly that its full gas desorption was not realized before it was decanistered. Its sorption time may therefore be drastically underestimated, and its gas content may be more like that of the Excello Shale sample taken above it (i.e., 21.6 scf/ton as opposed to 16.1 scf/ton).

A reserves versus sorption time diagram is shown in Figure 29.

REFERENCES

Dake, L.P., 1978, Fundamentals of Reservoir Engineering, Elsevier Scientific Publishing, New York, NY, 443 p.

Johnson, T.A., 2004, Stratigraphy, depositional environments, and coalbed gas potential of Middle Pennsylvanian (Desmoinesian Stage) coals -- Bourbon Arch region, eastern Kansas: unpublished M.S. thesis, University of Kansas, Lawrence, KS, 309 p.

Kissel, F.N., McCulloch, C.M., and Elder, C.H., 1975, The direct method of determining methane content of coals for ventilation design: U.S. Bureau of Mines, Report of Investigations, RI7767.

McLennan, J.D., Schafer, P.S., and Pratt, T.J., 1995, A guide to determining coalbed gas content: Gas Research Institute, Chicago, IL, Reference No. GRI-94/0396, 180 p.

FIGURES, TABLES, and APPENDICES

Correlation of Field Barometer to KGS Petrophysics Lab Barometer

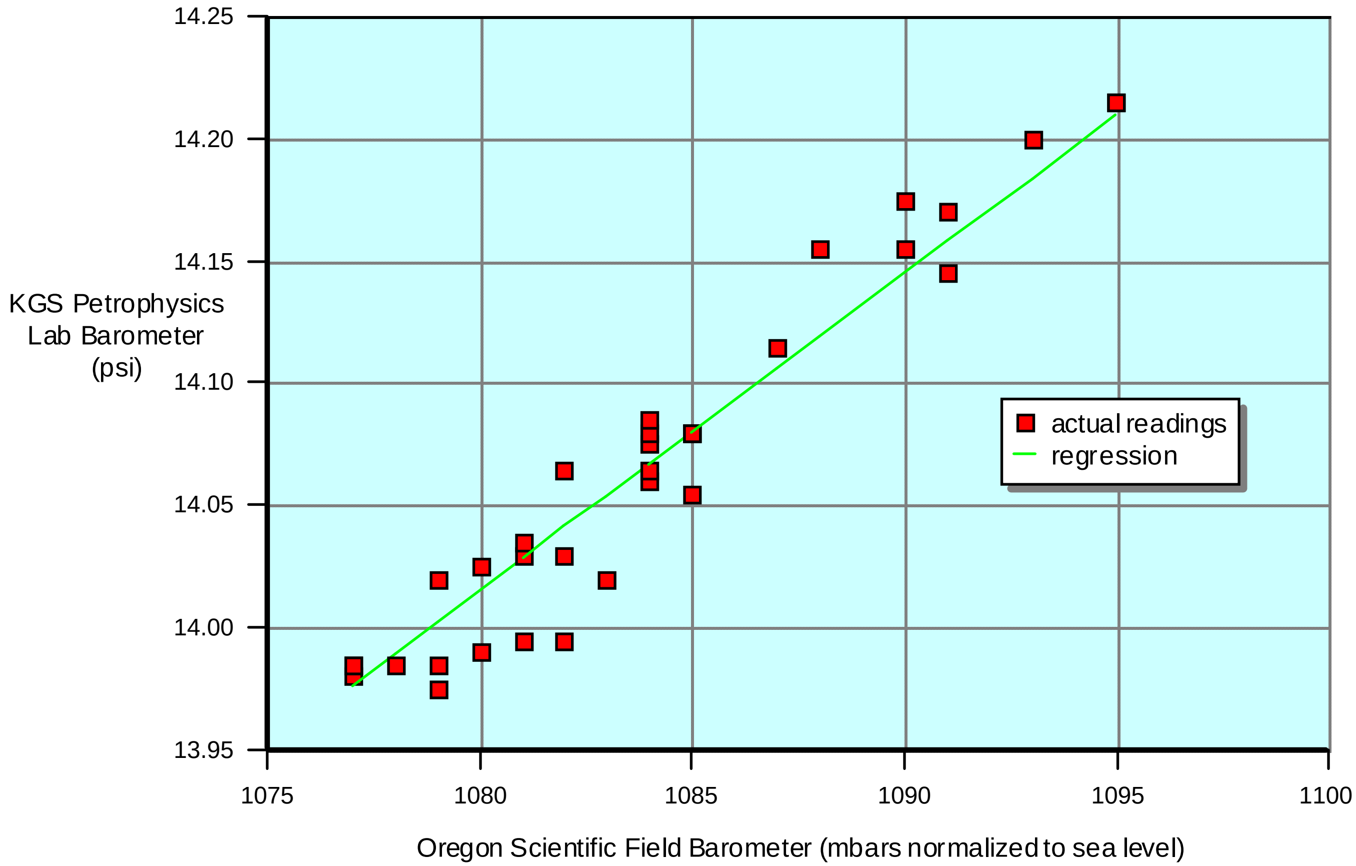


FIGURE 1.

677.8' to 678.8' (Excello Shale) in canister MER B
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.

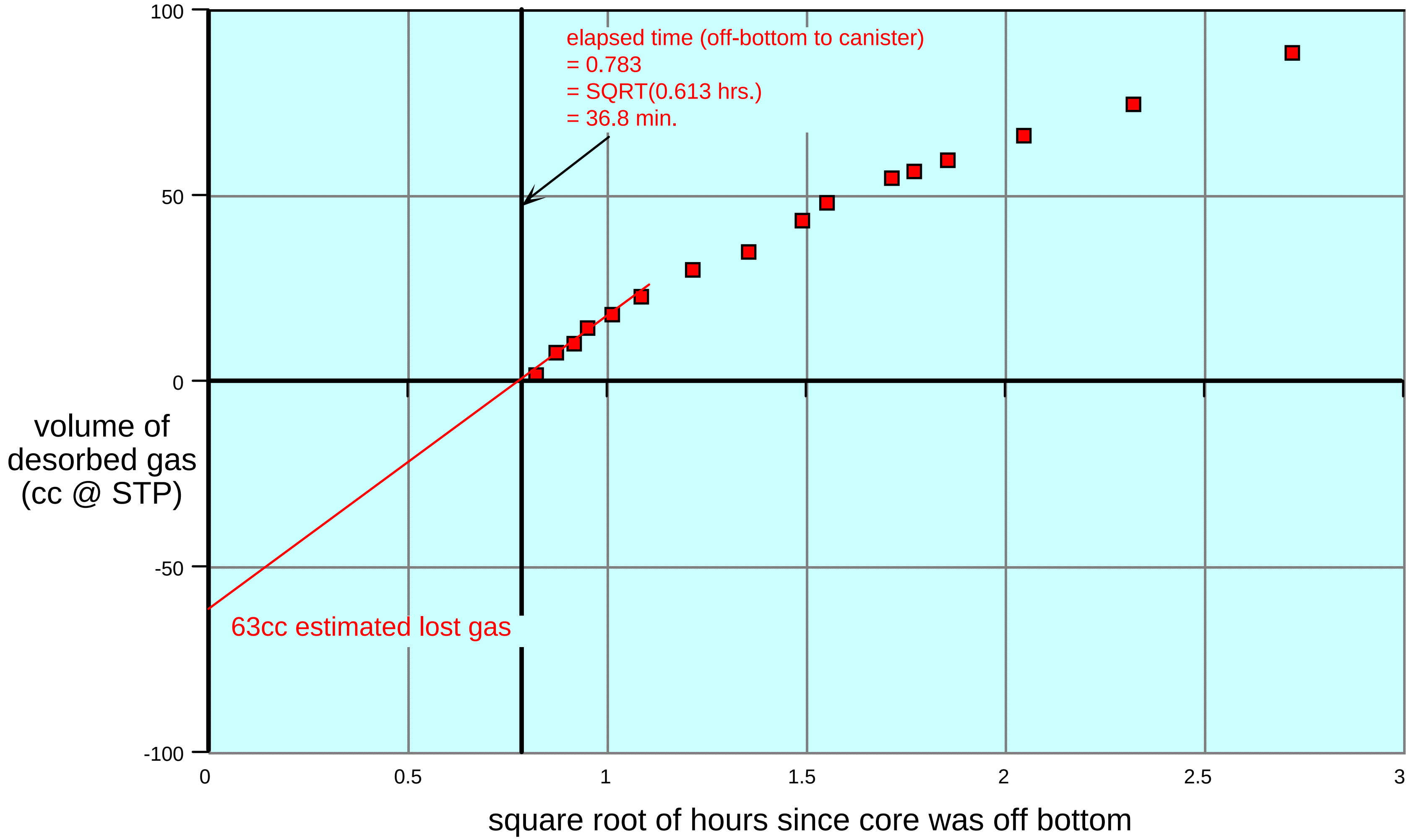
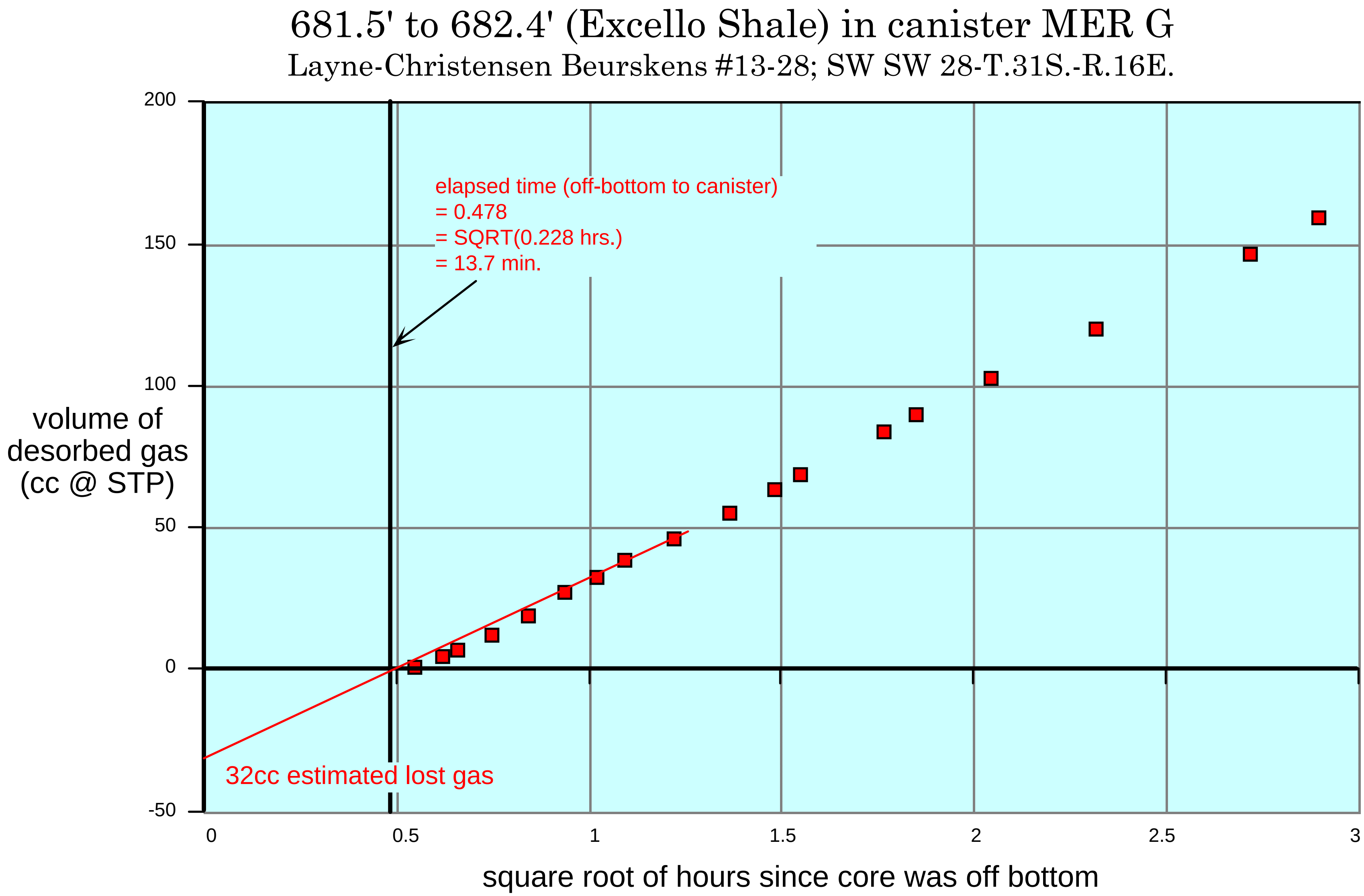


Figure 2.



681.5' to 682.4' (Excello Shale) in canister MER G
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.
elapsed time (off-bottom to canister)
= 0.478
= SQRT(0.228 hrs.)
= 13.7 min.
32cc estimated lost gas
volume of desorbed gas (cc @ STP)
square root of hours since core was off bottom
200
150
100
50
0
-50
0
0.5
1
1.5
2
2.5
3

Figure 3.

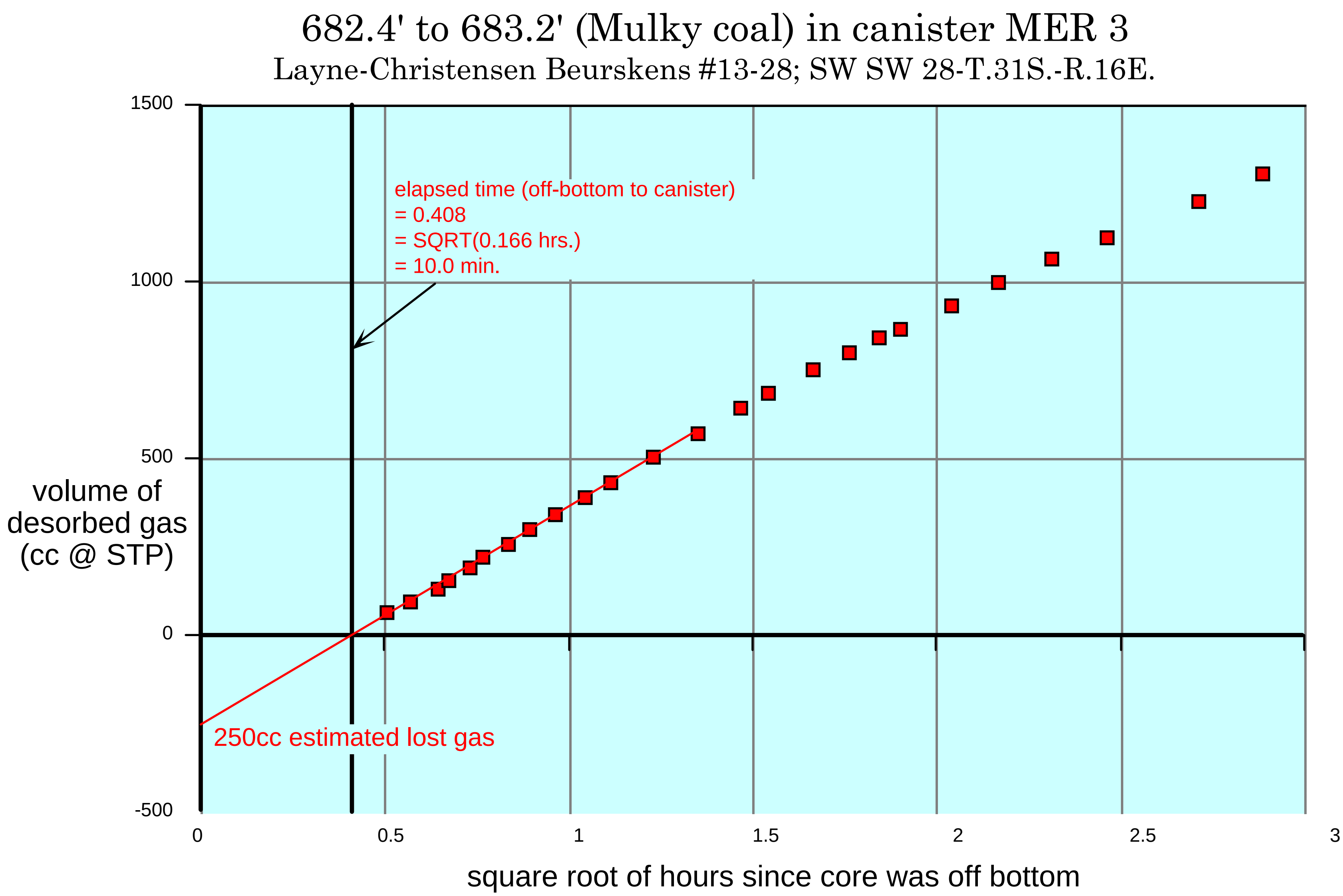

682.4' to 683.2' (Mulky coal) in canister MER 3
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.
1500
1000
500
0
-500
volume of desorbed gas (cc @ STP)
elapsed time (off-bottom to canister)
= 0.408
= SQRT(0.166 hrs.)
= 10.0 min.
250cc estimated lost gas
0
0.5
1
1.5
2
2.5
3
square root of hours since core was off bottom

Figure 4.

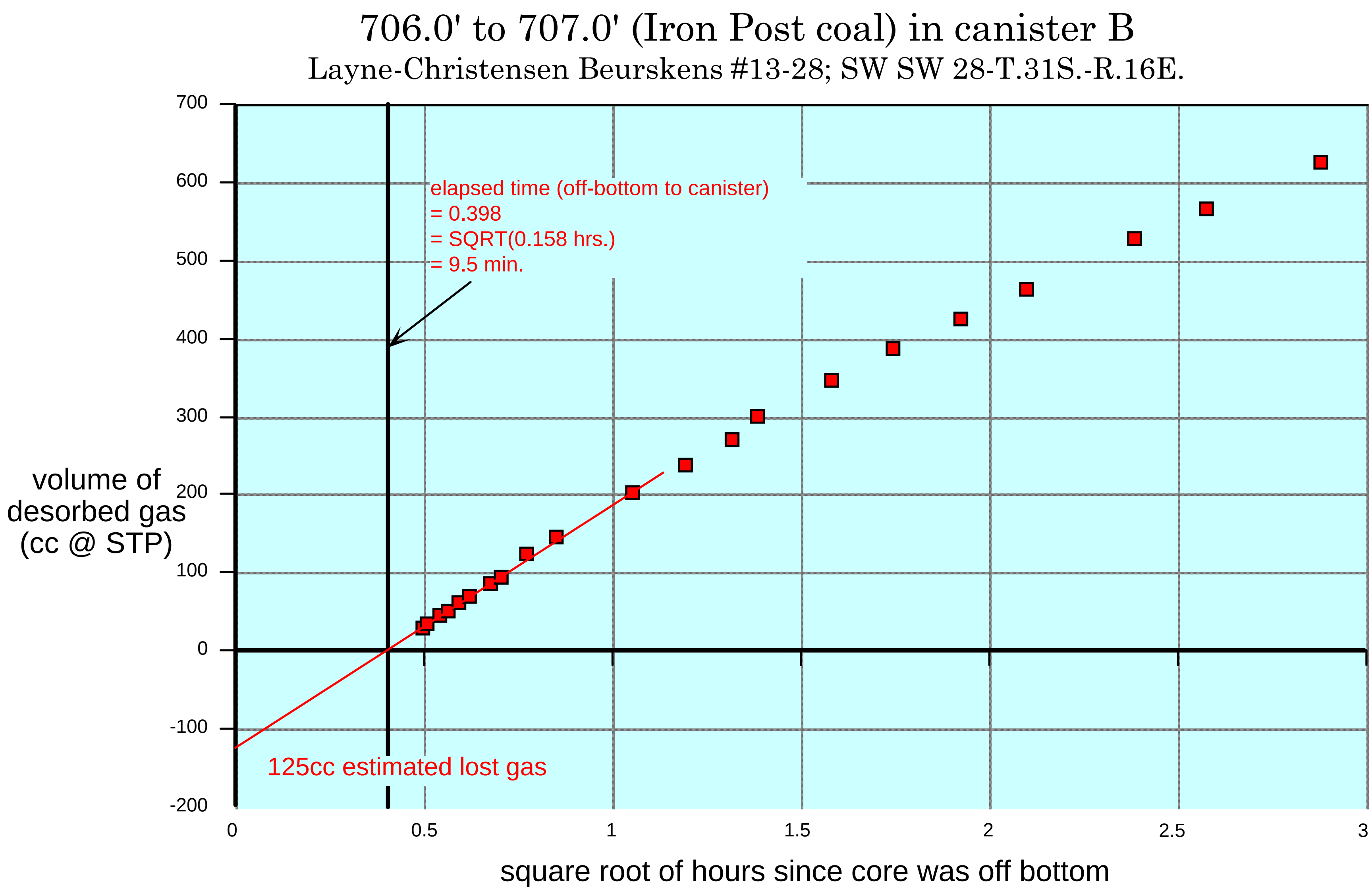
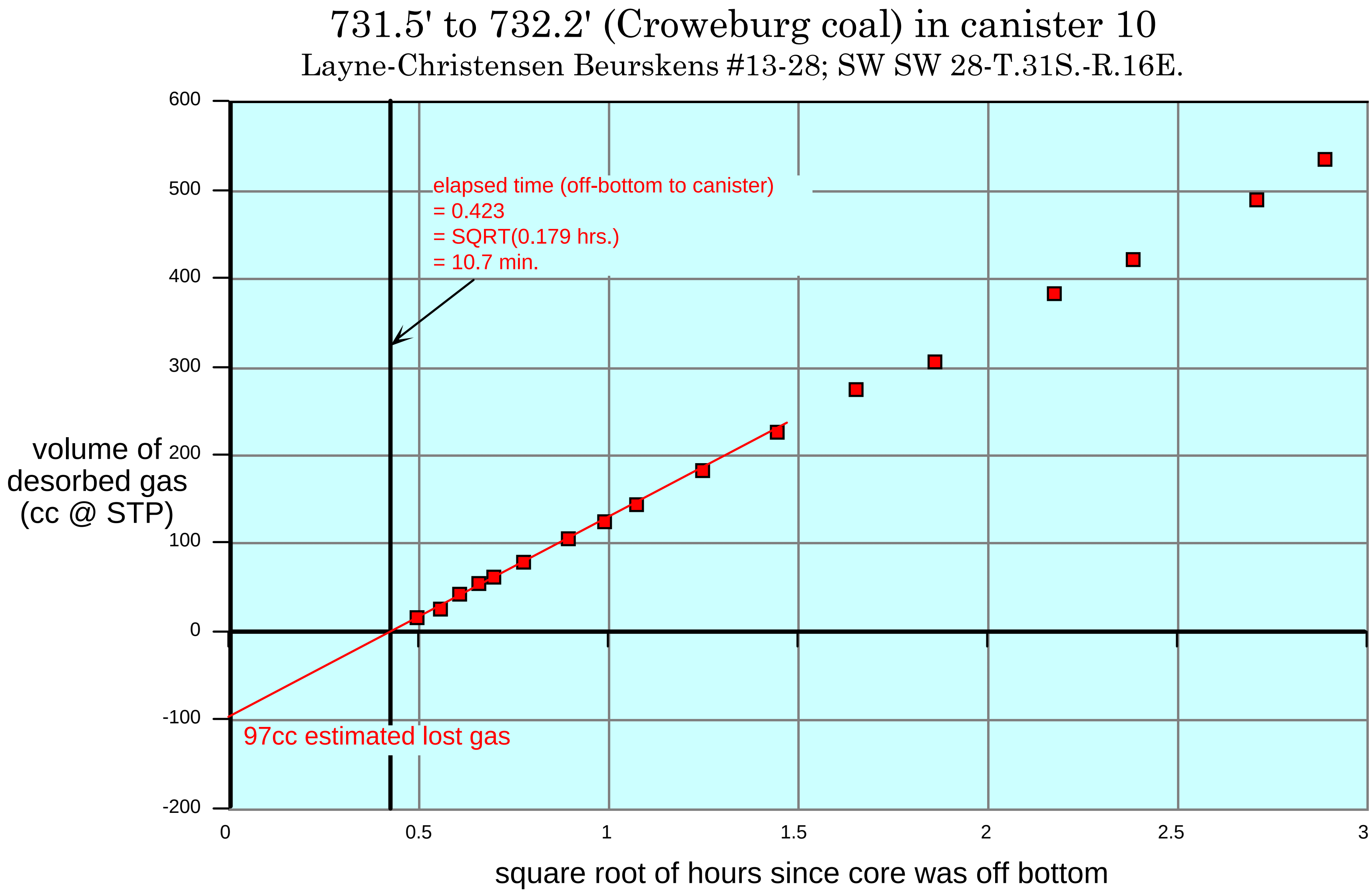

706.0' to 707.0' (Iron Post coal) in canister B
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.
volume of desorbed gas (cc @ STP)
700
600
500
400
300
200
100
0
-100
-200
0
0.5
1
1.5
2
2.5
3
elapsed time (off-bottom to canister)
= 0.398
= SQRT(0.158 hrs.)
= 9.5 min.
125cc estimated lost gas
square root of hours since core was off bottom

Figure 5.



731.5' to 732.2' (Croweburg coal) in canister 10
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.
volume of desorbed gas (cc @ STP)
600
500
400
300
200
100
0
-100
-200
elapsed time (off-bottom to canister)
= 0.423
= SQRT(0.179 hrs.)
= 10.7 min.
97cc estimated lost gas
0
0.5
1
1.5
2
2.5
3
square root of hours since core was off bottom

Figure 6.

772.0' to 773.0' (Mineral coal) in canister 11
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.

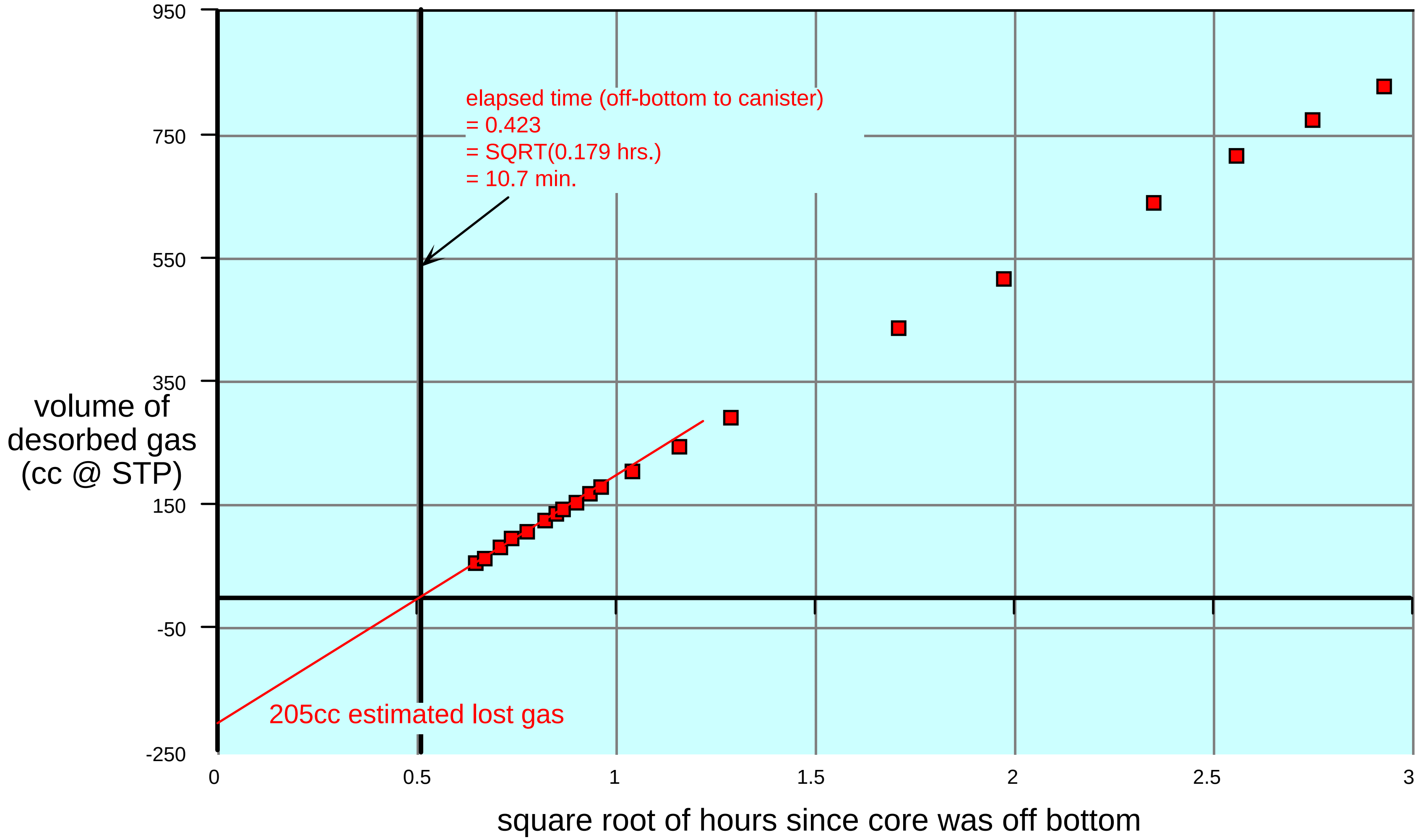
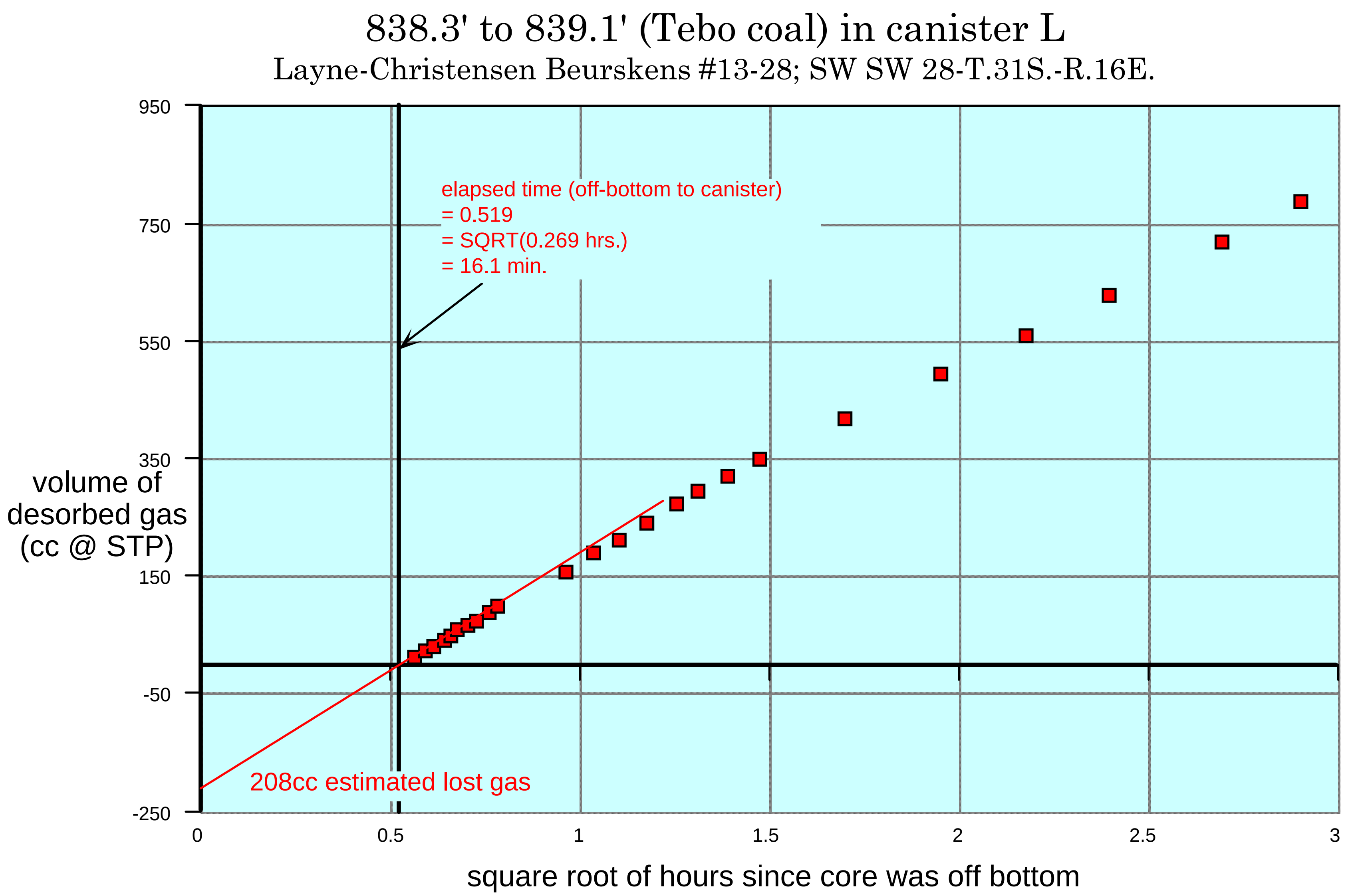


Figure 7.



838.3' to 839.1' (Tebo coal) in canister L
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.
elapsed time (off-bottom to canister)
= 0.519
= SQRT(0.269 hrs.)
= 16.1 min.
208cc estimated lost gas
volume of desorbed gas (cc @ STP)
950
750
550
350
150
-50
-250
0
0.5
1
1.5
2
2.5
3
square root of hours since core was off bottom

Figure 8.

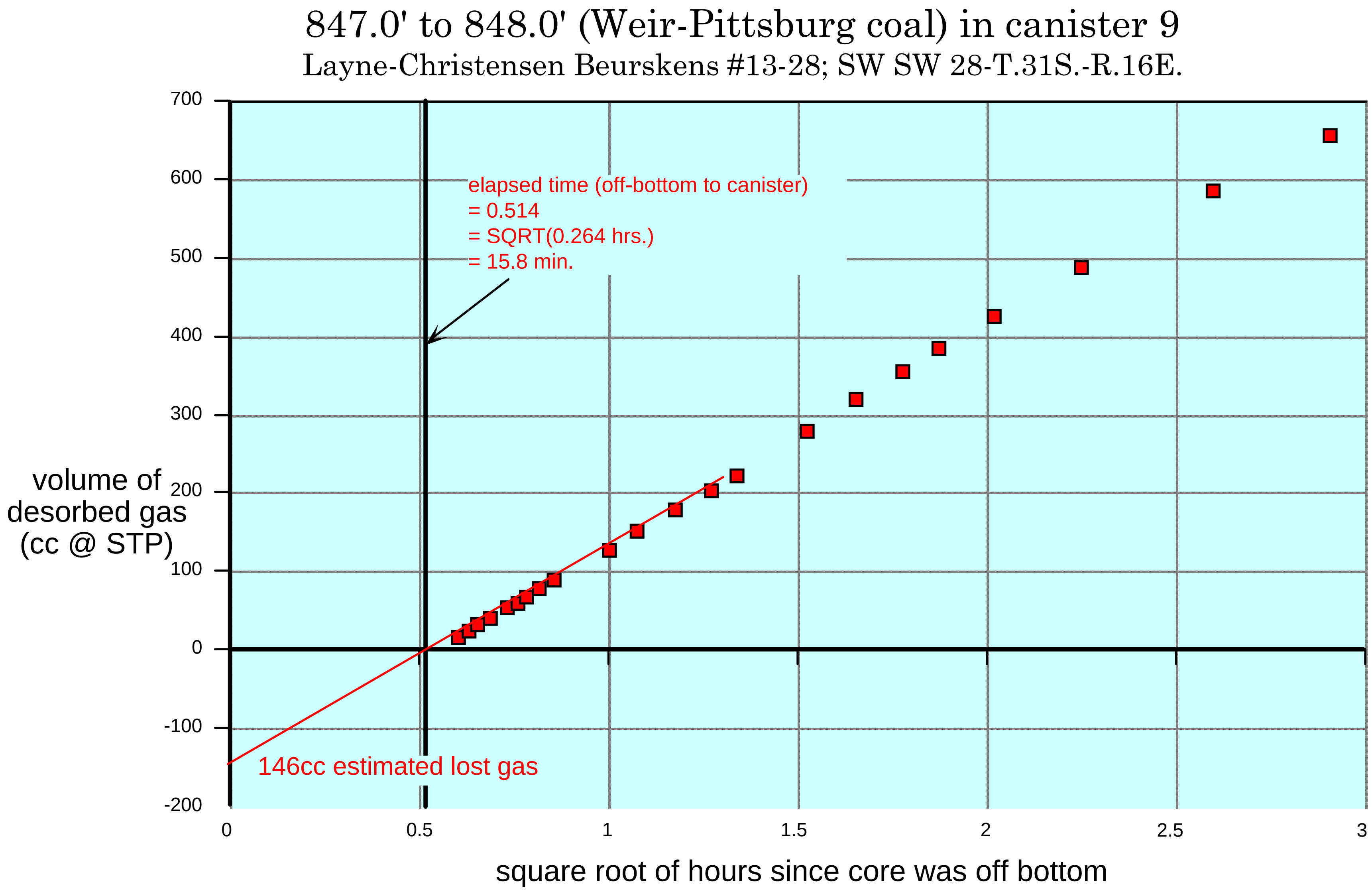

847.0' to 848.0' (Weir-Pittsburg coal) in canister 9
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.
volume of desorbed gas (cc @ STP)
700
600
500
400
300
200
100
0
-100
-200
elapsed time (off-bottom to canister)
= 0.514
= SQRT(0.264 hrs.)
= 15.8 min.
146cc estimated lost gas
0
0.5
1
1.5
2
2.5
3
square root of hours since core was off bottom

Figure 9.

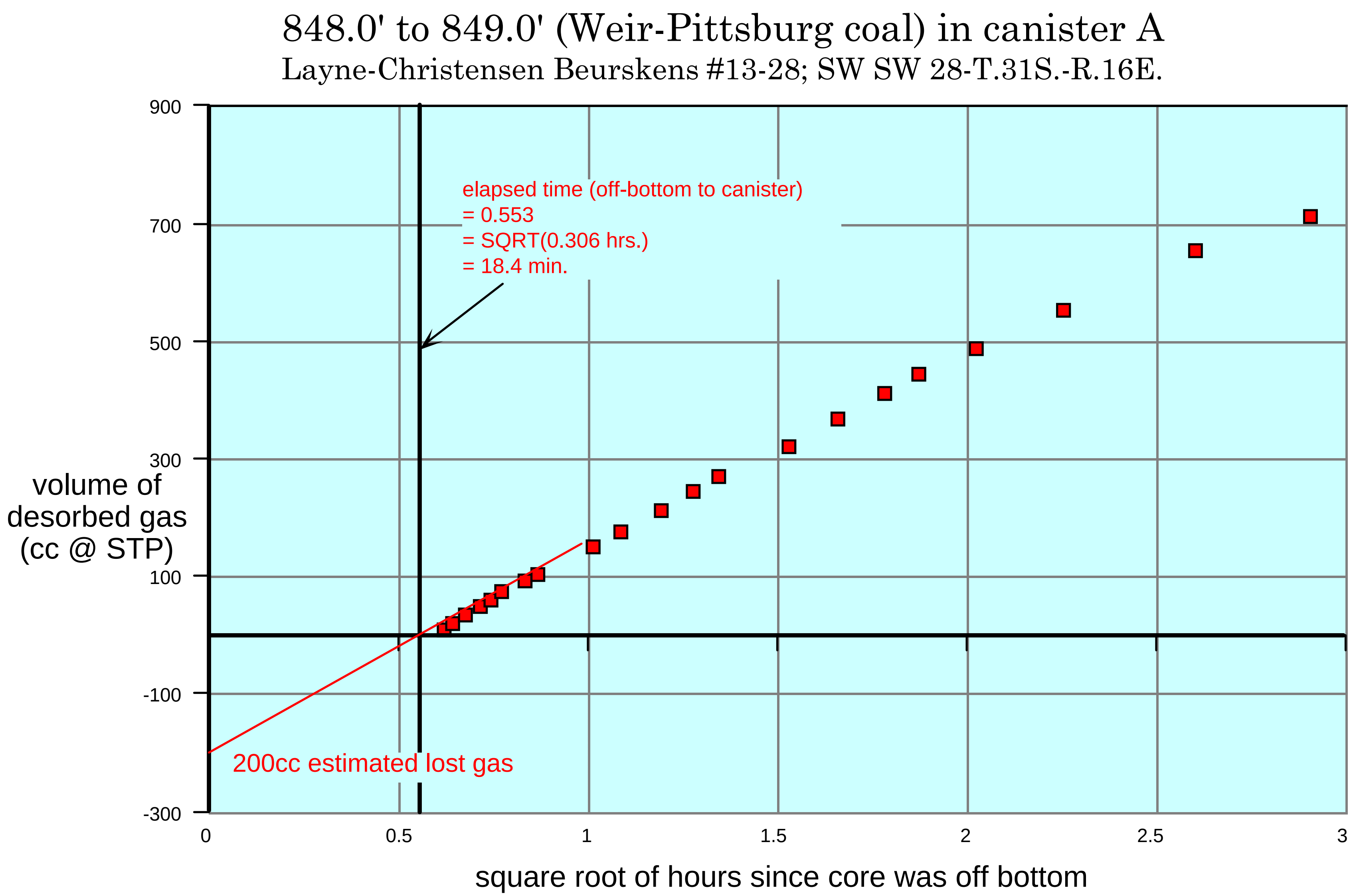

848.0' to 849.0' (Weir-Pittsburg coal) in canister A
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.
volume of desorbed gas (cc @ STP)
900
700
500
300
100
-100
-300
0
0.5
1
1.5
2
2.5
3
elapsed time (off-bottom to canister)
= 0.553
= SQRT(0.306 hrs.)
= 18.4 min.
200cc estimated lost gas
square root of hours since core was off bottom

Figure 10.

888.2' to 889.2' (Bluejacket coal) in canister MER E

Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.

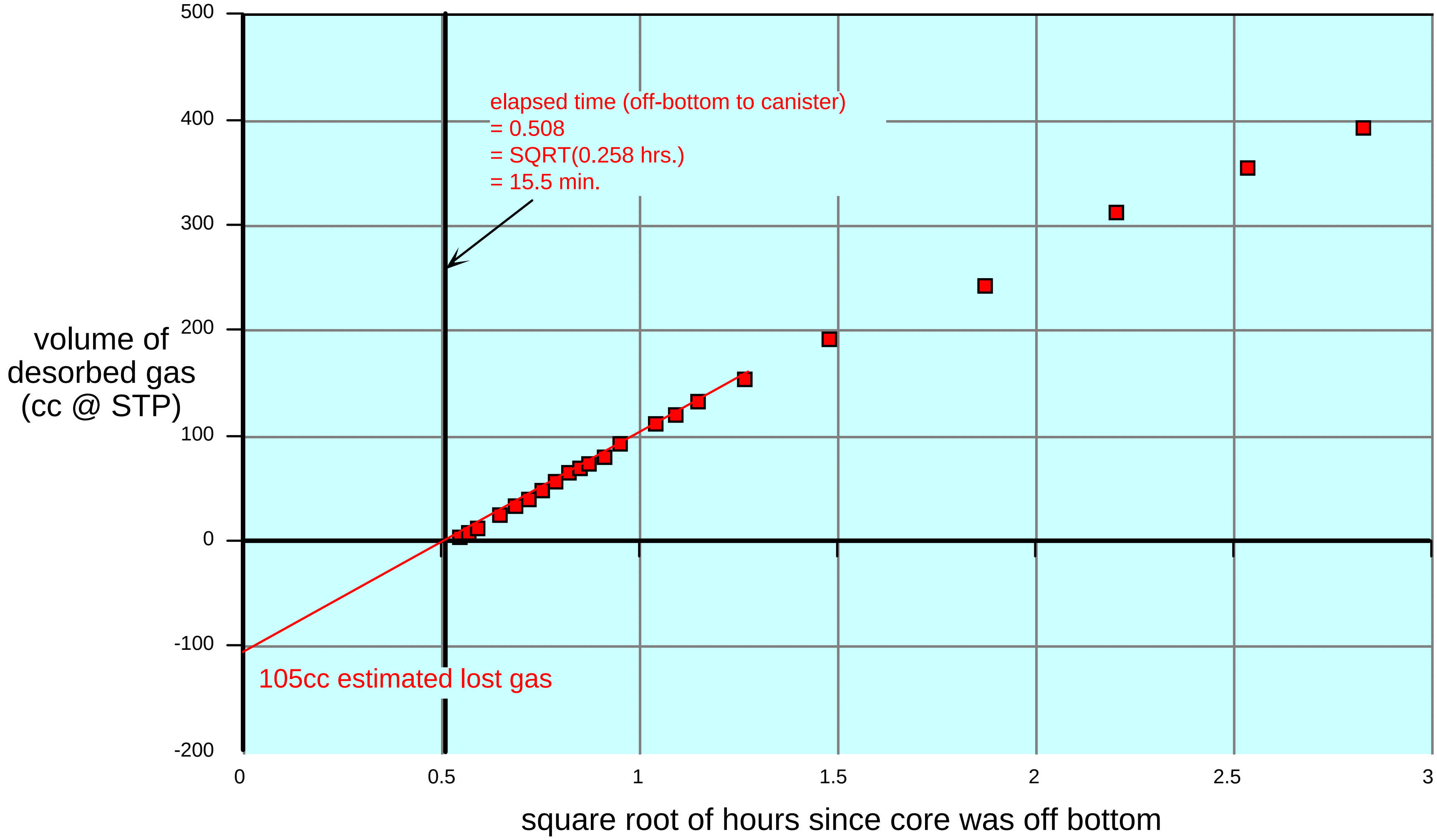
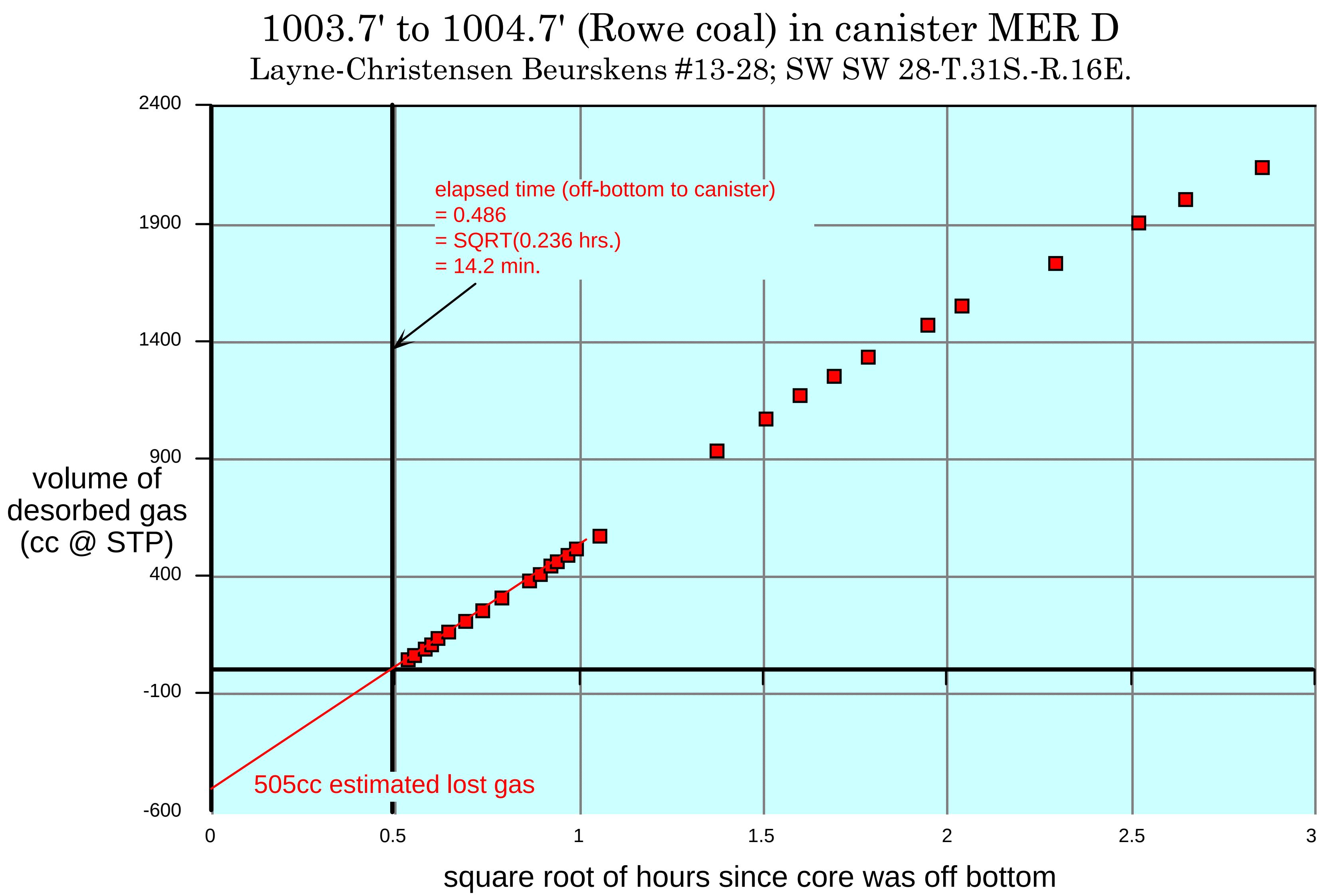


Figure 11.



1003.7' to 1004.7' (Rowe coal) in canister MER D
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.
elapsed time (off-bottom to canister)
= 0.486
= SQRT(0.236 hrs.)
= 14.2 min.
505cc estimated lost gas
volume of desorbed gas (cc @ STP)
2400
1900
1400
900
400
-100
-600
0
0.5
1
1.5
2
2.5
3
square root of hours since core was off bottom

Figure 12.

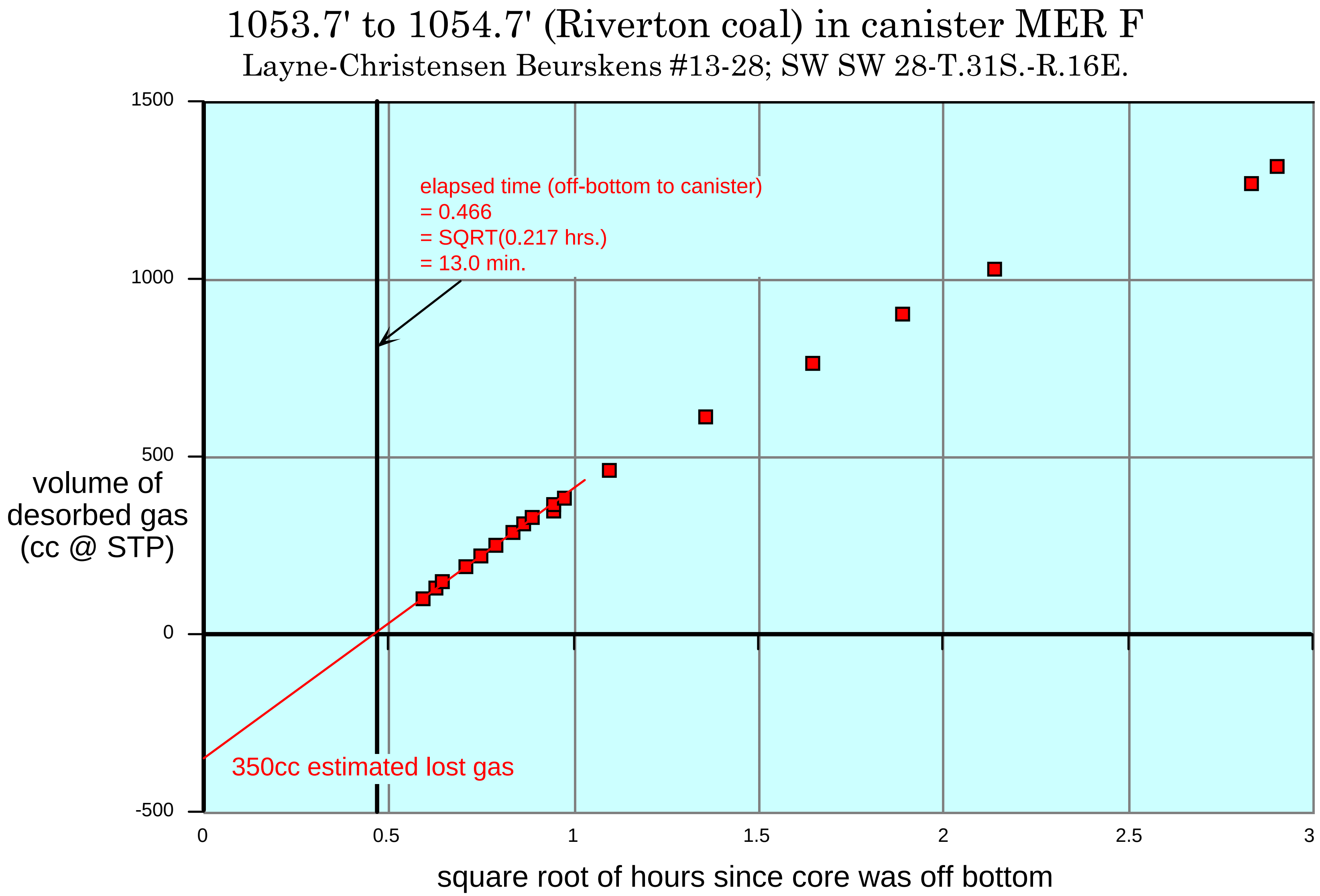

1053.7' to 1054.7' (Riverton coal) in canister MER F
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.
1500
1000
500
0
-500
volume of desorbed gas (cc @ STP)
elapsed time (off-bottom to canister)
= 0.466
= SQRT(0.217 hrs.)
= 13.0 min.
350cc estimated lost gas
0
0.5
1
1.5
2
2.5
3
square root of hours since core was off bottom

Figure 13.

1054.7' to 1055.7' (Riverton coal) in canister 5

Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E.

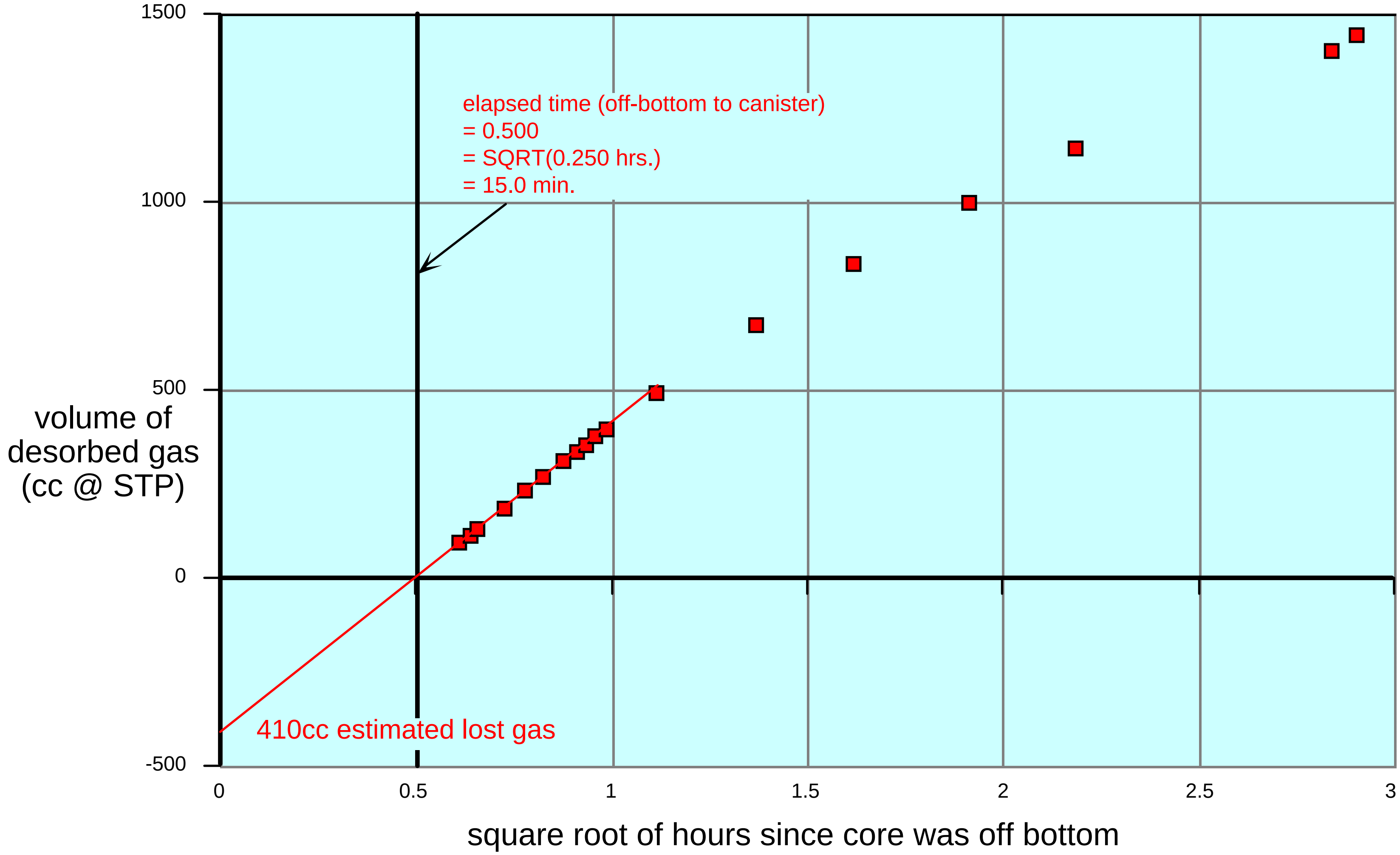


Figure 14.

Desorption Characteristics of Excello Shale (677.8' to 682.4')

Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E., Montgomery Co., KS

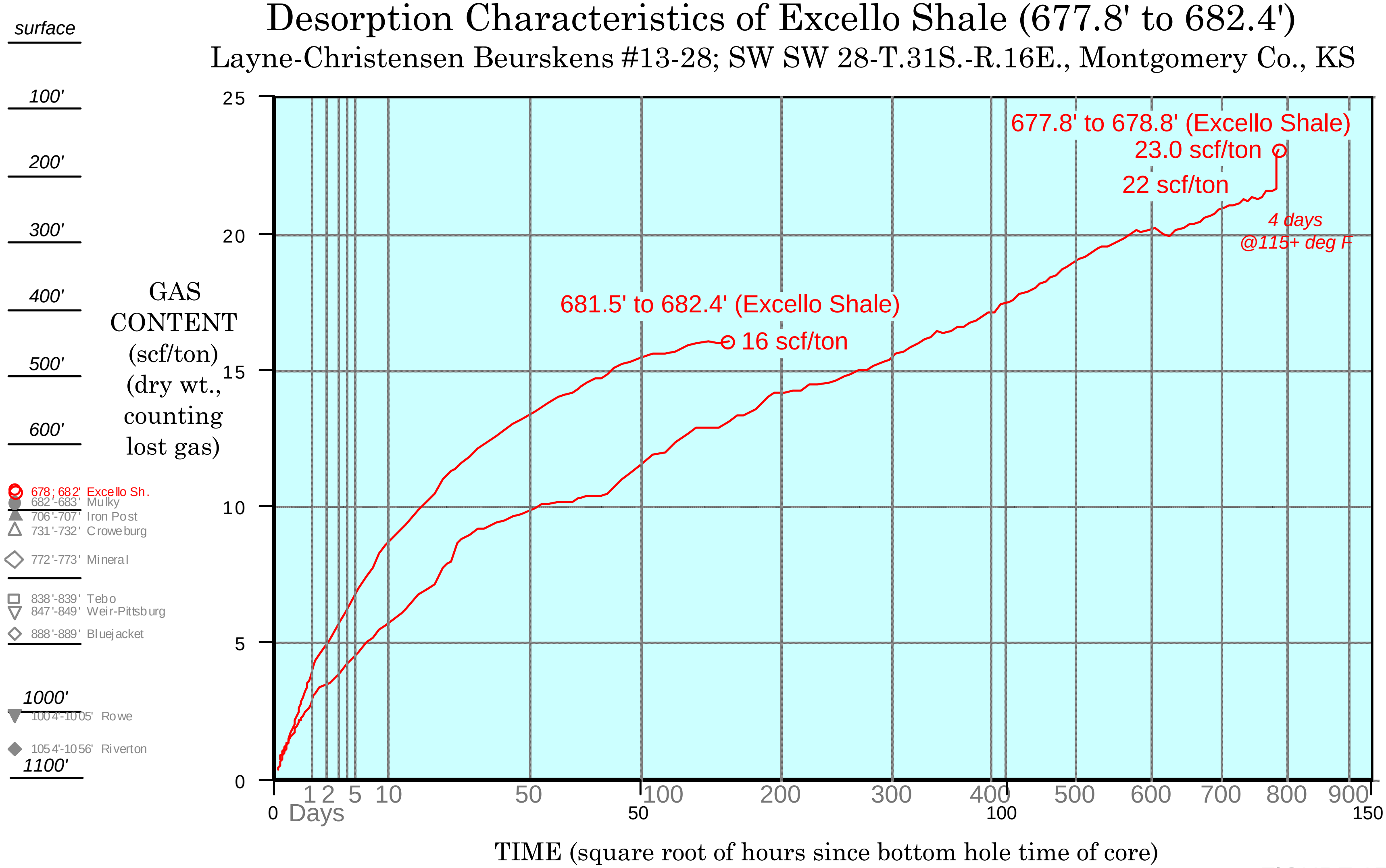


FIGURE 15.

Desorption Characteristics of Mulky coal (682.4' to 683.2')

Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E., Montgomery Co., KS

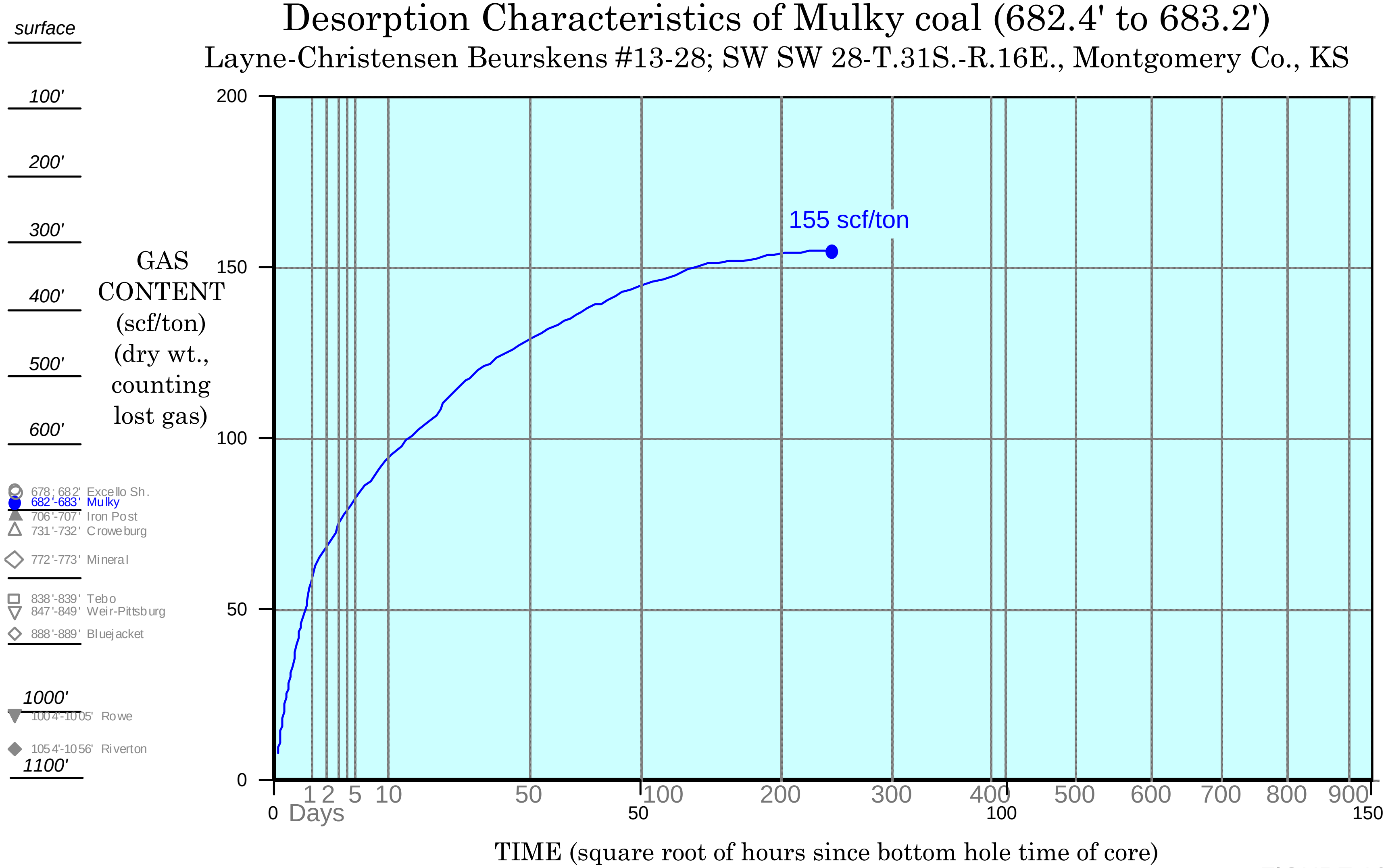


FIGURE 16.

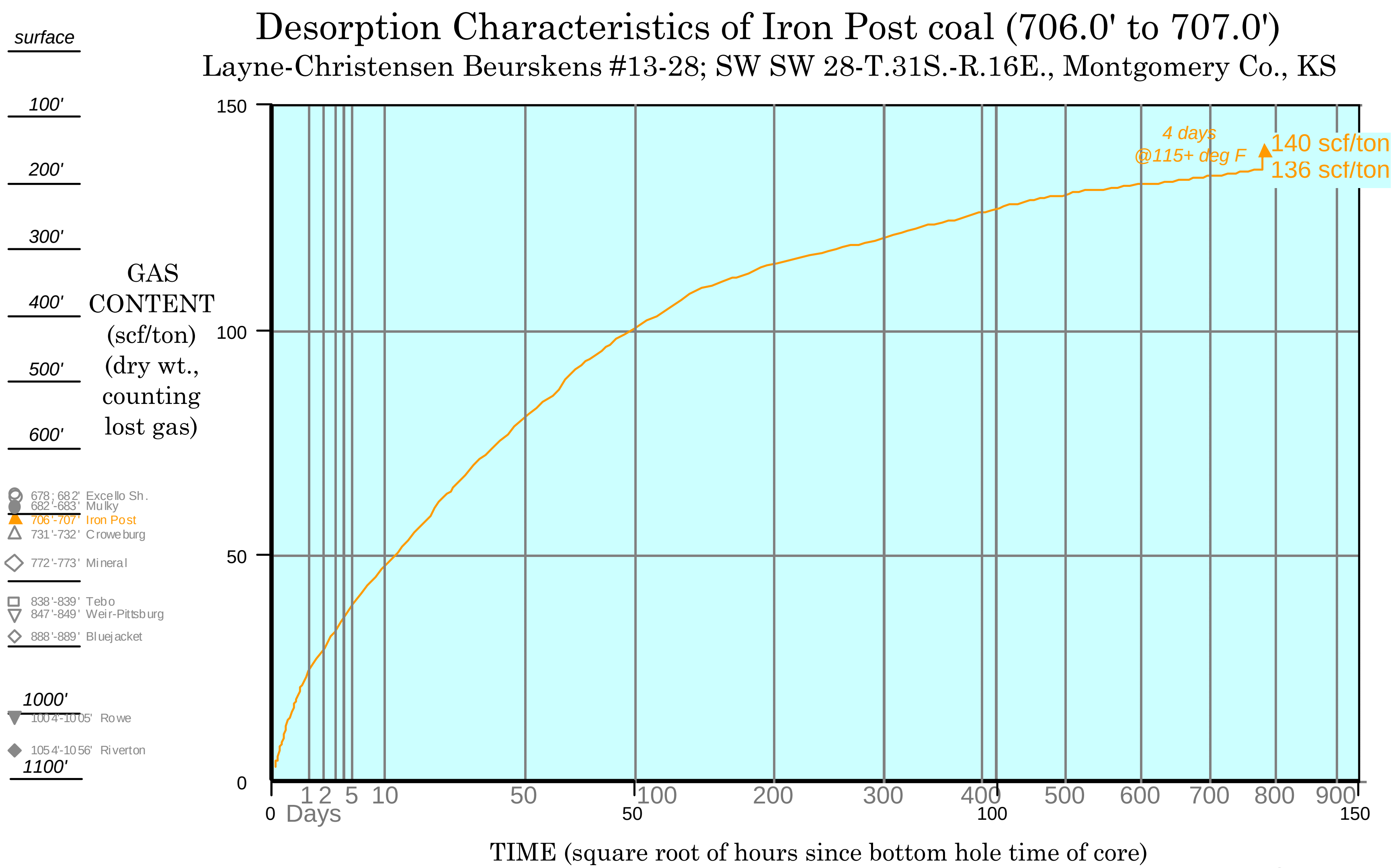
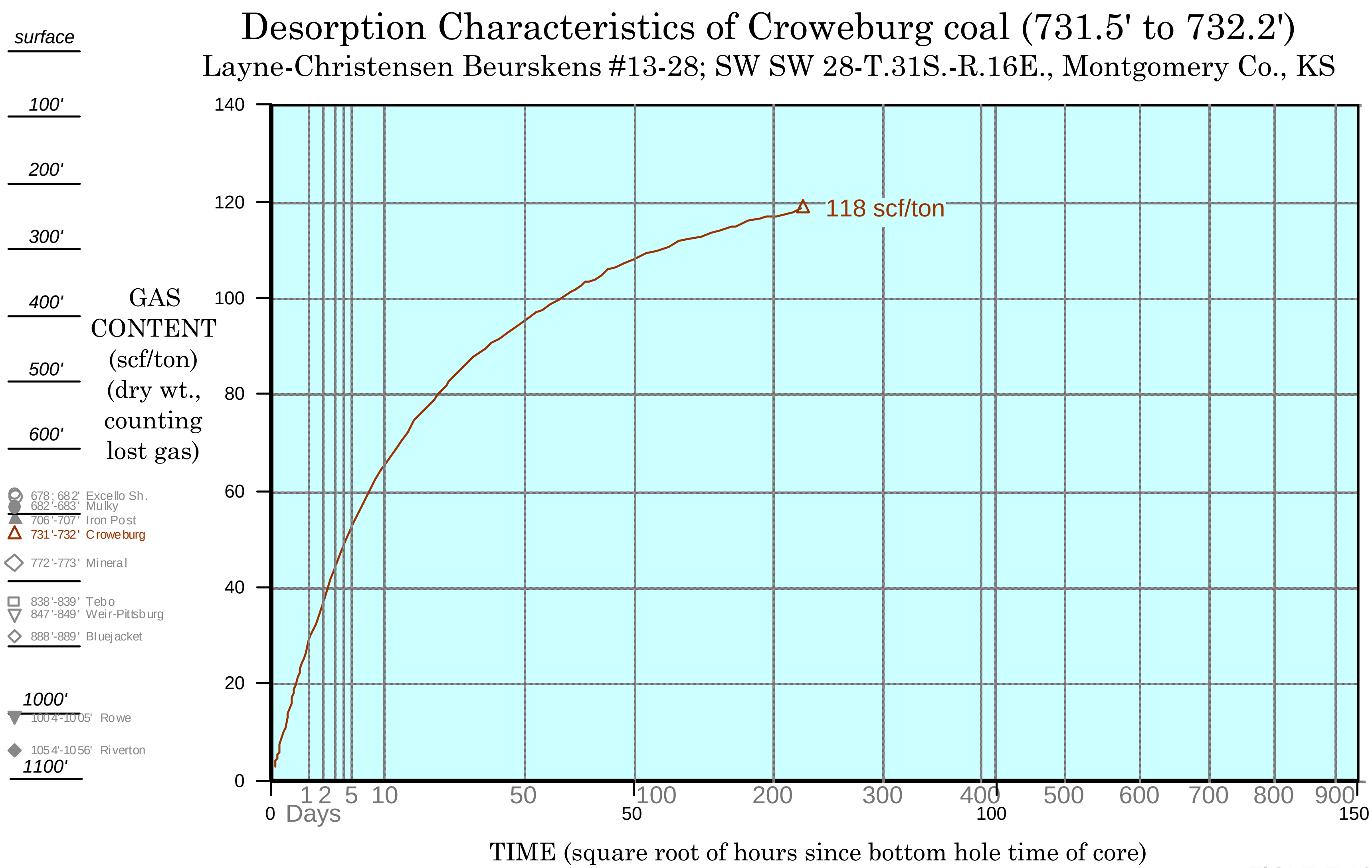
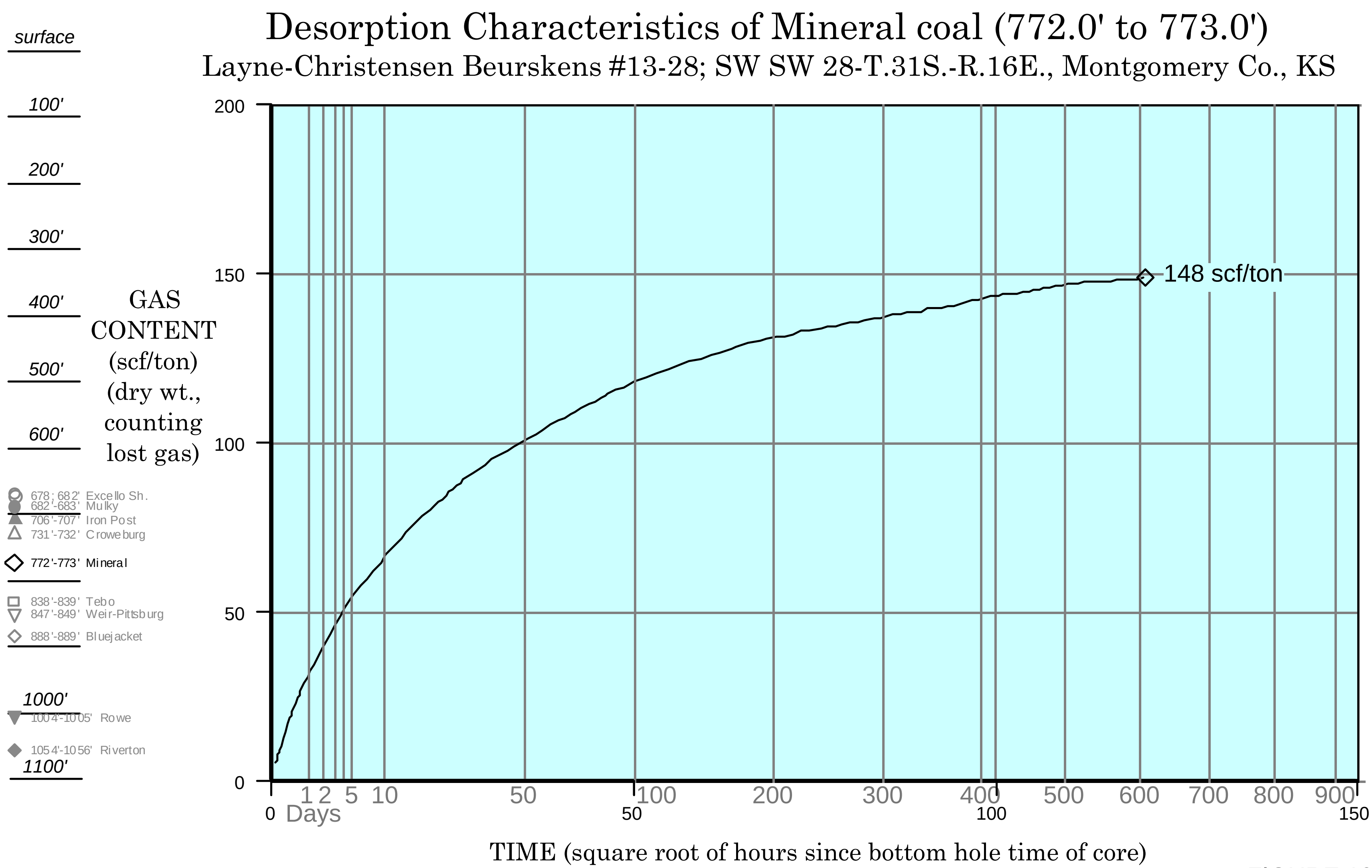

Desorption Characteristics of Iron Post coal (706.0' to 707.0')
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E., Montgomery Co., KS
surface
100'
200'
300'
400'
500'
600'
1000'
1100'
678'; 682' Excello Sh.
682'-683' Mulky
706'-707' Iron Post
731'-732' Croweburg
772'-773' Mineral
838'-839' Tebo
847'-849' Weir-Pittsburg
888'-889' Bluejacket
1004'-1005' Rowe
1054'-1056' Riverton
GAS CONTENT (scf/ton) (dry wt., counting lost gas)
150
100
50
0
4 days
@115+ deg F
140 scf/ton
136 scf/ton
1 2 5 10 50 100 200 300 400 500 600 700 800 900
Days
0 50 100 150
TIME (square root of hours since bottom hole time of core)

FIGURE 17.



Desorption Characteristics of Croweburg coal (731.5' to 732.2')
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E., Montgomery Co., KS
surface
100'
200'
300'
400'
500'
600'
1000'
1100'
678'-682' Excello Sh.
682'-683' Mulky
706'-707' Iron Post
731'-732' Croweburg
772'-773' Mineral
838'-839' Tebo
847'-849' Weir-Pittsburg
888'-889' Bluejacket
1004'-1005' Rowe
1054'-1056' Riverton
GAS CONTENT (scf/ton) (dry wt., counting lost gas)
140
120
100
80
60
40
20
0
118 scf/ton
1 2 5 10 50 100 200 300 400 500 600 700 800 900
Days
0
50
100
150
TIME (square root of hours since bottom hole time of core)

FIGURE 18.



Desorption Characteristics of Mineral coal (772.0' to 773.0')
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E., Montgomery Co., KS
surface
100'
200'
300'
400'
500'
600'
1000'
1100'
678'-682' Excello Sh.
682'-683' Mulky
706'-707' Iron Post
731'-732' Croweburg
772'-773' Mineral
838'-839' Tebo
847'-849' Weir-Pittsburg
888'-889' Bluejacket
1004'-1005' Rowe
1054'-1056' Riverton
GAS CONTENT (scf/ton) (dry wt., counting lost gas)
0
50
100
150
200
148 scf/ton
1 2 5 10 50 100 200 300 400 500 600 700 800 900
Days
0
50
100
150
TIME (square root of hours since bottom hole time of core)

FIGURE 19.

Desorption Characteristics of Tebo coal (838.3' to 839.1')

Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E., Montgomery Co., KS

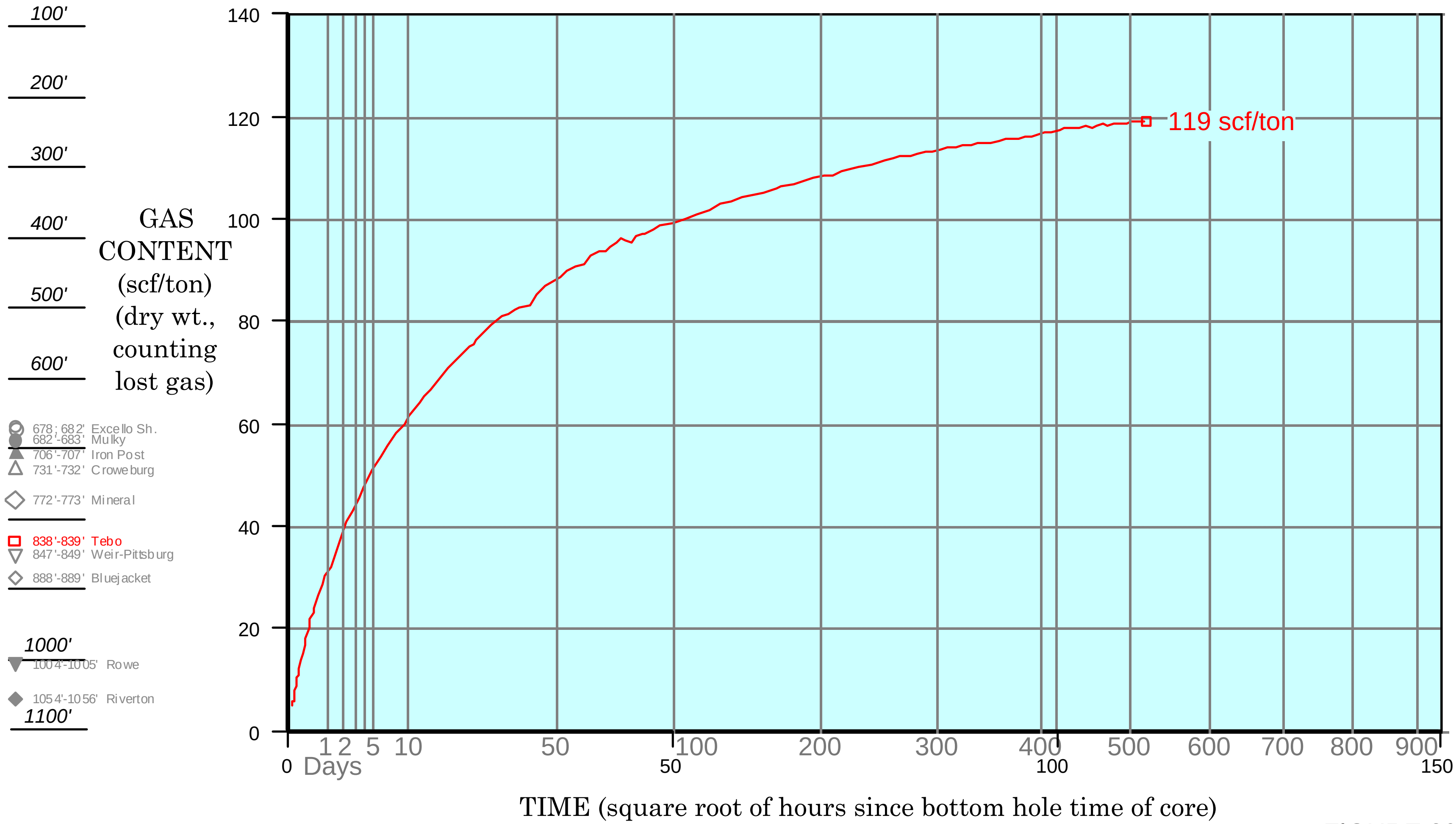


FIGURE 20.

Desorption Characteristics of Weir-Pittsburg coal (847.0' to 849.0')

Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E., Montgomery Co., KS

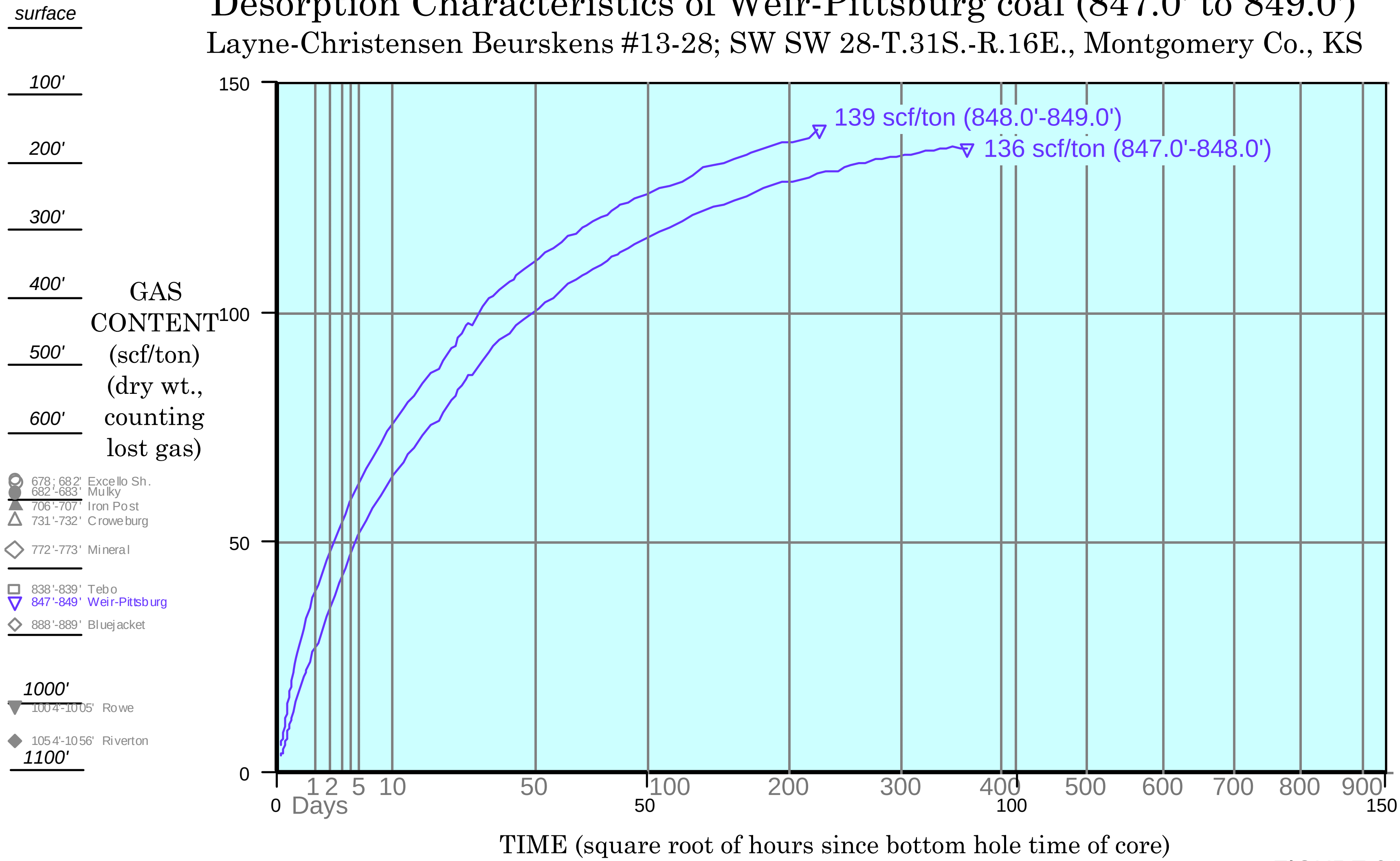


FIGURE 21.

Desorption Characteristics of Bluejacket coal (888.2' to 889.2')

Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E., Montgomery Co., KS

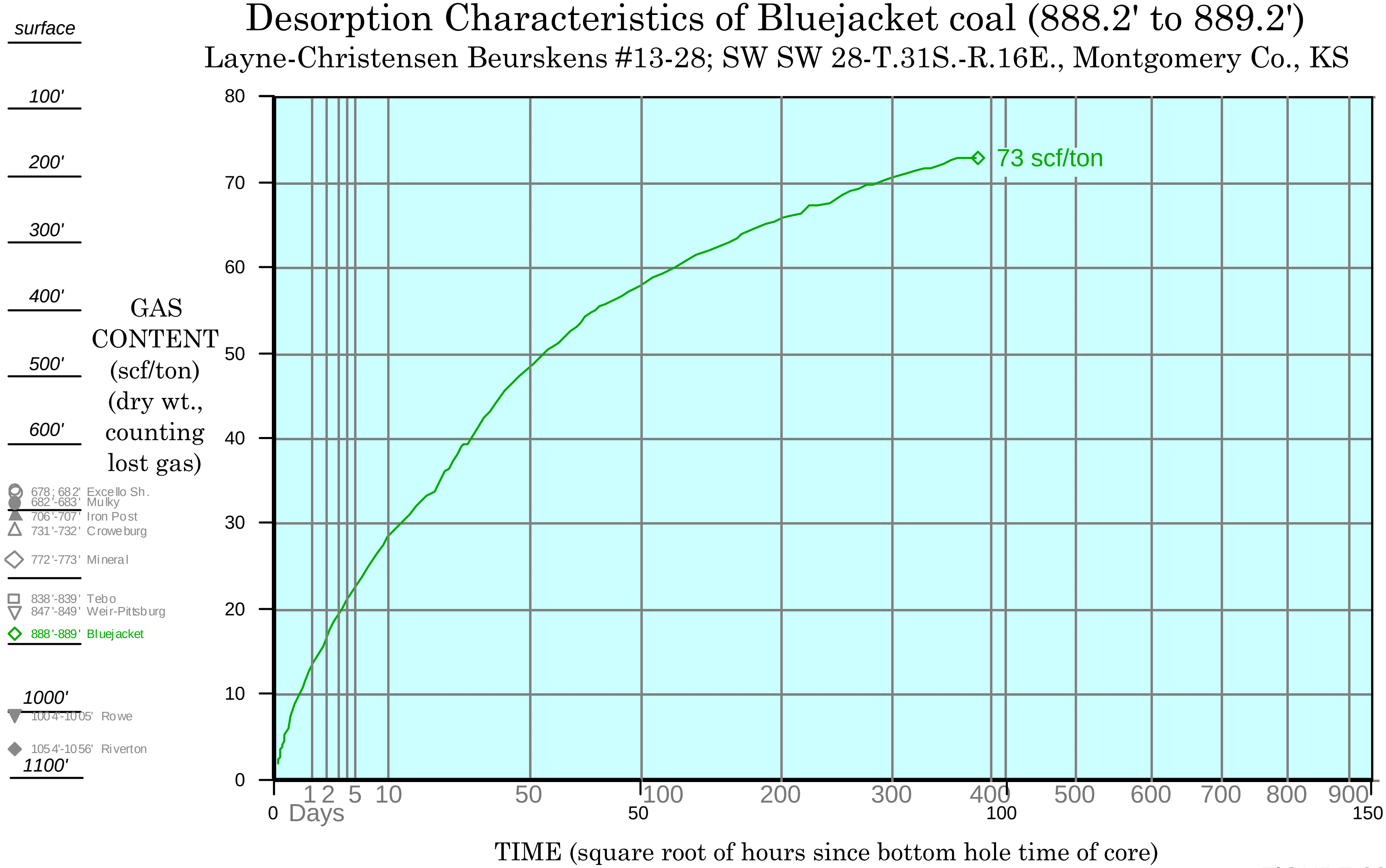
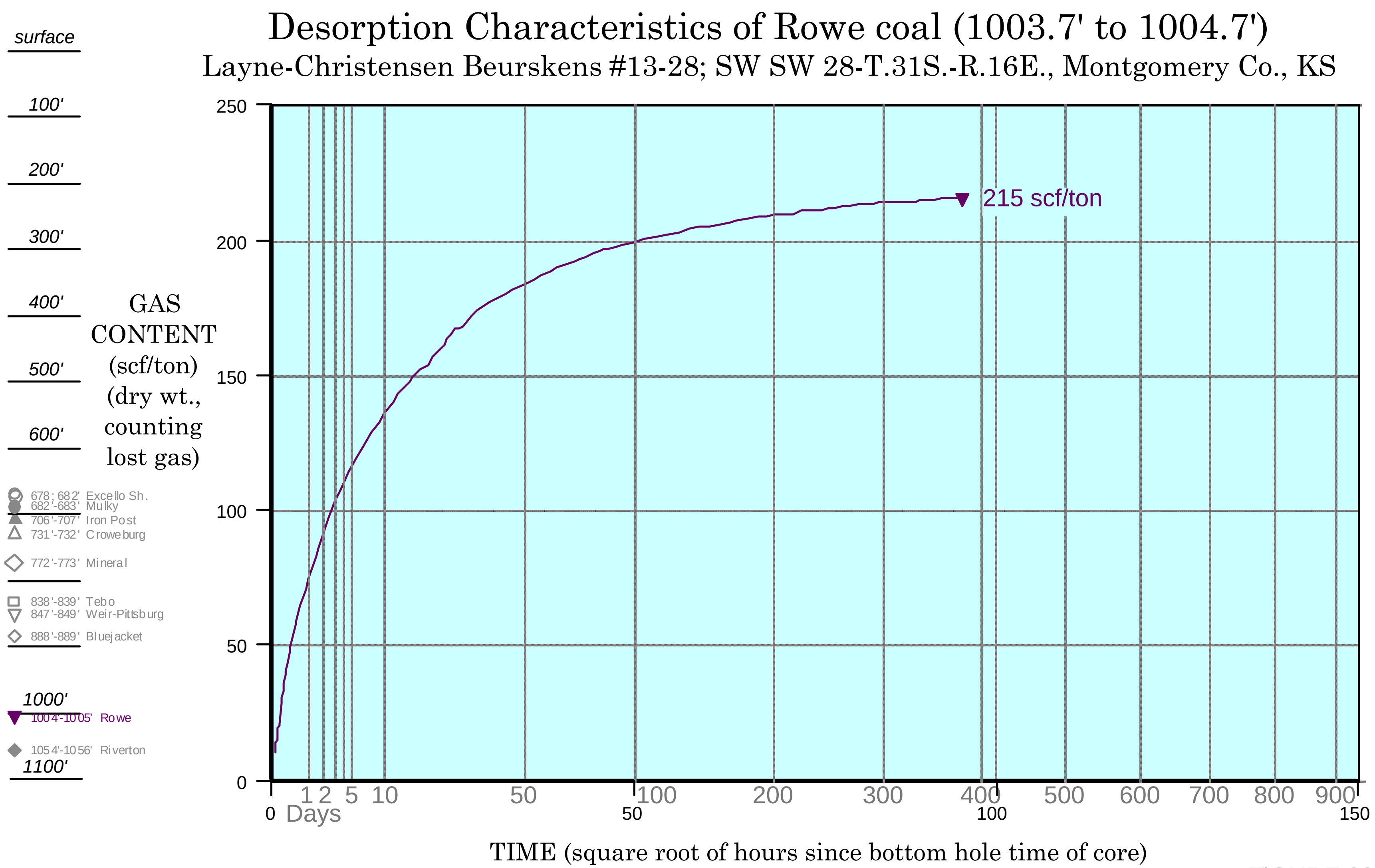


FIGURE 22.


Desorption Characteristics of Rowe coal (1003.7' to 1004.7')
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E., Montgomery Co., KS
surface
100'
200'
300'
400'
500'
600'
678'-682' Excello Sh.
682'-683' Mulky
706'-707' Iron Post
731'-732' Croweburg
772'-773' Mineral
838'-839' Tebo
847'-849' Weir-Pittsburg
888'-889' Bluejacket
1000'
1004'-1005' Rowe
1054'-1056' Riverton
1100'
GAS CONTENT (scf/ton) (dry wt., counting lost gas)
250
200
150
100
50
0
215 scf/ton
1 2 5 10 50 100 200 300 400 500 600 700 800 900
Days
0
50
100
150
TIME (square root of hours since bottom hole time of core)
FIGURE 23.

Desorption Characteristics of Riverton coal (1053.7' to 1055.7')

Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E., Montgomery Co., KS

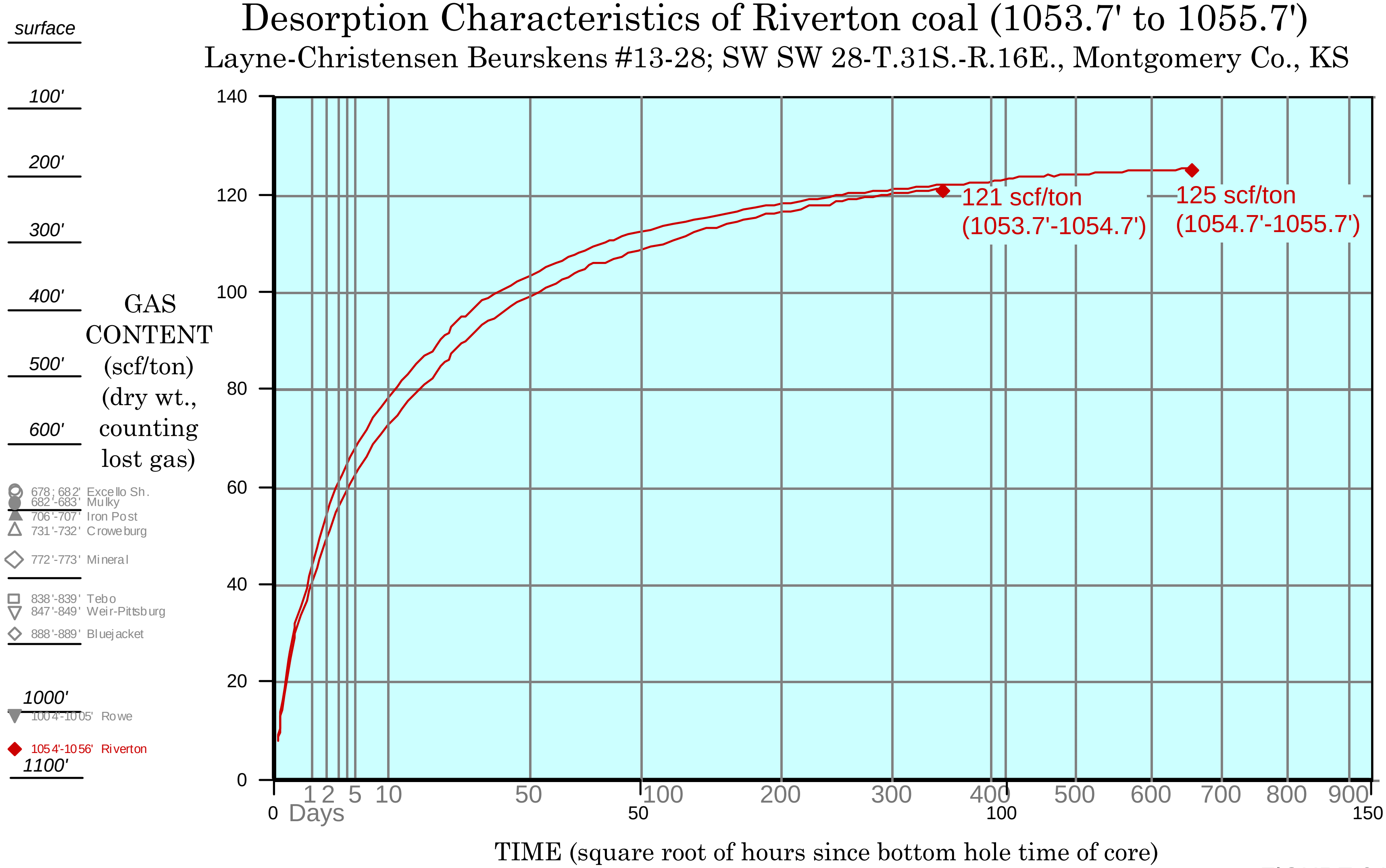
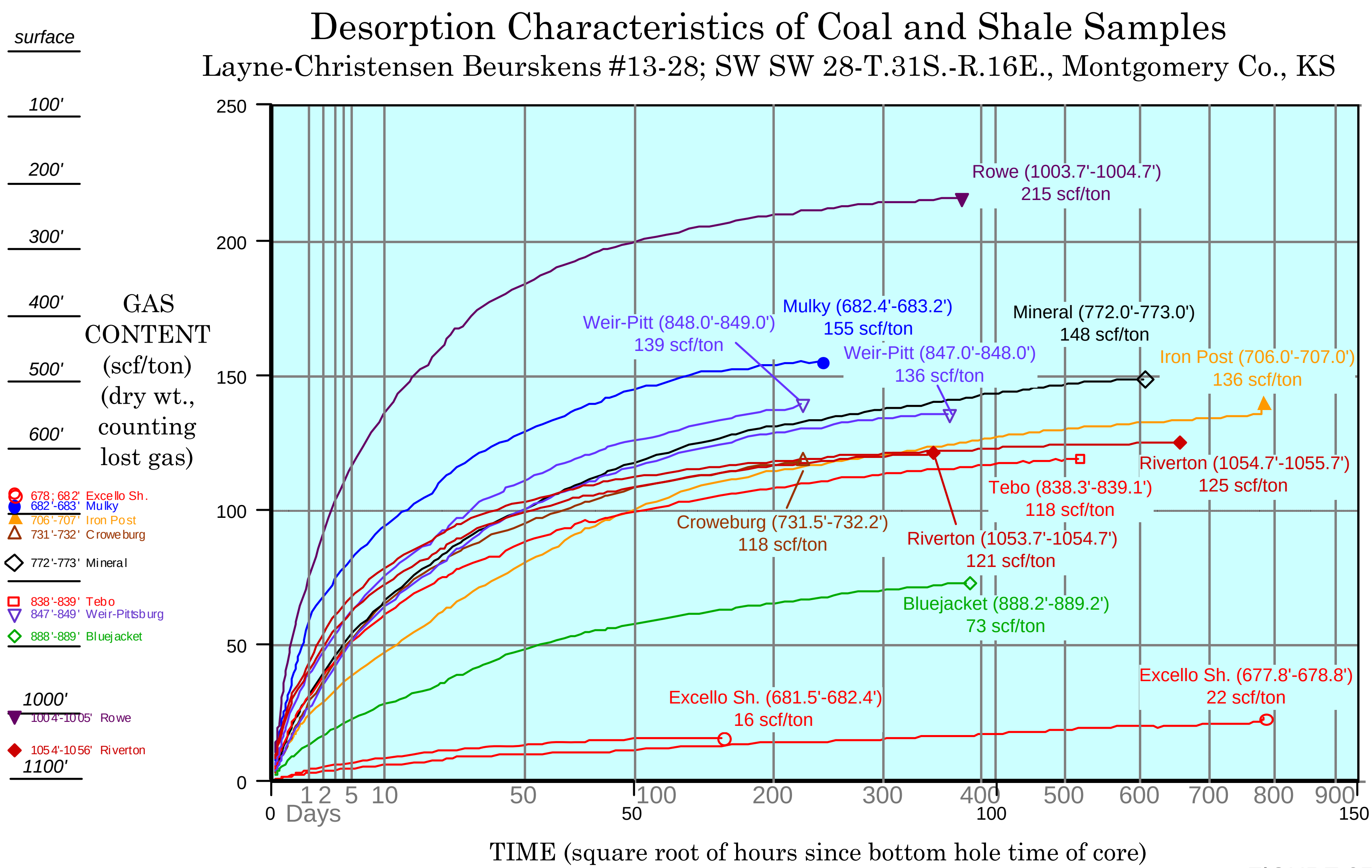
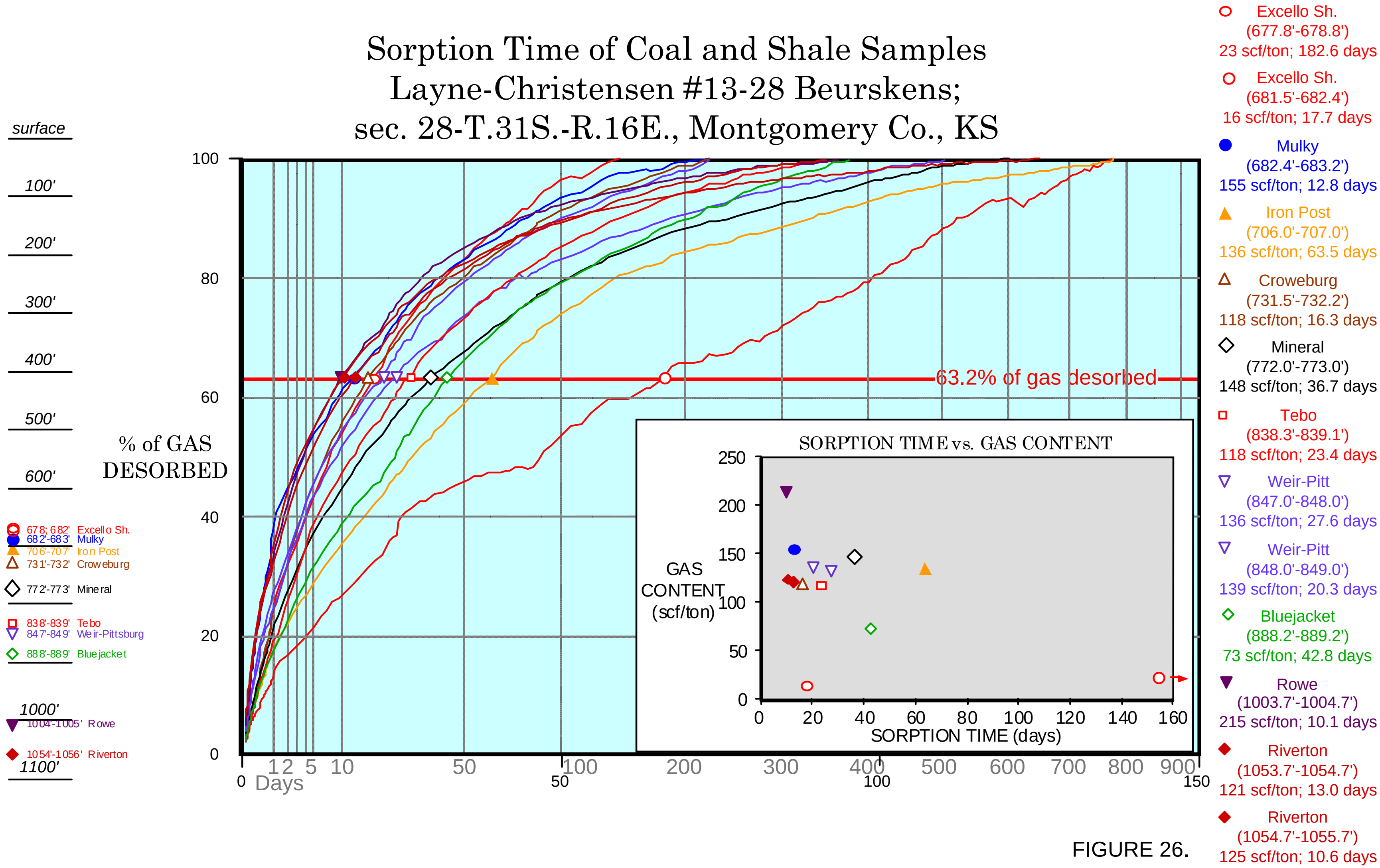


FIGURE 24.



Desorption Characteristics of Coal and Shale Samples
Layne-Christensen Beurskens #13-28; SW SW 28-T.31S.-R.16E., Montgomery Co., KS
surface
100'
200'
300'
400'
500'
600'
1000'
1100'
GAS CONTENT (scf/ton) (dry wt., counting lost gas)
678'-682' Excello Sh.
682'-683' Mulky
706'-707' Iron Post
731'-732' Croweburg
772'-773' Mineral
838'-839' Tebo
847'-849' Weir-Pittsburg
888'-889' Bluejacket
1004'-1005' Rowe
1054'-1056' Riverton
Rowe (1003.7'-1004.7')
215 scf/ton
Mulky (682.4'-683.2')
155 scf/ton
Weir-Pitt (848.0'-849.0')
139 scf/ton
Mineral (772.0'-773.0')
148 scf/ton
Weir-Pitt (847.0'-848.0')
136 scf/ton
Iron Post (706.0'-707.0')
136 scf/ton
Riverton (1054.7'-1055.7')
125 scf/ton
Tebo (838.3'-839.1')
118 scf/ton
Croweburg (731.5'-732.2')
118 scf/ton
Riverton (1053.7'-1054.7')
121 scf/ton
Bluejacket (888.2'-889.2')
73 scf/ton
Excello Sh. (677.8'-678.8')
22 scf/ton
Excello Sh. (681.5'-682.4')
16 scf/ton
250
200
150
100
50
0
1 2 5 10 50 100 200 300 400 500 600 700 800 900
Days
0 50 100 150
TIME (square root of hours since bottom hole time of core)

FIGURE 25.



Sorption Time of Coal and Shale Samples
Layne-Christensen #13-28 Beurskens;
sec. 28-T.31S.-R.16E., Montgomery Co., KS
surface
100'
200'
300'
400'
500'
600'
678; 682' Excello Sh.
682'-683' Mulky
706'-707' Iron Post
731'-732' Croweburg
772'-773' Mineral
838'-839' Tebo
847'-849' Weir-Pittsburg
888'-889' Bluejacket
1000'
1004'-1005' Rowe
1054'-1056' Riverton
1100'
% of GAS
DESORBED
100
80
60
40
20
0
63.2% of gas desorbed
0
1 2 5 10 50 100 200 300 400 500 600 700 800 900
Days
50
100
150
SORPTION TIME vs. GAS CONTENT
GAS
CONTENT
(scf/ton)
250
200
150
100
50
0
0 20 40 60 80 100 120 140 160
SORPTION TIME (days)
Excello Sh.
(677.8'-678.8')
23 scf/ton; 182.6 days
Excello Sh.
(681.5'-682.4')
16 scf/ton; 17.7 days
Mulky
(682.4'-683.2')
155 scf/ton; 12.8 days
Iron Post
(706.0'-707.0')
136 scf/ton; 63.5 days
Croweburg
(731.5'-732.2')
118 scf/ton; 16.3 days
Mineral
(772.0'-773.0')
148 scf/ton; 36.7 days
Tebo
(838.3'-839.1')
118 scf/ton; 23.4 days
Weir-Pitt
(847.0'-848.0')
136 scf/ton; 27.6 days
Weir-Pitt
(848.0'-849.0')
139 scf/ton; 20.3 days
Bluejacket
(888.2'-889.2')
73 scf/ton; 42.8 days
Rowe
(1003.7'-1004.7')
215 scf/ton; 10.1 days
Riverton
(1053.7'-1054.7')
121 scf/ton; 13.0 days
Riverton
(1054.7'-1055.7')
125 scf/ton; 10.6 days

FIGURE 26.

ISOTOPIC COMPOSITION and WETNESS by STRATIGRAPHIC POSITION of coalbed gases in eastern Kansas

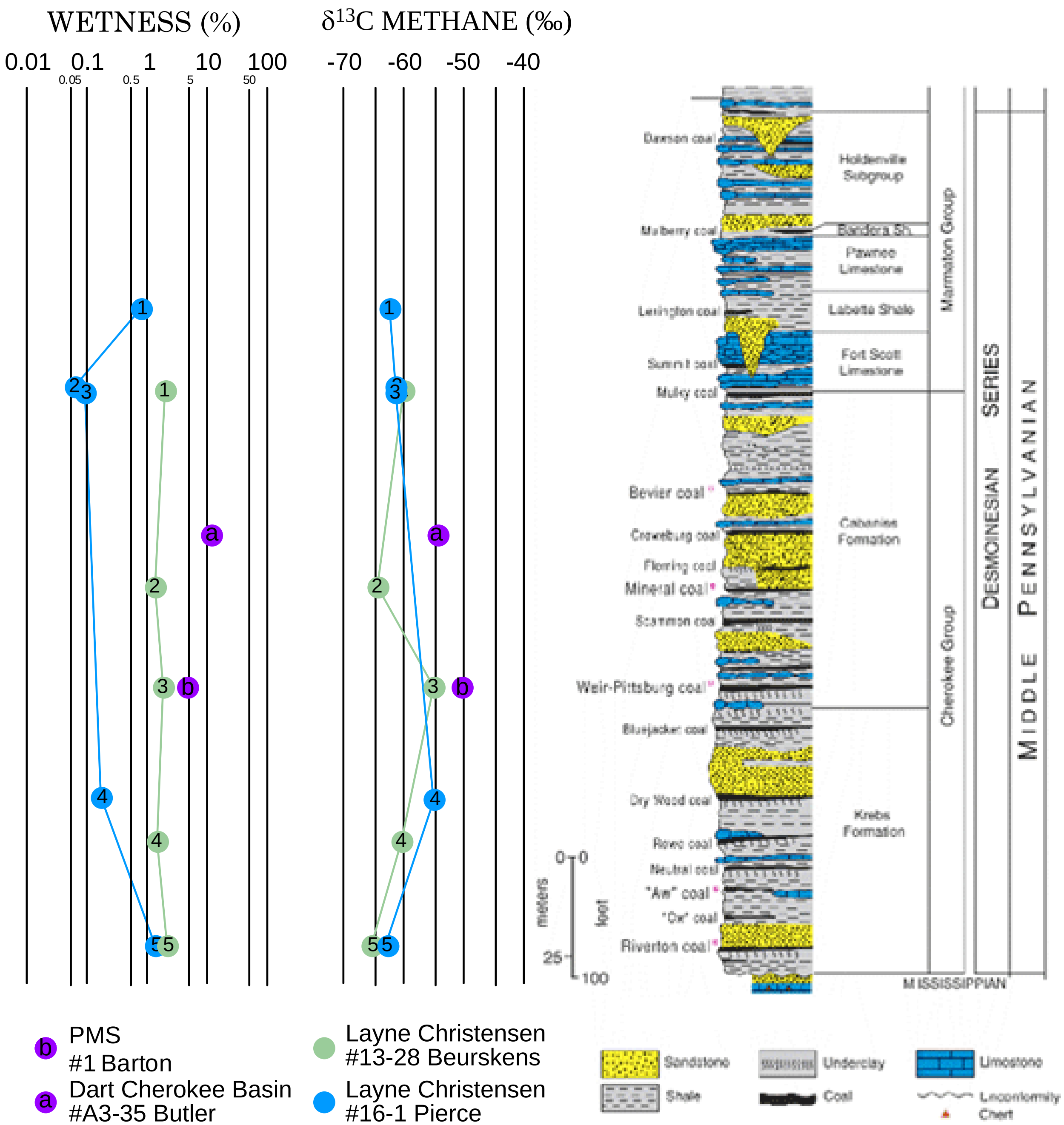
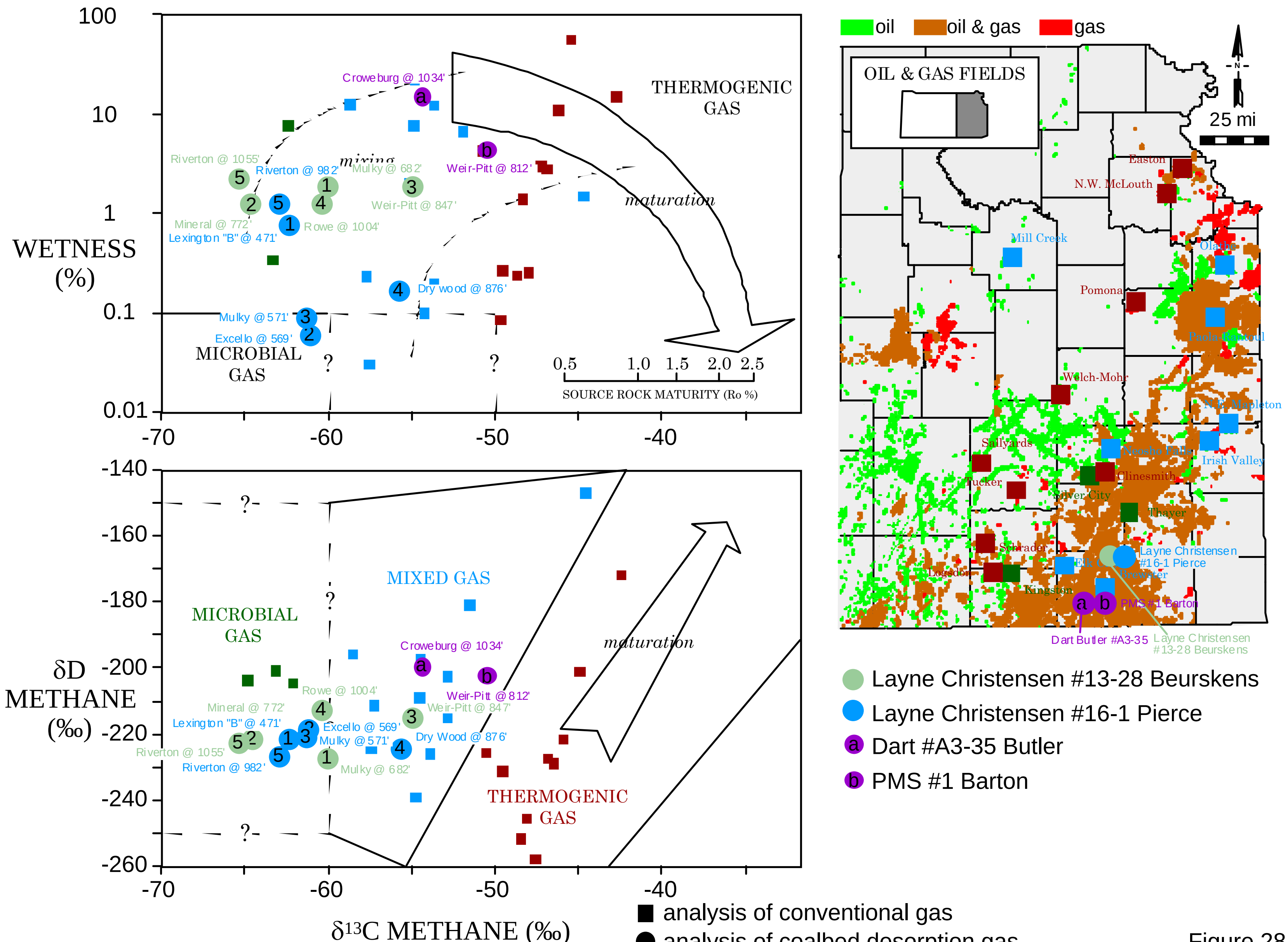


Figure 27.



Layne Christensen #13-28 Beurskens

Layne Christensen #16-1 Pierce

Dart #A3-35 Butler

PMS #1 Barton

■ analysis of conventional gas

● analysis of coalbed desorption gas

Figure 28.

Gas Reserves and Relative Deliverablity
Layne-Christensen #13-28 Beurskens;
sec. 28-T.31S.-R.16E., Montgomery Co., KS

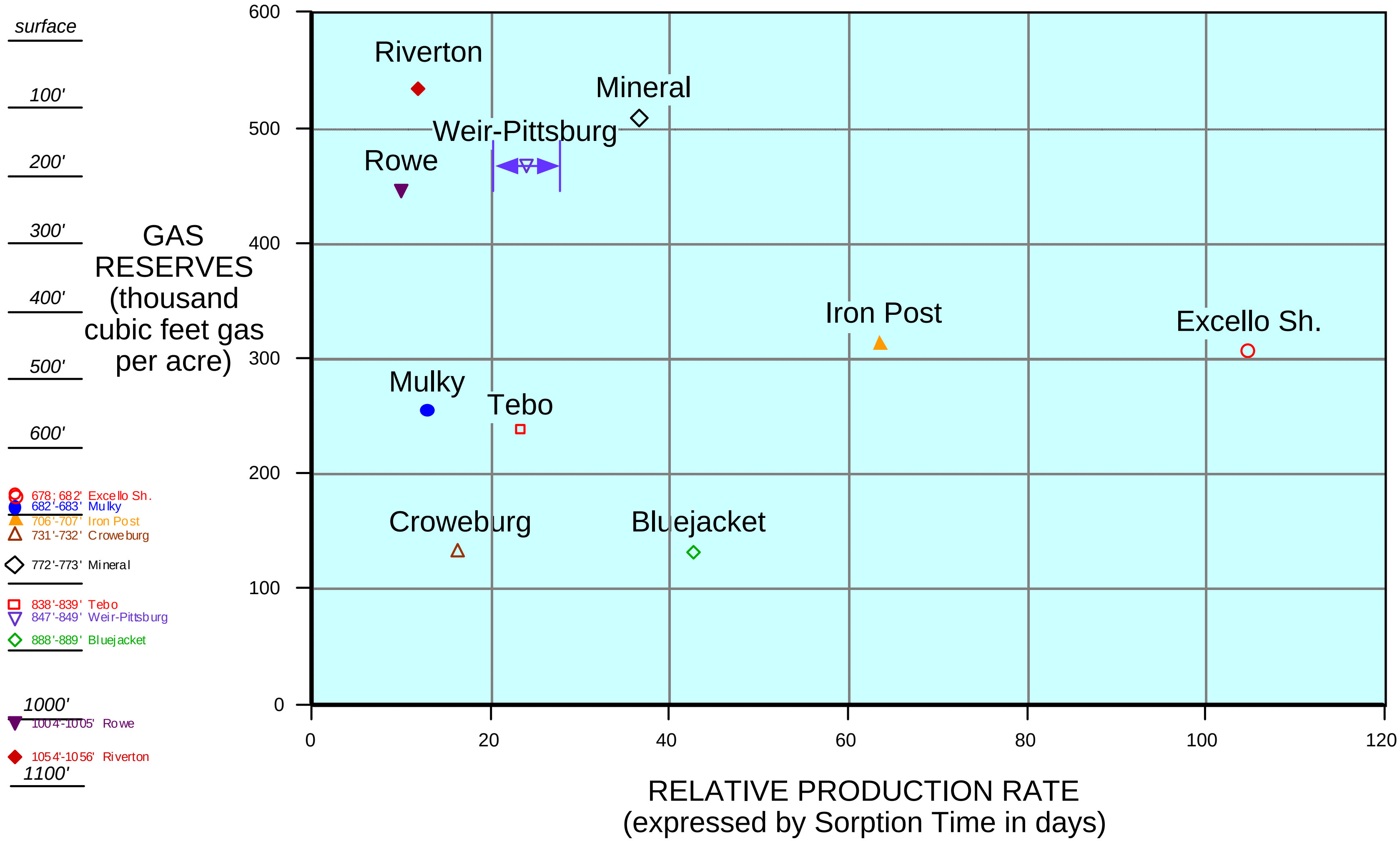


FIGURE 29.

TABLE 1 -- DESORPTION DATA for Layne-Christensen #13-28 Beurskens; SW SW 28-T.31S.-R.16E., Montgomery County, KS																	
SAMPLE:	677.8' to 678.8' (Excello Shale) in canister MER B																
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)	
dry sample weight:		6.228	2824.93		wet sample weight:		6.283	2849.70	0.87%		63		off bottom	at surface	in canister	36.8	minutes
													4/8/2003 2:26	4/8/2003 2:29	4/8/2003 3:03	0.613	hours
RIG/LAB MEASUREMENTS				CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg F				CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.782801238	SQRT (hrs)
measured cc	measured T (F	measured P	cubic ft	absolute T (F	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)	
2	73	1098	7.1E-05	533	14.252	6.68049E-05	1.89	6.68049E-05	1.89	0.02	0.74	4/8/2003 3:07	0:40:16	0:37:55	0:03:30	0.819213715	
6	73	1098	0.00021	533	14.252	0.000200415	5.68	0.00026722	7.57	0.09	0.80	4/8/2003 3:12	0:45:31	0:43:10	0:08:45	0.870982842	
3	73	1098	0.00011	533	14.252	0.000100207	2.84	0.000367427	10.40	0.12	0.83	4/8/2003 3:16	0:50:01	0:47:40	0:13:15	0.913023062	
4	73	1099	0.00014	533	14.265	0.000133731	3.79	0.000501158	14.19	0.16	0.88	4/8/2003 3:20	0:53:46	0:51:25	0:17:00	0.946631455	
4	73	1099	0.00014	533	14.265	0.000133731	3.79	0.00063489	17.98	0.20	0.92	4/8/2003 3:28	1:01:16	0:58:55	0:24:30	1.010500426	
5	74	1099	0.00018	534	14.265	0.000166851	4.72	0.000801741	22.70	0.26	0.97	4/8/2003 3:37	1:10:16	1:07:55	0:33:30	1.082178872	
8	74	1099	0.00028	534	14.265	0.000266962	7.56	0.001068703	30.26	0.34	1.06	4/8/2003 3:54	1:28:01	1:25:40	0:51:15	1.21117482	
5	75	1099	0.00018	535	14.265	0.000166539	4.72	0.001235243	34.98	0.40	1.11	4/8/2003 4:17	1:50:16	1:47:55	1:13:30	1.355646627	
9	75	1099	0.00032	535	14.265	0.000299771	8.49	0.001535014	43.47	0.49	1.21	4/8/2003 4:39	2:12:31	2:10:10	1:35:45	1.486139667	
5	75	1099	0.00018	535	14.265	0.000166539	4.72	0.001701553	48.18	0.55	1.26	4/8/2003 4:51	2:24:46	2:22:25	1:48:00	1.553311874	
7	75	1099	0.00025	535	14.265	0.000233155	6.60	0.001934709	54.78	0.62	1.34	4/8/2003 5:23	2:56:16	2:53:55	2:19:30	1.713994684	estimate
2	75	1099	7.1E-05	535	14.265	6.66158E-05	1.89	0.002001324	56.67	0.64	1.36	4/8/2003 5:35	3:08:16	3:05:55	2:31:30	1.771377367	
3	75	1099	0.00011	535	14.265	9.99237E-05	2.83	0.002101248	59.50	0.67	1.39	4/8/2003 5:52	3:25:46	3:23:25	2:49:00	1.851875926	
7	75	1099	0.00025	535	14.265	0.000233155	6.60	0.002334403	66.10	0.75	1.46	4/8/2003 6:38	4:11:16	4:08:55	3:34:30	2.046406064	
9	75	1100	0.00032	535	14.278	0.000300044	8.50	0.002634447	74.60	0.85	1.56	4/8/2003 7:50	5:23:16	5:20:55	4:46:30	2.321158714	
15	75	1101	0.00053	535	14.291	0.000500528	14.17	0.003134975	88.77	1.01	1.72	4/8/2003 9:51	7:24:16	7:21:55	6:47:30	2.721110884	
14	75	1102	0.00049	535	14.303	0.000467583	13.24	0.003602558	102.01	1.16	1.87	4/8/2003 10:13	7:46:16	7:43:55	7:09:30	2.78767127	
11	75	1102	0.00039	535	14.303	0.000367387	10.40	0.003969945	112.42	1.27	1.99	4/8/2003 12:26	9:59:16	9:56:55	9:22:30	3.160344566	
8	75	1102	0.00028	535	14.303	0.00026719	7.57	0.004237135	119.98	1.36	2.08	4/8/2003 13:26	10:59:16	10:56:55	10:22:30	3.314781709	
7	75	1102	0.00025	535	14.303	0.000233792	6.62	0.004470927	126.60	1.44	2.15	4/8/2003 14:29	12:02:16	11:59:55	11:25:30	3.469550083	
5	75	1101	0.00018	535	14.291	0.000166843	4.72	0.00463777	131.33	1.49	2.20	4/8/2003 15:29	13:02:16	12:59:55	12:25:30	3.61078631	
7	75	1101	0.00025	535	14.291	0.00023358	6.61	0.004871349	137.94	1.56	2.28	4/8/2003 16:28	14:01:16	13:58:55	13:24:30	3.744477415	
8	75	1101	0.00028	535	14.291	0.000266948	7.56	0.005138297	145.50	1.65	2.36	4/8/2003 17:54	15:27:16	15:24:55	14:50:30	3.931214118	
10	75	1101	0.00035	535	14.291	0.000333685	9.45	0.005471982	154.95	1.76	2.47	4/8/2003 20:10	17:43:16	17:40:55	17:06:30	4.20964501	
5	75	1101	0.00018	535	14.291	0.000166843	4.72	0.005638825	159.67	1.81	2.53	4/8/2003 21:39	19:12:16	19:09:55	18:35:30	4.382287581	
11	75	1100	0.00039	535	14.278	0.00036672	10.38	0.006005545	170.06	1.93	2.64	4/9/2003 0:16	21:49:16	21:46:55	21:12:30	4.671307217	
10	75	1101	0.00035	535	14.291	0.000333685	9.45	0.00633923	179.51	2.04	2.75	4/9/2003 3:19	24:52:16	24:49:55	24:15:30	4.987094456	
28	75	1100	0.00099	535	14.278	0.00093347	26.43	0.007272699	205.94	2.34	3.05	4/9/2003 7:12	28:45:16	28:42:55	28:08:30	5.362317078	
11	75	1100	0.00039	535	14.278	0.00036672	10.38	0.00763942	216.32	2.45	3.17	4/9/2003 10:43	32:16:16	32:13:55	31:39:30	5.680766771	
19	75	1090	0.00067	535	14.148	0.000627667	17.77	0.008267087	234.10	2.65	3.37	4/9/2003 17:25	38:58:16	38:55:55	38:21:30	6.242684608	
18	75	1089	0.00064	535	14.135	0.000594087	16.82	0.008861174	250.92	2.85	3.56	4/10/2003 9:06	54:39:16	54:36:55	54:02:30	7.392864428	
36	75	1083	0.00127	535	14.057	0.001181627	33.46	0.0100428	284.38	3.23	3.94	4/11/2003 8:52	78:25:16	78:22:55	77:48:30	8.855569497	
23	75	1081	0.00081	535	14.031	0.000753534	21.34	0.010796335	305.72	3.47	4.18	4/11/2003 23:49	93:22:16	93:19:55	92:45:30	9.662872819	
43	75	1084	0.00152	535	14.070	0.001412691	40.00	0.012209026	345.72	3.92	4.64	4/13/2003 12:46	130:19:16	130:16:55	129:42:30	11.41582722	
39	75	1078	0.00138	535	13.992	0.001274186	36.08	0.013483212	381.80	4.33	5.04	4/14/2003 15:26	156:59:16	156:56:55	156:22:30	12.52947636	
15	75	1074	0.00053	535	13.940	0.000488253	13.83	0.013971465	395.63	4.49	5.20	4/15/2003 11:55	177:28:16	177:25:55	176:51:30	13.32182837	
32	75	1064	0.00113	535	13.810	0.001031908	29.22	0.015003373	424.85	4.82	5.53	4/16/2003 16:21	205:54:16	205:51:55	205:17:30	14.34937087	
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42	75	1083	0.00148	535	14.057	0.001378565	39.04	0.016807848	475.94	5.40	6.11	4/20/2003 17:30	303:03:16	303:00:55	302:26:30	17.40845899	
11	75	1085	0.00039	535	14.083	0.000361719	10.24	0.017169568	486.19	5.51	6.23	4/21/2003 15:25	324:58:16	324:55:55	324:21:30	18.02695513	
49	75	1068	0.00173	535	13.862	0.00158605	44.91	0.018755617	531.10	6.02	6.74	4/24/2003 10:38	392:11:16	392:08:55	391:34:30	19.80373141	
26	75	1080	0.00092	535	14.018	0.000851033	24.10	0.01960665	555.20	6.30	7.01	4/26/2003 12:39	442:12:16	442:09:55	441:35:30	21.02865769	
17	65	1080	0.0006	525	14.018	0.000567044	16.06	0.020173694	571.25	6.48	7.19	4/28/2003 10:45	488:18:16	488:15:55	487:41:30	22.09761174	
53	74	1072	0.00187	534	13.914	0.001725173	48.85	0.021898867	620.10	7.03	7.75	4/30/2003 12:00	537:33:16	537:30:55	536:56:30	23.18522039	
14	76	1079	0.00049	536	14.005	0.00045697	12.94	0.022355837	633.04	7.18	7.89	5/1/2003 13:11	562:44:16	562:41:55	562:07:30	23.72209472	
6	75	1084	0.00021	535	14.070	0.00019712	5.58	0.022552957	638.63	7.24	7.96	5/2/2003 14:33	588:06:16	588:03:55	587:29:30	24.25086482	
46	75	1085	0.00162	535	14.083	0.001512645	42.83	0.024065602	681.46	7.73	8.44	5/3/2003 10:47	608:20:16	608:17:55	607:43:30	24.66450441	
19	75	1067	0.00067	535	13.849	0.000614423	17.40	0.024680025	698.86	7.93	8.64	5/4/2003 10:29	632:02:16	631:59:55	631:25:30	25.14036153	
14	78	1069	0.00049	538	13.875	0.000451052	12.77	0.025131077	711.63	8.07	8.78	5/5/2003 14:26	659:59:16	659:56:55	659:22:30	25.69022728	
14	75	1080	0.00049	535	14.018	0.000458249	12.98	0.025589325	724.61	8.22	8.93	5/7/2003 15:40	709:13:16	709:10:55	708:36:30	26.63120559	
25	75	1066	0.00088	535	13.836	0.000807694	22.87	0.026397019	747.48	8.48	9.19	5/10/2003 15:19	780:52:16	780:49:55	780:15:30	27.94407113	
-1	75	1088	-4E-05	535	14.122	-3.29745E-05	-0.93	0.026364045	746.54	8.47	9.18	5/12/2003 14:23	827:56:16	827:53:55	827:19:30	28.77390793	
22	74	1078	0.00078	534	13.992	0.000720118	20.39	0.027084162	766.94	8.70	9.41	5/16/2003 11:49	921:22:16	921:19:55	920:45:30	30.35409546	
10	75	1083	0.00035	535	14.057	0.00032823	9.29	0.027412392	776.23	8.80	9.52	5/19/2003 13:59	995:32:16	995:29:55	994:55:30	31.55214379	
12	75	1091	0.00042	535	14.161	0.000396785	11.24	0.027809177	787.47	8.93	9.64	5/22/2003 9:16	1062:49:16	1062:46:55	1062:12:30	32.60093727	
10	75	1083	0.00035	535	14.057	0.00032823	9.29	0.028137407	796.76	9.04	9.75	5/25/2003 2:02	1127:35:16	1127:32:55	1126:58:30	33.57957382	
20	75	1083	0.00071	535	14.057	0.000656459	18.59	0.028793866	815.35	9.25	9.96	5/30/2003 16:36	1262:09:16	1262:06:55	1261:32:30	35.52681304	
11	75	1075	0.00039	535	13.953	0.000358386	10.15	0.029152252	825.50	9.36	10.08	6/2/2003 16:09	1333:42:16	1333:39:55	1333:05:30	36.51991846	
3	75	1084	0.00011	535	14.070	9.85598E-05	2.79	0.029250811	828.29	9.39	10.11	6/5/2003 11:27	1401:00:16	1400:57:55	1400:23:30	37.42999391	
9	75	1078	0.00032	535	13.992	0.000294043	8.33	0.029544854	836.61	9.49	10.20	6/9/2003 14:04	1499:37:16	1499:34:55	1499:00:30	38.72494172	
0	76	1075	0	536	13.953	0	0.00	0.029544854	836.61	9.49	10.20	6/12/2003 13:40	1571:13:16	1571:10:55	1570:36:30	39.63863155	
0	76	1085	0	536	14.083	0	0.00	0.029544854	836.61	9.49	10.20	6/15/2003 14:52	1644:25:16	1644:22:55	1643:48:30	40.5514625	
7	78	1081	0.00025	538	14.031	0.000228058	6.46	0.029772912	843.07	9.56	10.28	6/18/2003 13:56	1715:29:16	1715:26:55	1714:52:30	41.41844731	
3	77	1085	0.00011	537	14.083	9.82833E-05	2.78	0.029871195	845.85	9.59	10.31	6/20/2003 14:04	1763:37:16	1763:34:55	1763:00:30	41.99548918	
8	78	1079	0.00028	538	14.005	0.000260155	7.37	0.03013135	853.22	9.68	10.39	6/23/2003 11:21	1832:54:16	1832:51:55	1832:17:30	42.81243329	
3	76	1078	0.00011	536	13.992	9.78314E-05	2.77	0.030229182	855.99	9.71	10.42	6/25/2003 16:18	1885:51:16	1885:48:55	1885:14:30	43.42642565	
-1	78	1082	-4E-05	538	14.044	-3.26098E-05	-0.92	0.030196572	855.07	9.70	10.41	6/27/2003 15:14	1932:47:16	1932:44:55	1932:10:30	43.96348232	
-5	75	1088	-0.0002	535	14.122	-0.000164873	-4.67	0.0300317	850.40	9.64	10.36	6/30/2003 11:13	2000:46:16	2000:43:55	2000:09:30	44.72998	
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24	75	1081	0.00085	535	14.031	0.000786297	22.27	0.03107791	880.03	9.98	10.69	7/7/2003 14:03	2171:36:16	2171:33:55	2170:59:30	46.60047687	
26	78	1081	0.00092	538	14.031	0.000847071	23.99	0.031924981	904.01	10.25	10.97	7/11/2003 16:07	2269:40:16	2269:37:55	2269:03:30	47.64106539	
21	79	1084	0.00074	539	14.070	0.000684799	19.39	0.03260978	923.40	10.47	11.19	7/15/2003 13:55	2363:28:16	2363:25:55	2362:51:30	48.61554392	
34	78	1079	0.0012	538	14.005	0.001105659	31.31	0.033715439	954.71	10.83	11.54	7/21/2003 16:30	2510:03:16	2510:00:55	2509:26:30	50.10044356	
32	77	1081	0.00113	537	14.031	0.001044491	29.58	0.03475993	984.29	11.16	11.88	7/28/2003 20:25	2681:58:16	2681:55:55	2681:21:30	51.78775059	
10	70	1079	0.00035	530	14.005	0.000330102	9.35	0.035090033	993.64	11.27	11.98	8/4/2003 13:43	2843:16:16	2843:13:55	2842:39:30	53.3223322	
34	78	1086	0.0012	538	14.096	0.001112832	31.51	0.036202865	1025.15	11.63	12.34	8/11/2003 14:00	3011:33:16	3011:30:55	3010:56:30	54.87763155	
31	84	1082	0.00109	544	14.044	0.000999754	28.31	0.037202619	1053.46	11.95	12.66	8/18/2003 20:02	3185:35:16	3185:32:55	3184:58:30	56.44101149	
20	80	1083	0.00071	540	14.057	0.000650381	18.42	0.037853	1071.87	12.16	12.87	8/25/2003 22:47	3332:20:16	3332:17:55	3331:43:30	57.72640451	
3	84	1086	0.00011	544	14.096	9.71081E-05	2.75	0.037950108	1074.62	12.19	12.90	9/1/2003 14:49	3516:22:16	3516:19:55	3515:45:30	59.29899756	
1	73	1084	3.5E-05	533	14.070	3.29766E-05	0.93	0.037983085	1075.56	12.20	12.91	9/8/2003 14:05	3683:38:16	3683:35:55	3683:01:30	60.69297964	
15	76	1085	0.00053	536	14.083	0.000492334	13.94	0.038475418	1089.50	12.36	13.07	9/15/2003 15:13	3852:46:16	3852:43:55	3852:09:30	62.07069446	
22	79	1084	0.00078	539	14.070	0.000717408	20.31	0.039192827	1109.81	12.59	13.30	9/23/2003 10:49	4040:22:16	4040:19:55	4039:45:30	63.56391359	
0	72	1091	0	532	14.161	0	0.00	0.039192827	1109.81	12.59	13.30	9/26/2003 18:53	4120:26:16	4120:23:55	4119:49:30	64.19063622	
28	78	1085	0.00099	538	14.083	0.000915606	25.93	0.040108433	1135.74	12.88	13.59	10/6/2003 12:10	4353:43:16	4353:40:55	4353:06:30	65.98273343	
42	81	1084	0.00148	541	14.070	0.001364534	38.64	0.041472967	1174.38	13.32	14.03	10/14/2003 23:08	4556:41:16	4556:38:55	4556:04:30	67.50324272	
12	76	1081	0.00042	536	14.031	0.000392415	11.11	0.041865382	1185.49	13.44	14.16	10/20/2003 15:36	4693:09:16	4693:06:55	4692:32:30	68.50660147	
2	69	1075	7.1E-05	529	13.953	6.59001E-05	1.87	0.041931282	1187.36	13.47	14.18	10/27/2003 15:05	4860:38:16	4860:35:55	4860:01:30	69.71827435	
3	73	1080	0.00011	533	14.018	9.85646E-05	2.79	0.042029847	1190.15	13.50	14.21	11/3/2003 10:13	5023:46:16	5023:43:55	5023:09:30	70.87856595	
2	75	1085	7.1E-05	535	14.083	6.57672E-05	1.86	0.042095614	1192.01	13.52	14.23	11/10/2003 11:20	5192:53:16	5192:50:55	5192:16:30	72.06169425	
25	75	1069	0.00088	535	13.875	0.000809967	22.94	0.042905581	1214.95	13.78	14.49	11/17/2003 16:28	5366:01:16	5365:58:55	5365:24:30	73.25313038	

-5	73	1086	-0.0002	533	14.096	-0.000165187	-4.68	0.042740394	1210.27	13.73	14.44	11/24/2003 14:25	5531:58:16	5531:55:55	5531:21:30	74.37722172		
7	72	1090	0.00025	532	14.148	0.00023255	6.59	0.042972944	1216.85	13.80	14.51	12/4/2003 20:01	5777:34:16	5777:31:55	5776:57:30	76.01033555		
8	70	1083	0.00028	530	14.057	0.000265061	7.51	0.043238004	1224.36	13.89	14.60	12/10/2003 15:00	5916:33:16	5916:30:55	5915:56:30	76.91914225		
16	76	1087	0.00057	536	14.109	0.000526124	14.90	0.043764128	1239.26	14.05	14.77	12/16/2003 14:24	6059:57:16	6059:54:55	6059:20:30	77.84570922		
10	75	1081	0.00035	535	14.031	0.000327624	9.28	0.044091752	1248.53	14.16	14.87	12/22/2003 16:09	6205:42:16	6205:39:55	6205:05:30	78.77629367		
12	73	1082	0.00042	533	14.044	0.000394989	11.18	0.04448674	1259.72	14.29	15.00	12/29/2003 14:36	6372:09:16	6372:06:55	6371:32:30	79.82577556		
-3	73	1103	-0.0001	533	14.316	-0.000100664	-2.85	0.044386077	1256.87	14.25	14.97	1/6/2004 15:12	6564:45:16	6564:42:55	6564:08:30	81.02317227		
17	75	1093	0.0006	535	14.187	0.000563143	15.95	0.044949219	1272.82	14.43	15.15	1/12/2004 11:46	6705:19:16	6705:16:55	6704:42:30	81.88602513		
15	73	1089	0.00053	533	14.135	0.00049693	14.07	0.045446149	1286.89	14.59	15.31	1/21/2004 10:36	6920:09:16	6920:06:55	6919:32:30	83.18746567		
5	70	1091	0.00018	530	14.161	0.000166887	4.73	0.045613036	1291.61	14.65	15.36	1/27/2004 10:12	7063:45:16	7063:42:55	7063:08:30	84.04614473		
19	73	1085	0.00067	533	14.083	0.000627133	17.76	0.046240169	1309.37	14.85	15.56	2/2/2004 15:43	7213:16:16	7213:13:55	7212:39:30	84.93097851		
9	74	1091	0.00032	534	14.161	0.000298146	8.44	0.046538315	1317.81	14.95	15.66	2/9/2004 10:34	7376:07:16	7376:04:55	7375:30:30	85.8843473		
13	75	1091	0.00046	535	14.161	0.000429851	12.17	0.046968166	1329.99	15.08	15.80	2/16/2004 14:25	7547:58:16	7547:55:55	7547:21:30	86.87906026		
17	75	1086	0.0006	535	14.096	0.000559536	15.84	0.047527702	1345.83	15.26	15.98	2/23/2004 14:32	7716:05:16	7716:02:55	7715:28:30	87.84126466		
11	75	1091	0.00039	535	14.161	0.00036372	10.30	0.047891421	1356.13	15.38	16.09	3/2/2004 10:48	7904:21:16	7904:18:55	7903:44:30	88.90643646		
12	75	1088	0.00042	535	14.122	0.000395694	11.20	0.048287116	1367.33	15.51	16.22	3/8/2004 10:06	8047:39:16	8047:36:55	8047:02:30	89.70872		
19	74	1081	0.00067	534	14.031	0.00062365	17.66	0.048910766	1384.99	15.71	16.42	3/15/2004 11:40	8217:13:16	8217:10:55	8216:36:30	90.64888919		
-5	77	1097	-0.0002	537	14.239	-0.000165617	-4.69	0.048745149	1380.30	15.65	16.37	3/22/2004 10:06	8383:39:16	8383:36:55	8383:02:30	91.56229816		
6	74	1088	0.00021	534	14.122	0.000198218	5.61	0.048943366	1385.92	15.72	16.43	3/30/2004 20:35	8586:08:16	8586:05:55	8585:31:30	92.66141472		
13	75	1082	0.00046	535	14.044	0.000426305	12.07	0.049369671	1397.99	15.85	16.57	4/6/2004 14:45	8748:18:16	8748:15:55	8747:41:30	93.5323711		
-1	74	1086	-4E-05	534	14.096	-3.29755E-05	-0.93	0.049336695	1397.05	15.84	16.56	4/12/2004 15:02	8892:35:16	8892:32:55	8891:58:30	94.30051844		
16	77	1088	0.00057	537	14.122	0.000525627	14.88	0.049862323	1411.94	16.01	16.73	4/19/2004 14:30	9060:03:16	9060:00:55	9059:26:30	95.18431827		
7	76	1090	0.00025	536	14.148	0.000230814	6.54	0.050093137	1418.47	16.09	16.80	4/26/2004 11:36	9225:09:16	9225:06:55	9224:32:30	96.04766756		
13	74	1083	0.00046	534	14.057	0.000427498	12.11	0.050520635	1430.58	16.22	16.94	5/3/2004 19:12	9400:45:16	9400:42:55	9400:08:30	96.95748782		
14	76	1081	0.00049	536	14.031	0.000457817	12.96	0.050978452	1443.54	16.37	17.09	5/10/2004 14:04	9563:37:16	9563:34:55	9563:00:30	97.79376826		
3	75	1082	0.00011	535	14.044	9.8378E-05	2.79	0.05107683	1446.33	16.40	17.12	5/17/2004 9:46	9727:19:16	9727:16:55	9726:42:30	98.62718241		
23	78	1075	0.00081	538	13.953	0.000745173	21.10	0.051822003	1467.43	16.64	17.36	5/24/2004 10:34	9896:07:16	9896:04:55	9895:30:30	99.47924965		
8	75	1077	0.00028	535	13.979	0.000261129	7.39	0.052083132	1474.82	16.73	17.44	6/1/2004 10:57	10088:30:16	10088:27:55	10087:53:30	100.4415474		
13	76	1076	0.00046	536	13.966	0.00042315	11.98	0.052506282	1486.81	16.86	17.58	6/7/2004 10:38	10232:11:16	10232:08:55	10231:34:30	101.1542771		
18	79	1078	0.00064	539	13.992	0.000583722	16.53	0.053090003	1503.34	17.05	17.76	6/14/2004 10:52	10400:25:16	10400:22:55	10399:48:30	101.9824549		
7	76	1082	0.00025	536	14.044	0.00022912	6.49	0.053319124	1509.82	17.12	17.84	6/23/2004 16:28	10622:01:16	10621:58:55	10621:24:30	103.0631899		
13	77	1082	0.00046	537	14.044	0.000424717	12.03	0.053743841	1521.85	17.26	17.97	7/1/2004 11:56	10809:29:16	10809:26:55	10808:52:30	103.9686865		
13	78	1081	0.00046	538	14.031	0.000423536	11.99	0.054167376	1533.84	17.40	18.11	7/7/2004 10:34	10952:07:16	10952:04:55	10951:30:30	104.6523823		
14	79	1082	0.00049	539	14.044	0.00045569	12.90	0.054623066	1546.75	17.54	18.26	7/13/2004 14:22	11099:55:16	11099:52:55	11099:18:30	105.3561631		
11	75	1080	0.00039	535	14.018	0.000360053	10.20	0.054983119	1556.94	17.66	18.37	7/19/2004 11:24	11240:57:16	11240:54:55	11240:20:30	106.0233674		
5	76	1091	0.00018	536	14.161	0.000165019	4.67	0.055148138	1561.62	17.71	18.42	7/26/2004 10:24	11407:57:16	11407:54:55	11407:20:30	106.8080261		
23	77	1079	0.00081	537	14.005	0.000749339	21.22	0.055897476	1582.83	17.95	18.67	8/2/2004 14:44	11580:17:16	11580:14:55	11579:40:30	107.6117455		
10	78	1086	0.00035	538	14.096	0.000327304	9.27	0.05622478	1592.10	18.06	18.77	8/9/2004 14:00	11747:33:16	11747:30:55	11746:56:30	108.3861358		
9	76	1088	0.00032	536	14.122	0.000296217	8.39	0.056520997	1600.49	18.15	18.87	8/16/2004 11:07	11912:40:16	11912:37:55	11912:03:30	109.1451836		
17	75	1076	0.0006	535	13.966	0.000554384	15.70	0.057075381	1616.19	18.33	19.04	8/23/2004 14:10	12083:43:16	12083:40:55	12083:06:30	109.9259801		
11	76	1087	0.00039	536	14.109	0.00036171	10.24	0.057437091	1626.43	18.45	19.16	8/30/2004 16:46	12254:19:16	12254:16:55	12253:42:30	110.6992372		
8	75	1088	0.00028	535	14.122	0.000263796	7.47	0.057700887	1633.90	18.53	19.24	9/7/2004 15:58	12445:31:16	12445:28:55	12444:54:30	111.5594958		
20	76	1073	0.00071	536	13.927	0.000649184	18.38	0.058350072	1652.28	18.74	19.45	9/14/2004 18:41	12616:14:16	12616:11:55	12615:37:30	112.3220271		
3	76	1083	0.00011	536	14.057	9.82852E-05	2.78	0.058448357	1655.07	18.77	19.48	9/21/2004 16:47	12782:20:16	12782:17:55	12781:43:30	113.0590013		
3	75	1089	0.00011	535	14.135	9.90144E-05	2.80	0.058547371	1657.87	18.80	19.52	9/28/2004 21:06	12954:39:16	12954:36:55	12954:02:30	113.8185154		
14	75	1085	0.00049	535	14.083	0.00046037	13.04	0.059007741	1670.91	18.95	19.66	10/8/2004 10:13	13183:46:16	13183:43:55	13183:09:30	114.820604		
17	75	1079	0.0006	535	14.005	0.00055593	15.74	0.059563671	1686.65	19.13	19.84	10/19/2004 14:15	13451:48:16	13451:45:55	13451:11:30	115.9819143		
11	77	1086	0.00039	537	14.096	0.000360704	10.21	0.059924375	1696.86	19.24	19.96	10/27/2004 14:04	13643:37:16	13643:34:55	13643:00:30	116.8059121		
12	78	1090	0.00042	538	14.148	0.000394211	11.16	0.060318586	1708.03	19.37	20.08	11/5/2004 11:11	13856:44:16	13856:41:55	13856:07:30	117.7146456		
-5	76	1095	-0.0002	536	14.213	-0.000165624	-4.69	0.060152963	1703.34	19.32	20.03	11/12/2004 16:29	14030:02:16	14029:59:55	14029:25:30	118.4484604		
9	75	1080	0.00032	535	14.018	0.000294588	8.34	0.060447551	1711.68	19.41	20.13	11/24/2004 10:49	14312:22:16	14312:19:55	14311:45:30	119.6343225		
2	78	1081	7.1E-05	538	14.031	6.51593E-05	1.85	0.06051271	1713.52	19.43	20.15	12/3/2004 15:59	14533:32:16	14533:29:55	14532:55:30	120.5551234		
-18	75	1089	-0.0006	535	14.135	-0.000594087	-16.82	0.059918624	1696.70	19.24	19.96	12/15/2004 17:31	14823:04:16	14823:01:55	14822:27:30	121.7500354		
-9	72	1100	-0.0003	532	14.278	-0.000301736	-8.54	0.059616888	1688.16	19.15	19.86	12/23/2004 12:02	15009:35:16	15009:32:55	15008:58:30	122.5136228		
21	76	1085	0.00074	536	14.083	0.000689267	19.52	0.060306155	1707.67	19.37	20.08	12/31/2004 17:55	15207:28:16	15207:25:55	15206:51:30	123.3185757		
9	75	1081	0.00032	535	14.031	0.000294861	8.35	0.060601016	1716.02	19.46	20.18	1/10/2005 14:00	15443:33:16	15443:30:55	15442:56:30	124.2720984		

16	76	1078	0.00057	536	13.992	0.000521768	14.77	0.061122784	1730.80	19.63	20.34	1/20/2005 15:03	15684:36:16	15684:33:55	15683:59:30	125.2381908		
-1	76	1094	-4E-05	536	14.200	-3.30945E-05	-0.94	0.061089689	1729.86	19.62	20.33	1/27/2005 16:14	15853:47:16	15853:44:55	15853:10:30	125.9118254		
9	75	1093	0.00032	535	14.187	0.000298134	8.44	0.061387824	1738.30	19.71	20.43	2/3/2005 15:17	16020:50:16	16020:47:55	16020:13:30	126.5734482		
10	75	1093	0.00035	535	14.187	0.00033126	9.38	0.061719084	1747.68	19.82	20.53	2/10/2005 14:53	16188:26:16	16188:23:55	16187:49:30	127.2337918		
8	75	1089	0.00028	535	14.135	0.000264039	7.48	0.061983123	1755.16	19.90	20.62	2/17/2005 13:58	16355:31:16	16355:28:55	16354:54:30	127.888706		
11	77	1087	0.00039	537	14.109	0.000361037	10.22	0.062344159	1765.38	20.02	20.74	2/24/2005 15:16	16524:49:16	16524:46:55	16524:12:30	128.5489055		
11	75	1080	0.00039	535	14.018	0.000360053	10.20	0.062704212	1775.58	20.14	20.85	3/3/2005 14:11	16691:44:16	16691:41:55	16691:07:30	129.1965084		
7	75	1075	0.00025	535	13.953	0.000228064	6.46	0.062932275	1782.04	20.21	20.92	3/10/2005 13:55	16859:28:16	16859:25:55	16858:51:30	129.8440261		
11	75	1071	0.00039	535	13.901	0.000357052	10.11	0.063289327	1792.15	20.32	21.04	3/18/2005 10:36	17048:09:16	17048:06:55	17047:32:30	130.5685814		
0	75	1081	0	535	14.031	0	0.00	0.063289327	1792.15	20.32	21.04	3/23/2005 12:20	17169:53:16	17169:50:55	17169:16:30	131.0339184		
8	75	1084	0.00028	535	14.070	0.000262826	7.44	0.063552154	1799.59	20.41	21.12	4/2/2005 15:09	17412:42:16	17412:39:55	17412:05:30	131.9572069		
7	75	1080	0.00025	535	14.018	0.000229124	6.49	0.063781278	1806.08	20.48	21.20	4/8/2005 14:34	17556:07:16	17556:04:55	17555:30:30	132.4995136		
-3	75	1091	-0.0001	535	14.161	-9.91963E-05	-2.81	0.063682082	1803.27	20.45	21.17	4/15/2005 10:14	17719:47:16	17719:44:55	17719:10:30	133.1156932		
16	76	1072	0.00057	536	13.914	0.000518864	14.69	0.064200945	1817.96	20.62	21.33	4/21/2005 17:14	17870:47:16	17870:44:55	17870:10:30	133.6816658		
-7	75	1080	-0.0002	535	14.018	-0.000229124	-6.49	0.063971821	1811.47	20.54	21.26	4/28/2005 14:39	18036:12:16	18036:09:55	18035:35:30	134.2989369		
8	76	1087	0.00028	536	14.109	0.000263062	7.45	0.064234883	1818.92	20.63	21.34	5/5/2005 21:28	18211:01:16	18210:58:55	18210:24:30	134.9482164		
15	77	1080	0.00053	537	14.018	0.000489152	13.85	0.064724035	1832.77	20.79	21.50	5/12/2005 11:34	18369:07:16	18369:04:55	18368:30:30	135.5327308		
2	72	1081	7.1E-05	532	14.031	6.58942E-05	1.87	0.064789929	1834.64	20.81	21.52	5/20/2005 11:46	18561:19:16	18561:16:55	18560:42:30	136.2399395		
7	73	1085	0.00025	533	14.083	0.000231049	6.54	0.065020978	1841.18	20.88	21.60	5/26/2005 15:36	18709:09:16	18709:06:55	18708:32:30	136.7814112		
23.1	119	1083	0.00082	579	14.057	0.000700592	19.84	0.06572157	1861.02	21.11	21.82	5/26/2005 18:49	18712:22:16	18712:19:55	18711:45:30	136.7931691	note 1	
21.0	118	1083	0.00074	578	14.057	0.000638004	18.07	0.066359573	1879.09	21.31	22.02	5/26/2005 20:34	18714:07:16	18714:04:55	18713:30:30	136.7995655	note 1	
19.4	128	1083	0.00069	588	14.057	0.00057937	16.41	0.066938943	1895.49	21.50	22.21	5/26/2005 22:22	18715:55:16	18715:52:55	18715:18:30	136.8061443	note 1	
22.6	131	1084	0.0008	591	14.070	0.00067213	19.03	0.067611074	1914.53	21.71	22.43	5/27/2005 9:12	18726:45:16	18726:42:55	18726:08:30	136.8457323	note 1	
6.9	122	1081	0.00024	582	14.031	0.000207805	5.88	0.067818878	1920.41	21.78	22.49	5/27/2005 18:36	18736:09:16	18736:06:55	18735:32:30	136.8800732	note 1	
21.5	122	1080	0.00076	582	14.018	0.000646908	18.32	0.068465786	1938.73	21.99	22.70	5/28/2005 15:07	18756:40:16	18756:37:55	18756:03:30	136.9549967	note 1	
18.3	130	1078	0.00065	590	13.992	0.000542152	15.35	0.069007938	1954.08	22.16	22.88	5/29/2005 16:12	18781:45:16	18781:42:55	18781:08:30	137.0465412	note 1	
17.2	117	1082	0.00061	577	14.044	0.000522978	14.81	0.069530916	1968.89	22.33	23.04	5/30/2005 15:15	18804:48:16	18804:45:55	18804:11:30	137.1306109	note 1	
DECANISTERED 06/02/2005; sample air dried for 16 days														note 1 - volume adjusted for headspace expansion and contraction				

SAMPLE:	681.5' to 682.4' (Excello Shale) in canister MER G																	
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)		
dry sample weight:		6.269	2843.56		wet sample weight:		6.405	2905.34	2.13%		32		off bottom	at surface	in canister	13.7	minutes	
													4/8/2003 2:26	4/8/2003 2:29	4/8/2003 2:40	0.228	hours	
RIG/LAB MEASUREMENTS			CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg					CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.477551626	SQRT (hrs)	
measured cc	measured T (F	measured P	cubic ft	absolute T (F	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)		
1	73	1099	3.5E-05	533	14.265	3.34329E-05	0.95	3.34329E-05	0.95	0.01	0.37	4/8/2003 2:44	0:18:01	0:15:40	0:04:20	0.547976074		
4	73	1099	0.00014	533	14.265	0.000133731	3.79	0.000167164	4.73	0.05	0.41	4/8/2003 2:49	0:23:01	0:20:40	0:09:20	0.619363473		
3	73	1099	0.00011	533	14.265	0.000100299	2.84	0.000267463	7.57	0.09	0.45	4/8/2003 2:52	0:26:01	0:23:40	0:12:20	0.658491542		
5	73	1098	0.00018	533	14.252	0.000167012	4.73	0.000434475	12.30	0.14	0.50	4/8/2003 3:00	0:33:16	0:30:55	0:19:35	0.744610263		
7	73	1098	0.00025	533	14.252	0.000233817	6.62	0.000668292	18.92	0.21	0.57	4/8/2003 3:09	0:42:31	0:40:10	0:28:50	0.84179042		
9	73	1099	0.00032	533	14.265	0.000300896	8.52	0.000969188	27.44	0.31	0.67	4/8/2003 3:19	0:52:31	0:50:10	0:38:50	0.935562813		
6	73	1099	0.00021	533	14.265	0.000200597	5.68	0.001169785	33.12	0.37	0.73	4/8/2003 3:29	1:02:16	0:59:55	0:48:35	1.018713786		
6	74	1099	0.00021	534	14.265	0.000200222	5.67	0.001370007	38.79	0.44	0.80	4/8/2003 3:38	1:11:46	1:09:25	0:58:05	1.093668648		
8	74	1099	0.00028	534	14.265	0.000266962	7.56	0.001636969	46.35	0.52	0.88	4/8/2003 3:56	1:29:16	1:26:55	1:15:35	1.219744964		
10	75	1099	0.00035	535	14.265	0.000333079	9.43	0.001970048	55.79	0.63	0.99	4/8/2003 4:18	1:51:16	1:48:55	1:37:35	1.361779881		
8	75	1099	0.00028	535	14.265	0.000266463	7.55	0.002236511	63.33	0.71	1.07	4/8/2003 4:38	2:11:31	2:09:10	1:57:50	1.48052168		
6	75	1099	0.00021	535	14.265	0.000199847	5.66	0.002436359	68.99	0.78	1.14	4/8/2003 4:50	2:23:46	2:21:25	2:10:05	1.547937696		
16	75	1099	0.00057	535	14.265	0.000532926	15.09	0.002969285	84.08	0.95	1.31	4/8/2003 5:33	3:07:01	3:04:40	2:53:20	1.765487028		
6	75	1099	0.00021	535	14.265	0.000199847	5.66	0.003169132	89.74	1.01	1.37	4/8/2003 5:51	3:24:46	3:22:25	3:11:05	1.847370504		
14	75	1099	0.00049	535	14.265	0.00046631	13.20	0.003635443	102.94	1.16	1.52	4/8/2003 6:37	4:10:16	4:07:55	3:56:35	2.042329824		
18	75	1100	0.00064	535	14.278	0.000600088	16.99	0.00423553	119.94	1.35	1.71	4/8/2003 7:49	5:22:16	5:19:55	5:08:35	2.317565773		
28	75	1101	0.00099	535	14.291	0.000934318	26.46	0.005169848	146.39	1.65	2.01	4/8/2003 9:50	7:23:16	7:20:55	7:09:35	2.718046684		
14	75	1102	0.00049	535	14.303	0.000467583	13.24	0.005637432	159.63	1.80	2.16	4/8/2003 10:50	8:23:16	8:20:55	8:09:35	2.896166048	estimate	
18	75	1102	0.00064	535	14.303	0.000601179	17.02	0.00623861	176.66	1.99	2.35	4/8/2003 12:25	9:58:16	9:55:55	9:44:35	3.157706622		
16	75	1102	0.00057	535	14.303	0.000534381	15.13	0.006772991	191.79	2.16	2.52	4/8/2003 13:25	10:58:16	10:55:55	10:44:35	3.312266763		
13	75	1102	0.00046	535	14.303	0.000434185	12.29	0.007207176	204.08	2.30	2.66	4/8/2003 14:27	12:00:16	11:57:55	11:46:35	3.464743056		
10	75	1102	0.00035	535	14.303	0.000333988	9.46	0.007541164	213.54	2.41	2.77	4/8/2003 15:27	13:00:16	12:57:55	12:46:35	3.606167556		
11	75	1102	0.00039	535	14.303	0.000367387	10.40	0.007908551	223.94	2.52	2.88	4/8/2003 16:26	13:59:16	13:56:55	13:45:35	3.740023767		
14	75	1102	0.00049	535	14.303	0.000467583	13.24	0.008376134	237.18	2.67	3.03	4/8/2003 17:56	15:29:16	15:26:55	15:15:35	3.935451407		
20	75	1102	0.00071	535	14.303	0.000667976	18.91	0.00904411	256.10	2.89	3.25	4/8/2003 20:07	17:40:16	17:37:55	17:26:35	4.203702072		
15	75	1102	0.00053	535	14.303	0.000500982	14.19	0.009545093	270.29	3.05	3.41	4/8/2003 21:38	19:11:16	19:08:55	18:57:35	4.380385574		
12	75	1101	0.00042	535	14.291	0.000400422	11.34	0.009945515	281.62	3.17	3.53	4/8/2003 22:54	20:27:16	20:24:55	20:13:35	4.522659002		
8	75	1100	0.00028	535	14.278	0.000266706	7.55	0.01021222	289.18	3.26	3.62	4/9/2003 0:18	21:51:16	21:48:55	21:37:35	4.674873736		
21	75	1101	0.00074	535	14.291	0.000700739	19.84	0.010912959	309.02	3.48	3.84	4/9/2003 3:20	24:53:16	24:50:55	24:39:35	4.988765156		
30	75	1100	0.00106	535	14.278	0.001000146	28.32	0.011913105	337.34	3.80	4.16	4/9/2003 7:11	28:44:16	28:41:55	28:30:35	5.360762798		
18	75	1100	0.00064	535	14.278	0.000600088	16.99	0.012513192	354.33	3.99	4.35	4/9/2003 10:46	32:19:16	32:16:55	32:05:35	5.685165882		
26	75	1090	0.00092	535	14.148	0.000858913	24.32	0.013372105	378.65	4.27	4.63	4/9/2003 17:34	39:07:16	39:04:55	38:53:35	6.254687131		
47	75	1089	0.00166	535	14.135	0.001551226	43.93	0.014923332	422.58	4.76	5.12	4/10/2003 9:05	54:38:16	54:35:55	54:24:35	7.391737129		
64	75	1083	0.00226	535	14.057	0.00210067	59.48	0.017024002	482.06	5.43	5.79	4/11/2003 8:51	78:24:16	78:21:55	78:10:35	8.854628419		
40	75	1081	0.00141	535	14.031	0.001310494	37.11	0.018334496	519.17	5.85	6.21	4/11/2003 23:48	93:21:16	93:18:55	93:07:35	9.662010373		
74	75	1084	0.00261	535	14.070	0.002431143	68.84	0.020765639	588.02	6.62	6.99	4/13/2003 12:48	130:21:16	130:18:55	130:07:35	11.41728709		
48	75	1078	0.0017	535	13.992	0.001568229	44.41	0.022333867	632.42	7.13	7.49	4/14/2003 15:26	156:59:16	156:56:55	156:45:35	12.52947636		
26	75	1074	0.00092	535	13.940	0.000846305	23.96	0.023180173	656.39	7.40	7.76	4/15/2003 11:56	177:29:16	177:26:55	177:15:35	13.32245389		
49	75	1064	0.00173	535	13.810	0.001580109	44.74	0.024760282	701.13	7.90	8.26	4/16/2003 16:25	205:58:16	205:55:55	205:44:35	14.35169367		
29	75	1081	0.00102	535	14.031	0.000950108	26.90	0.02571039	728.03	8.20	8.56	4/17/2003 21:44	235:17:16	235:14:55	235:03:35	15.33909312		
56	75	1083	0.00198	535	14.057	0.001838086	52.05	0.027548477	780.08	8.79	9.15	4/20/2003 17:31	303:04:16	303:01:55	302:50:35	17.40893768		
19	75	1085	0.00067	535	14.083	0.000624788	17.69	0.028173265	797.78	8.99	9.35	4/21/2003 15:26	324:59:16	324:56:55	324:45:35	18.02741739		
52	75	1068	0.00184	535	13.862	0.001683155	47.66	0.029856419	845.44	9.53	9.89	4/24/2003 10:39	392:12:16	392:09:55	391:58:35	19.8041522		
34	75	1080	0.0012	535	14.018	0.00111289	31.51	0.030969309	876.95	9.88	10.24	4/26/2003 12:42	442:15:16	442:12:55	442:01:35	21.02984652		
21	65	1080	0.00074	525	14.018	0.000700466	19.83	0.031669775	896.78	10.10	10.46	4/28/2003 10:48	488:21:16	488:18:55	488:07:35	22.09874305		
51	74	1072	0.0018	534	13.914	0.001660072	47.01	0.033329847	943.79	10.63	10.99	4/30/2003 12:01	537:34:16	537:31:55	537:20:35	23.18557981		
16	76	1079	0.00057	536	14.005	0.000522252	14.79	0.033852099	958.58	10.80	11.16	5/1/2003 13:12	562:45:16	562:42:55	562:31:35	23.722446		
11	75	1084	0.00039	535	14.070	0.000361386	10.23	0.034213485	968.81	10.92	11.28	5/2/2003 14:33	588:06:16	588:03:55	587:52:35	24.25086482		
11	75	1085	0.00039	535	14.083	0.000361719	10.24	0.034575204	979.06	11.03	11.39	5/3/2003 10:47	608:20:16	608:17:55	608:06:35	24.66450441		
21	75	1069	0.00074	535	13.875	0.000680372	19.27	0.035255576	998.32	11.25	11.61	5/5/2003 14:26	659:59:16	659:56:55	659:45:35	25.69022728		
21	78	1080	0.00074	538	14.018	0.00068354	19.36	0.035939116	1017.68	11.47	11.83	5/7/2003 15:41	709:14:16	709:11:55	709:00:35	26.6315185		
32	75	1066	0.00113	535	13.836	0.001033848	29.28	0.036972964	1046.95	11.80	12.16	5/10/2003 15:20	780:53:16	780:50:55	780:39:35	27.94436934		
10	75	1088	0.00035	535	14.122	0.000329745	9.34	0.037302709	1056.29	11.90	12.26	5/12/2003 14:24	827:57:16	827:54:55	827:43:35	28.77419755		
31	74	1078	0.00109	534	13.992	0.001014711	28.73	0.03831742	1085.02	12.22	12.58	5/16/2003 11:49	921:22:16	921:19:55	921:08:35	30.35409546		
22	75	1083	0.00078	535	14.057	0.000722105	20.45	0.039039525	1105.47	12.45	12.82	5/19/2003 14:11	995:44:16	995:41:55	995:30:35	31.55531299		
17	75	1091	0.0006	535	14.161	0.000562112	15.92	0.039601638	1121.39	12.63	12.99	5/22/2003 9:17	1062:50:16	1062:47:55	1062:36:35	32.60119289		
16	75	1083	0.00057	535	14.057	0.000525168	14.87	0.040126805	1136.26	12.80	13.16	5/25/2003 2:03	1127:36:16	1127:33:55	1127:22:35	33.57982198		
30	75	1083	0.00106	535	14.057	0.000984689	27.88	0.041111494	1164.14	13.12	13.48	5/30/2003 16:37	1262:10:16	1262:07:55	1261:56:35	35.5270476		
18	75	1075	0.00064	535	13.953	0.000586449	16.61	0.041697944	1180.75	13.30	13.66	6/2/2003 16:10	1333:43:16	1333:40:55	1333:29:35	36.52014665		
12	75	1084	0.00042	535	14.070	0.000394239	11.16	0.042092183	1191.91	13.43	13.79	6/5/2003 11:28	1401:01:16	1400:58:55	1400:47:35	37.43021655		
18	75	1078	0.00064	535	13.992	0.000588086	16.65	0.042680269	1208.57	13.62	13.98	6/9/2003 14:05	1499:38:16	1499:35:55	1499:24:35	38.72515691		
9	76	1075	0.00032	536	13.953	0.000292678	8.29	0.042972946	1216.85	13.71	14.07	6/12/2003 13:41	1571:14:16	1571:11:55	1571:00:35	39.63884178		
11	76	1085	0.00039	536	14.083	0.000361045	10.22	0.043333991	1227.08	13.82	14.19	6/15/2003 14:53	1644:26:16	1644:23:55	1644:12:35	40.551668		
15	78	1081	0.00053	538	14.031	0.000488695	13.84	0.043822686	1240.92	13.98	14.34	6/18/2003 13:57	1715:30:16	1715:27:55	1715:16:35	41.41864851		
6	77	1085	0.00021	537	14.083	0.000196567	5.57	0.044019253	1246.48	14.04	14.40	6/20/2003 14:05	1763:38:16	1763:35:55	1763:24:35	41.99568761		
13	78	1079	0.00046	538	14.005	0.000422752	11.97	0.044442005	1258.45	14.18	14.54	6/23/2003 11:22	1832:55:16	1832:52:55	1832:41:35	42.81262794		
10	76	1078	0.00035	536	13.992	0.000326105	9.23	0.044768109	1267.69	14.28	14.64	6/25/2003 16:18	1885:51:16	1885:48:55	1885:37:35	43.42642565		
6	78	1082	0.00021	538	14.044	0.000195659	5.54	0.044963768	1273.23	14.34	14.71	6/27/2003 15:15	1932:48:16	1932:45:55	1932:34:35	43.96367187		
1	75	1088	3.5E-05	535	14.122	3.29745E-05	0.93	0.044996743	1274.16	14.36	14.72	6/30/2003 11:14	2000:47:16	2000:44:55	2000:33:35	44.73016631		

14	78	1078	0.00049	538	13.992	0.00045485	12.88	0.045451592	1287.04	14.50	14.86	7/3/2003 9:54	2071:27:16	2071:24:55	2071:13:35	45.51323373		
17	78	1081	0.0006	538	14.031	0.000553854	15.68	0.046005447	1302.72	14.68	15.04	7/7/2003 14:04	2171:37:16	2171:34:55	2171:23:35	46.60065569		
16	78	1081	0.00057	538	14.031	0.000521275	14.76	0.046526721	1317.49	14.84	15.20	7/11/2003 16:08	2269:41:16	2269:38:55	2269:27:35	47.6412403		
9	79	1084	0.00032	539	14.070	0.000293485	8.31	0.046820206	1325.80	14.94	15.30	7/15/2003 13:55	2363:28:16	2363:25:55	2363:14:35	48.61554392		
17	78	1079	0.0006	538	14.005	0.00055283	15.65	0.047373036	1341.45	15.11	15.47	7/21/2003 16:30	2510:03:16	2510:00:55	2509:49:35	50.10044356		
12	77	1081	0.00042	537	14.031	0.000391684	11.09	0.04776472	1352.54	15.24	15.60	7/28/2003 20:26	2681:59:16	2681:56:55	2681:45:35	51.7879115		
-5	70	1079	-0.0002	530	14.005	-0.000165051	-4.67	0.047599669	1347.87	15.19	15.55	8/4/2003 13:46	2843:19:16	2843:16:55	2843:05:35	53.32280104		
14	78	1086	0.00049	538	14.096	0.000458225	12.98	0.048057894	1360.84	15.33	15.69	8/11/2003 14:01	3011:34:16	3011:31:55	3011:20:35	54.8777834		
18	84	1082	0.00064	544	14.044	0.000580502	16.44	0.048638396	1377.28	15.52	15.88	8/18/2003 20:03	3185:36:16	3185:33:55	3185:22:35	56.44115913		
7	80	1083	0.00025	540	14.057	0.000227633	6.45	0.04886603	1383.73	15.59	15.95	8/24/2003 22:47	3332:20:16	3332:17:55	3332:06:35	57.72640451		
10	84	1086	0.00035	544	14.096	0.000323694	9.17	0.049189723	1392.89	15.69	16.05	9/1/2003 14:49	3516:22:16	3516:19:55	3516:08:35	59.29899756		
-5	83	1084	-0.0002	543	14.070	-0.000161846	-4.58	0.049027877	1388.31	15.64	16.00	9/8/2003 14:06	3683:39:16	3683:36:55	3683:25:35	60.69311694		
2	76	1085	7.1E-05	536	14.083	6.56445E-05	1.86	0.049093521	1390.17	15.66	16.02	9/15/2003 15:14	3852:47:16	3852:44:55	3852:33:35	62.07082872		
DECANISTERED 09/15/2003; sample air dried 20 days																		

SAMPLE:	682.4' to 683.2' (Mulky coal) in canister MER 3																	
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)		
dry sample weight:		2.939	1333.22		wet sample weight:		3.006	1363.47	2.22%		250		off bottom	at surface	in canister	10.0	minutes	
													4/8/2003 2:26	4/8/2003 2:29	4/8/2003 2:36	0.166	hours	
RIG/LAB MEASUREMENTS			CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg (					CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.407567309	SQRT (hrs)	
measured cc	measured T (F	measured P	cubic ft	absolute T (F	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)		
70	73	1099	0.00247	533	14.265	0.002340301	66.27	0.002340301	66.27	1.59	7.60	4/8/2003 2:42	0:15:16	0:12:55	0:05:18	0.504424865		
30	73	1099	0.00106	533	14.265	0.001002986	28.40	0.003343287	94.67	2.27	8.28	4/8/2003 2:46	0:19:16	0:16:55	0:09:18	0.566666667		
41	73	1099	0.00145	533	14.265	0.001370748	38.82	0.004714035	133.49	3.21	9.22	4/8/2003 2:51	0:24:46	0:22:25	0:14:48	0.642477842		
27	73	1099	0.00095	533	14.265	0.000902688	25.56	0.005616723	159.05	3.82	9.83	4/8/2003 2:53	0:27:01	0:24:40	0:17:03	0.671027405		
38	73	1099	0.00134	533	14.265	0.001270449	35.97	0.006887172	195.02	4.69	10.69	4/8/2003 2:58	0:31:46	0:29:25	0:21:48	0.727629332		
27	73	1098	0.00095	533	14.252	0.000901866	25.54	0.007789038	220.56	5.30	11.31	4/8/2003 3:02	0:35:16	0:32:55	0:25:18	0.766666667		
38	73	1098	0.00134	533	14.252	0.001269293	35.94	0.009058331	256.50	6.16	12.17	4/8/2003 3:08	0:41:31	0:39:10	0:31:33	0.831831981		
49	73	1099	0.00173	533	14.265	0.001638211	46.39	0.010696542	302.89	7.28	13.29	4/8/2003 3:14	0:47:46	0:45:25	0:37:48	0.892250588		
41	73	1099	0.00145	533	14.265	0.001370748	38.82	0.01206729	341.71	8.21	14.22	4/8/2003 3:22	0:55:16	0:52:55	0:45:18	0.959745337		
52	74	1099	0.00184	534	14.265	0.001735254	49.14	0.013802543	390.84	9.39	15.40	4/8/2003 3:32	1:05:16	1:02:55	0:55:18	1.042965856		
44	74	1099	0.00155	534	14.265	0.001468292	41.58	0.015270835	432.42	10.39	16.40	4/8/2003 3:41	1:14:16	1:11:55	1:04:18	1.112554618		
76	74	1099	0.00268	534	14.265	0.00253614	71.82	0.017806975	504.24	12.12	18.12	4/8/2003 3:57	1:30:16	1:27:55	1:20:18	1.226557966		
75	75	1099	0.00265	535	14.265	0.002498092	70.74	0.020305067	574.97	13.82	19.82	4/8/2003 4:16	1:49:31	1:47:10	1:39:33	1.351028415		
71	75	1099	0.00251	535	14.265	0.00236486	66.97	0.022669927	641.94	15.43	21.43	4/8/2003 4:35	2:09:01	2:06:40	1:59:03	1.466382548		
48	75	1099	0.0017	535	14.265	0.001598779	45.27	0.024268706	687.21	16.51	22.52	4/8/2003 4:49	2:22:16	2:19:55	2:12:18	1.539841262		
68	75	1099	0.0024	535	14.265	0.002264936	64.14	0.026533642	751.35	18.05	24.06	4/8/2003 5:12	2:45:46	2:43:25	2:35:48	1.662160575		
52	75	1099	0.00184	535	14.265	0.00173201	49.04	0.028265652	800.39	19.23	25.24	4/8/2003 5:32	3:05:46	3:03:25	2:55:48	1.759576969		
44	75	1099	0.00155	535	14.265	0.001465547	41.50	0.029731199	841.89	20.23	26.24	4/8/2003 5:50	3:23:31	3:21:10	3:13:33	1.841723227		
30	75	1099	0.00106	535	14.265	0.000999237	28.30	0.030730436	870.19	20.91	26.92	4/8/2003 6:03	3:36:16	3:33:55	3:26:18	1.898537449		
69	75	1099	0.00244	535	14.265	0.002298244	65.08	0.033028681	935.26	22.47	28.48	4/8/2003 6:36	4:09:16	4:06:55	3:59:18	2.038245433		
71	75	1100	0.00251	535	14.278	0.002367012	67.03	0.035395693	1002.29	24.08	30.09	4/8/2003 7:07	4:40:46	4:38:25	4:30:48	2.163202359		
65	75	1100	0.0023	535	14.278	0.002166983	61.36	0.037562675	1063.65	25.56	31.57	4/8/2003 7:47	5:20:16	5:17:55	5:10:18	2.310363127		
65	75	1101	0.0023	535	14.291	0.002168953	61.42	0.039731628	1125.07	27.04	33.04	4/8/2003 8:30	6:03:16	6:00:55	5:53:18	2.460578071		
110	75	1101	0.00388	535	14.291	0.003670536	103.94	0.043402164	1229.01	29.53	35.54	4/8/2003 9:48	7:21:16	7:18:55	7:11:18	2.711907897		
80	75	1102	0.00283	535	14.303	0.002671905	75.66	0.046074069	1304.67	31.35	37.36	4/8/2003 10:45	8:18:16	8:15:55	8:08:18	2.8817433		
111	75	1102	0.00392	535	14.303	0.003707268	104.98	0.049781337	1409.65	33.87	39.88	4/8/2003 12:24	9:57:16	9:54:55	9:47:18	3.155066472		
74	75	1102	0.00261	535	14.303	0.002471512	69.99	0.052252849	1479.63	35.56	41.56	4/8/2003 13:24	10:57:16	10:54:55	10:47:18	3.309749907		
67	75	1102	0.00237	535	14.303	0.00223772	63.36	0.054490569	1543.00	37.08	43.09	4/8/2003 14:25	11:58:16	11:55:55	11:48:18	3.459929351		
75	75	1101	0.00265	535	14.291	0.002502638	70.87	0.056993207	1613.86	38.78	44.79	4/8/2003 15:26	12:59:16	12:56:55	12:49:18	3.60385596		
52	75	1101	0.00184	535	14.291	0.001735162	49.13	0.058728369	1663.00	39.96	45.97	4/8/2003 16:25	13:58:16	13:55:55	13:48:18	3.737794953		
80	75	1102	0.00283	535	14.303	0.002671905	75.66	0.061400274	1738.66	41.78	47.79	4/8/2003 17:59	15:32:16	15:29:55	15:22:18	3.9417988		
80	75	1101	0.00283	535	14.291	0.00266948	75.59	0.064069755	1814.25	43.60	49.60	4/8/2003 20:06	17:39:16	17:36:55	17:29:18	4.201719225		
67	75	1101	0.00237	535	14.291	0.00223569	63.31	0.066305444	1877.55	45.12	51.12	4/8/2003 21:35	19:08:16	19:05:55	18:58:18	4.374674591		
53	75	1101	0.00187	535	14.291	0.001768531	50.08	0.068073975	1927.63	46.32	52.33	4/8/2003 22:52	20:25:16	20:22:55	20:15:18	4.518972351		
159	75	1100	0.00562	535	14.278	0.005300773	150.10	0.073374748	2077.73	49.93	55.94	4/9/2003 0:18	21:51:16	21:48:55	21:41:18	4.674873736		
92	75	1101	0.00325	535	14.291	0.003069902	86.93	0.076444651	2164.66	52.02	58.02	4/9/2003 3:21	24:54:16	24:51:55	24:44:18	4.990435296		
110	75	1100	0.00388	535	14.278	0.003667202	103.84	0.080111853	2268.51	54.51	60.52	4/9/2003 7:09	28:42:16	28:39:55	28:32:18	5.357652886		
100	75	1100	0.00353	535	14.278	0.00333382	94.40	0.083445672	2362.91	56.78	62.79	4/9/2003 10:49	32:22:16	32:19:55	32:12:18	5.689561592		
93	75	1090	0.00328	535	14.148	0.003072266	87.00	0.086517939	2449.91	58.87	64.88	4/9/2003 17:41	39:14:16	39:11:55	39:04:18	6.264006528		
176	75	1089	0.00622	535	14.135	0.005808847	164.49	0.092326786	2614.39	62.82	68.83	4/10/2003 9:03	54:36:16	54:33:55	54:26:18	7.389482015		
157	75	1083	0.00554	535	14.057	0.005153206	145.92	0.097479993	2760.32	66.33	72.34	4/10/2003 23:54	69:27:16	69:24:55	69:17:18	8.333933312		
100	75	1083	0.00353	535	14.057	0.003282297	92.94	0.10076229	2853.26	68.56	74.57	4/11/2003 8:50	78:23:16	78:20:55	78:13:18	8.853687242		
132	75	1081	0.00466	535	14.031	0.004324631	122.46	0.10508692	2975.72	71.51	77.51	4/11/2003 23:47	93:20:16	93:17:55	93:10:18	9.66114785		
112	75	1083	0.00396	535	14.057	0.003676173	104.10	0.108763093	3079.82	74.01	80.01	4/12/2003 12:40	106:13:16	106:10:55	106:03:18	10.30636265		
160	75	1084	0.00565	535	14.070	0.005256524	148.85	0.114019618	3228.66	77.58	83.59	4/13/2003 12:49	130:22:16	130:19:55	130:12:18	11.41801695		
110	75	1079	0.00388	535	14.005	0.003597191	101.86	0.117616809	3330.52	80.03	86.04	4/14/2003 14:19	155:52:16	155:49:55	155:42:18	12.48483525		
60	75	1074	0.00212	535	13.940	0.001953012	55.30	0.119569821	3385.83	81.36	87.37	4/15/2003 11:35	177:08:16	177:05:55	176:58:18	13.30931169		
156	75	1064	0.00551	535	13.810	0.005030552	142.45	0.124600373	3528.28	84.78	90.79	4/16/2003 16:27	206:00:16	205:57:55	205:50:18	14.35285492		
104	75	1081	0.00367	535	14.031	0.003407285	96.48	0.128007658	3624.76	87.10	93.11	4/17/2003 21:41	235:14:16	235:11:55	235:04:18	15.33746321		
92	75	1069	0.00325	535	13.875	0.002980677	84.40	0.130988336	3709.16	89.13	95.14	4/18/2003 19:24	256:57:16	256:54:55	256:47:18	16.02979864		
113	75	1083	0.00399	535	14.057	0.003708996	105.03	0.134697331	3814.19	91.65	97.66	4/20/2003 17:33	303:06:16	303:03:55	302:56:18	17.40989502		
65	75	1085	0.0023	535	14.083	0.002137433	60.53	0.136834764	3874.71	93.11	99.12	4/21/2003 15:26	324:59:16	324:56:55	324:49:18	18.02741739		
60	75	1082	0.00212	535	14.044	0.00196756	55.71	0.138802324	3930.43	94.45	100.46	4/22/2003 19:56	353:29:16	353:26:55	353:19:18	18.80127064		
99	75	1068	0.0035	535	13.862	0.003204468	90.74	0.142006792	4021.17	96.63	102.64	4/24/2003 10:40	392:13:16	392:10:55	392:03:18	19.80457298		
103	75	1080	0.00364	535	14.018	0.003371401	95.47	0.145378193	4116.64	98.92	104.93	4/26/2003 12:44	442:17:16	442:14:55	442:07:18	21.03063902		
71	65	1080	0.00251	525	14.018	0.002368242	67.06	0.147746434	4183.70	100.53	106.54	4/28/2003 10:48	488:21:16	488:18:55	488:11:18	22.09874305		
92	75	1081	0.00325	535	14.031	0.003014137	85.35	0.150760571	4269.05	102.58	108.59	4/29/2003 12:04	513:37:16	513:34:55	513:27:18	22.66321052		
76	74	1072	0.00268	534	13.914	0.002473833	70.05	0.153234404	4339.10	104.27	110.28	4/30/2003 12:03	537:36:16	537:33:55	537:26:18	23.18629864		
57	76	1079	0.00201	536	14.005	0.001860522	52.68	0.155094925	4391.78	105.53	111.54	5/1/2003 13:13	562:46:16	562:43:55	562:36:18	23.72279729		
50	75	1084	0.00177	535	14.070	0.001642664	46.51	0.156737589	4438.30	106.65	112.66	5/2/2003 14:34	588:07:16	588:04:55	587:57:18	24.25120845		
42	75	1085	0.00148	535	14.083	0.001381111	39.11	0.1581187	4477.41	107.59	113.60	5/3/2003 10:48	608:21:16	608:18:55	608:11:18	24.66484227		
47	75	1067	0.00166	535	13.849	0.001519888	43.04	0.159638588	4520.44	108.63	114.63	5/4/2003 10:30	632:03:16	632:00:55	631:53:18	25.140693		
53	75	1069	0.00187	535	13.875	0.001717129	48.62	0.161355717	4569.07	109.79	115.80	5/5/2003 14:27	660:00:16	659:57:55	659:50:18	25.69055166		
48	75	1075	0.0017	535	13.953	0.001563865	44.28	0.162919582	4613.35	110.86	116.87	5/6/2003 12:30	682:03:16	682:00:55	681:53:18	26.11617209		
39	78	1080	0.00138	538	14.018	0.001269432	35.95	0.164189013	4649.30	111.72	117.73	5/7/2003 15:43	709:16:16	709:13:55	709:06:18	26.63214432		
93	75	1066	0.00328	535	13.836	0.00300462	85.08	0.167193634	4734.38	113.77	119.77	5/10/2003 15:21	780:54:16	780:51:55	780:44:18	27.94466755		
49	75	1088	0.00173	535	14.122	0.001615751	45.75	0.168809385	4780.13	114.87	120.87	5/12/2003 14:26	827:59:16	827:56:55	827:49:18	28.77477676		
45	75	1079	0.00159	535	14.005	0.001471578	41.67	0.170280963	4821.80	115.87	121.87	5/14/2003 12:01	873:34:16	873:31:55	873:24:18	29.55623642		
61	74	1078	0.00215	534	13.992	0.00199669	56.54	0.172277652	4878.34	117.23	123.23	5/16/2003 11:50	921:23:16	921:20:55	921:13:18	30.35436999		

68	75	1083	0.0024	535	14.057	0.002231962	63.20	0.174509614	4941.54	118.74	124.75	5/19/2003 14:13	995:46:16	995:43:55	995:36:18	31.55584116			
58	75	1091	0.00205	535	14.161	0.001917795	54.31	0.176427409	4995.85	120.05	126.06	5/22/2003 9:18	1062:51:16	1062:48:55	1062:41:18	32.6014485			
57	75	1083	0.00201	535	14.057	0.001870909	52.98	0.178298319	5048.83	121.32	127.33	5/25/2003 2:05	1127:38:16	1127:35:55	1127:28:18	33.58031831			
95	75	1083	0.00335	535	14.057	0.003118182	88.30	0.181416501	5137.12	123.44	129.45	5/30/2003 16:37	1262:10:16	1262:07:55	1262:00:18	35.5270476			
65	75	1075	0.0023	535	13.953	0.002117733	59.97	0.183534234	5197.09	124.89	130.89	6/2/2003 16:11	1333:44:16	1333:41:55	1333:34:18	36.52037483			
45	75	1084	0.00159	535	14.070	0.001478398	41.86	0.185012632	5238.95	125.89	131.90	6/5/2003 11:29	1401:02:16	1400:59:55	1400:52:18	37.43043919			
59	75	1078	0.00208	535	13.992	0.001927615	54.58	0.186940246	5293.54	127.20	133.21	6/9/2003 14:06	1499:39:16	1499:36:55	1499:29:18	38.7253721			
39	76	1075	0.00138	536	13.953	0.001268269	35.91	0.188208515	5329.45	128.07	134.07	6/12/2003 13:42	1571:15:16	1571:12:55	1571:05:18	39.63905201			
42	76	1085	0.00148	536	14.083	0.001378534	39.04	0.189587049	5368.49	129.00	135.01	6/15/2003 14:54	1644:27:16	1644:24:55	1644:17:18	40.5518735			
50	78	1081	0.00177	538	14.031	0.001628983	46.13	0.191216033	5414.61	130.11	136.12	6/18/2003 13:57	1715:30:16	1715:27:55	1715:20:18	41.41864851			
31	77	1085	0.00109	537	14.083	0.001015595	28.76	0.192231627	5443.37	130.80	136.81	6/20/2003 14:06	1763:39:16	1763:36:55	1763:29:18	41.99588604			
44	78	1079	0.00155	538	14.005	0.001430853	40.52	0.19366248	5483.89	131.78	137.78	6/23/2003 11:22	1832:55:16	1832:52:55	1832:45:18	42.81262794			
35	76	1078	0.00124	536	13.992	0.001141367	32.32	0.194803847	5516.21	132.55	138.56	6/25/2003 16:19	1885:52:16	1885:49:55	1885:42:18	43.42661754			
25	78	1082	0.00088	538	14.044	0.000815245	23.09	0.195619092	5539.29	133.11	139.12	6/27/2003 15:16	1932:49:16	1932:46:55	1932:39:18	43.96386142			
10	75	1088	0.00035	535	14.122	0.000329745	9.34	0.195948837	5548.63	133.33	139.34	6/30/2003 11:14	2000:47:16	2000:44:55	2000:37:18	44.73016631			
44	78	1078	0.00155	538	13.992	0.001429527	40.48	0.197378364	5589.11	134.31	140.31	7/3/2003 9:54	2071:27:16	2071:24:55	2071:17:18	45.51323373			
40	78	1078	0.00141	538	13.992	0.00129957	36.80	0.198677934	5625.91	135.19	141.20	7/5/2003 19:52	2129:25:16	2129:22:55	2129:15:18	46.14565105			
18	75	1081	0.00064	535	14.031	0.000589722	16.70	0.199267657	5642.61	135.59	141.60	7/7/2003 14:04	2171:37:16	2171:34:55	2171:27:18	46.60065569			
42	78	1081	0.00148	538	14.031	0.001368346	38.75	0.200636003	5681.36	136.52	142.53	7/11/2003 16:09	2269:42:16	2269:39:55	2269:32:18	47.64141522			
42	79	1081	0.00148	539	14.031	0.001365807	38.68	0.20200181	5720.03	137.45	143.46	7/15/2003 13:56	2363:29:16	2363:26:55	2363:19:18	48.61571534			
50	78	1079	0.00177	538	14.005	0.001625969	46.04	0.203627779	5766.07	138.56	144.57	7/21/2003 16:31	2510:04:16	2510:01:55	2509:54:18	50.10060989			
53	77	1081	0.00187	537	14.031	0.001729938	48.99	0.205357717	5815.06	139.73	145.74	7/28/2003 20:26	2681:59:16	2681:56:55	2681:49:18	51.7879115			
17	70	1079	0.0006	530	14.005	0.000561174	15.89	0.205918891	5830.95	140.12	146.12	8/4/2003 13:47	2843:20:16	2843:17:55	2843:10:18	53.32295732			
63	78	1086	0.00222	538	14.096	0.002062013	58.39	0.207980904	5889.34	141.52	147.53	8/11/2003 14:02	3011:35:16	3011:32:55	3011:25:18	54.87793525			
72	84	1082	0.00254	544	14.044	0.00232201	65.75	0.210302914	5955.09	143.10	149.11	8/18/2003 20:03	3185:36:16	3185:33:55	3185:26:18	56.44115913			
42	80	1083	0.00148	540	14.057	0.0013658	38.68	0.211668714	5993.77	144.03	150.04	8/24/2003 22:48	3332:21:16	3332:18:55	3332:11:18	57.72654887			
53	84	1086	0.00187	544	14.096	0.001715576	48.58	0.21338429	6042.35	145.20	151.20	9/1/2003 14:50	3516:23:16	3516:20:55	3516:13:18	59.29913809			
5	83	1084	0.00018	543	14.070	0.000161846	4.58	0.213546136	6046.93	145.31	151.31	9/8/2003 14:05	3683:38:16	3683:35:55	3683:28:18	60.69297964			
10	76	1085	0.00035	536	14.083	0.000328222	9.29	0.213874359	6056.22	145.53	151.54	9/15/2003 15:15	3852:48:16	3852:45:55	3852:38:18	62.07096297			
16	79	1084	0.00057	539	14.070	0.000521752	14.77	0.21439611	6071.00	145.89	151.89	9/23/2003 10:50	4040:23:16	4040:20:55	4040:13:18	63.56404469			
-6	72	1091	-0.0002	532	14.161	-0.000199511	-5.65	0.214196599	6065.35	145.75	151.76	9/26/2003 18:53	4120:26:16	4120:23:55	4120:16:18	64.19063622			
23	78	1085	0.00081	538	14.083	0.000752105	21.30	0.214948704	6086.65	146.26	152.27	10/6/2003 12:12	4353:45:16	4353:42:55	4353:35:18	65.98298602			
58	81	1084	0.00205	541	14.070	0.001884357	53.36	0.216833061	6140.01	147.54	153.55	10/14/2003 23:10	4556:43:16	4556:40:55	4556:33:18	67.50348962			
13	76	1081	0.00046	536	14.031	0.000425116	12.04	0.217258177	6152.04	147.83	153.84	10/20/2003 15:37	4693:10:16	4693:07:55	4693:00:18	68.50672311			
5	69	1075	0.00018	529	13.953	0.00016475	4.67	0.217422927	6156.71	147.94	153.95	10/27/2003 15:05	4860:38:16	4860:35:55	4860:28:18	69.71827435			
20	73	1080	0.00071	533	14.018	0.000657097	18.61	0.218080025	6175.32	148.39	154.40	11/3/2003 10:14	5023:47:16	5023:44:55	5023:37:18	70.87868352			
1	75	1085	3.5E-05	535	14.083	3.28836E-05	0.93	0.218112908	6176.25	148.41	154.42	11/10/2003 11:21	5192:54:16	5192:51:55	5192:44:18	72.06180989			
22	75	1069	0.00078	535	13.875	0.000712771	20.18	0.218825679	6196.43	148.90	154.91	11/17/2003 16:29	5366:02:16	5365:59:55	5365:52:18	73.25324415			
-8	73	1086	-0.0003	533	14.096	-0.000264299	-7.48	0.21856138	6188.95	148.72	154.73	11/24/2003 14:25	5531:58:16	5531:55:55	5531:48:18	74.37722172			
2	72	1090	7.1E-05	532	14.148	6.64428E-05	1.88	0.218627823	6190.83	148.76	154.77	12/4/2003 20:03	5777:36:16	5777:33:55	5777:26:18	76.01055482			
DECANISTERED 12/05/2003; sample air dried for 14 days																			

SAMPLE:	706.0' to 707.0' (Iron Post coal) in canister B																	
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)		
dry sample weight:		3.453	1566.47		wet sample weight:		3.505	1590.05	1.48%		125		off bottom	at surface	in canister	9.5	minutes	
													4/8/2003 4:05	4/8/2003 4:08	4/8/2003 4:14	0.158	hours	
RIG/LAB MEASUREMENTS			CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg (					CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.397911213	SQRT (hrs)	
measured cc	measured T (F	measured P	cubic ft	absolute T (F	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)		
33	75	1099	0.00117	535	14.265	0.00109916	31.12	0.00109916	31.12	0.64	3.19	4/8/2003 4:19	0:14:30	0:11:30	0:05:00	0.49159604		
4	75	1099	0.00014	535	14.265	0.000133232	3.77	0.001232392	34.90	0.71	3.27	4/8/2003 4:20	0:15:30	0:12:30	0:06:00	0.508265023		
13	75	1099	0.00046	535	14.265	0.000433003	12.26	0.001665394	47.16	0.96	3.52	4/8/2003 4:22	0:17:30	0:14:30	0:08:00	0.540061725		
6	75	1099	0.00021	535	14.265	0.000199847	5.66	0.001865242	52.82	1.08	3.64	4/8/2003 4:24	0:19:00	0:16:00	0:09:30	0.562731434		
10	75	1099	0.00035	535	14.265	0.000333079	9.43	0.002198321	62.25	1.27	3.83	4/8/2003 4:26	0:21:00	0:18:00	0:11:30	0.591607978		
10	75	1099	0.00035	535	14.265	0.000333079	9.43	0.0025314	71.68	1.47	4.02	4/8/2003 4:28	0:23:00	0:20:00	0:13:30	0.619139187		
17	75	1099	0.0006	535	14.265	0.000566234	16.03	0.003097634	87.71	1.79	4.35	4/8/2003 4:32	0:27:15	0:24:15	0:17:45	0.673918887		
9	75	1099	0.00032	535	14.265	0.000299771	8.49	0.003397405	96.20	1.97	4.52	4/8/2003 4:34	0:29:45	0:26:45	0:20:15	0.704154339		
32	75	1099	0.00113	535	14.265	0.001065852	30.18	0.004463257	126.38	2.58	5.14	4/8/2003 4:40	0:35:30	0:32:30	0:26:00	0.769198717		
22	75	1099	0.00078	535	14.265	0.000732774	20.75	0.005196031	147.13	3.01	5.57	4/8/2003 4:48	0:43:00	0:40:00	0:33:30	0.846561673		
60	75	1099	0.00212	535	14.265	0.001998473	56.59	0.007194504	203.72	4.17	6.72	4/8/2003 5:11	1:06:30	1:03:30	0:57:00	1.052774113		
39	75	1099	0.00138	535	14.265	0.001299008	36.78	0.008493512	240.51	4.92	7.48	4/8/2003 5:30	1:25:15	1:22:15	1:15:45	1.191987136		
34	75	1099	0.0012	535	14.265	0.001132468	32.07	0.00962598	272.58	5.57	8.13	4/8/2003 5:49	1:44:00	1:41:00	1:34:30	1.316561177		
31	75	1099	0.00109	535	14.265	0.001032545	29.24	0.010658525	301.81	6.17	8.73	4/8/2003 6:00	1:55:00	1:52:00	1:45:30	1.38443731		
49	75	1099	0.00173	535	14.265	0.001632087	46.22	0.012290611	348.03	7.12	9.67	4/8/2003 6:34	2:29:00	2:26:00	2:19:30	1.575859554		
42	75	1099	0.00148	535	14.265	0.001398931	39.61	0.013689543	387.64	7.93	10.48	4/8/2003 7:06	3:01:30	2:58:30	2:52:00	1.739252713		
42	75	1100	0.00148	535	14.278	0.001400204	39.65	0.015089747	427.29	8.74	11.30	4/8/2003 7:46	3:41:00	3:38:00	3:31:30	1.919201223		
39	75	1100	0.00138	535	14.278	0.00130019	36.82	0.016389937	464.11	9.49	12.05	4/8/2003 8:29	4:24:00	4:21:00	4:14:30	2.097617696		
70	75	1101	0.00247	535	14.291	0.002335795	66.14	0.018725732	530.25	10.84	13.40	4/8/2003 9:46	5:41:00	5:38:00	5:31:30	2.383974273		
40	75	1101	0.00141	535	14.291	0.00133474	37.80	0.020060472	568.05	11.62	14.17	4/8/2003 10:43	6:38:00	6:35:00	6:28:30	2.575525836		
61	75	1102	0.00215	535	14.303	0.002037328	57.69	0.0220978	625.74	12.80	15.35	4/8/2003 12:22	8:17:00	8:14:00	8:07:30	2.878078062		
43	75	1102	0.00152	535	14.303	0.001436149	40.67	0.023533949	666.40	13.63	16.19	4/8/2003 13:21	9:16:00	9:13:00	9:06:30	3.044120015		
40	75	1102	0.00141	535	14.303	0.001335952	37.83	0.024869901	704.23	14.40	16.96	4/8/2003 14:26	10:21:00	10:18:00	10:11:30	3.217141588		
33	75	1102	0.00117	535	14.303	0.001102161	31.21	0.025972062	735.44	15.04	17.60	4/8/2003 15:24	11:19:00	11:16:00	11:09:30	3.364025367		
30	75	1101	0.00106	535	14.291	0.001001055	28.35	0.026973117	763.79	15.62	18.18	4/8/2003 16:23	12:18:00	12:15:00	12:08:30	3.507135583		
49	75	1101	0.00173	535	14.291	0.001635057	46.30	0.028608174	810.09	16.57	19.12	4/8/2003 18:02	13:57:00	13:54:00	13:47:30	3.734969879		
47	75	1101	0.00166	535	14.291	0.00156832	44.41	0.030176493	854.50	17.48	20.03	4/8/2003 20:05	16:00:00	15:57:00	15:50:30	4		
37	75	1101	0.00131	535	14.291	0.001234635	34.96	0.031411128	889.46	18.19	20.75	4/8/2003 19:34	15:29:00	15:26:00	15:19:30	3.934886699		
29	75	1101	0.00102	535	14.291	0.000967687	27.40	0.032378815	916.86	18.75	21.31	4/8/2003 22:51	18:46:00	18:43:00	18:36:30	4.332051092		
37	75	1100	0.00131	535	14.278	0.001233513	34.93	0.033612328	951.79	19.47	22.02	4/9/2003 0:26	20:21:00	20:18:00	20:11:30	4.511097427		
50	75	1101	0.00177	535	14.291	0.001668425	47.24	0.035280753	999.04	20.43	22.99	4/9/2003 3:23	23:18:00	23:15:00	23:08:30	4.827007354		
68	75	1100	0.0024	535	14.278	0.002266997	64.19	0.037547751	1063.23	21.74	24.30	4/9/2003 7:07	27:02:00	26:59:00	26:52:30	5.199358935		
65	75	1100	0.0023	535	14.278	0.002166983	61.36	0.039714733	1124.59	23.00	25.56	4/9/2003 11:02	30:57:00	30:54:00	30:47:30	5.563272418		
75	75	1090	0.00265	535	14.148	0.002477634	70.16	0.042192368	1194.75	24.43	26.99	4/9/2003 17:38	37:33:00	37:30:00	37:23:30	6.12780548		
135	75	1089	0.00477	535	14.135	0.00445565	126.17	0.046648018	1320.92	27.02	29.57	4/10/2003 9:01	52:56:00	52:53:00	52:46:30	7.275529763		
121	75	1083	0.00427	535	14.057	0.003971579	112.46	0.050619597	1433.38	29.32	31.87	4/10/2003 23:53	67:48:00	67:45:00	67:38:30	8.23407554		
69	75	1083	0.00244	535	14.057	0.002264785	64.13	0.052884382	1497.51	30.63	33.18	4/11/2003 8:49	76:44:00	76:41:00	76:34:30	8.759756465		
101	75	1081	0.00357	535	14.031	0.003308998	93.70	0.05619338	1591.21	32.54	35.10	4/11/2003 23:46	91:41:00	91:38:00	91:31:30	9.575141426		
83	75	1083	0.00293	535	14.057	0.002724307	77.14	0.058917687	1668.36	34.12	36.68	4/12/2003 12:39	104:34:00	104:31:00	104:24:30	10.2257844		
133	75	1084	0.0047	535	14.070	0.004369486	123.73	0.063287172	1792.09	36.65	39.21	4/13/2003 12:50	128:45:00	128:42:00	128:35:30	11.34680572		
129	75	1078	0.00456	535	13.992	0.004214615	119.34	0.067501787	1911.43	39.09	41.65	4/14/2003 15:27	155:22:00	155:19:00	155:12:30	12.46461659		
81	75	1074	0.00286	535	13.940	0.002636566	74.66	0.070138354	1986.09	40.62	43.18	4/15/2003 11:35	175:30:00	175:27:00	175:20:30	13.2476413		
114	75	1064	0.00403	535	13.810	0.003676173	104.10	0.073814526	2090.19	42.75	45.30	4/16/2003 16:27	204:22:00	204:19:00	204:12:30	14.295687		
92	75	1081	0.00325	535	14.031	0.003014137	85.35	0.076828663	2175.54	44.49	47.05	4/17/2003 21:41	233:36:00	233:33:00	233:26:30	15.28397854		
79	75	1069	0.00279	535	13.875	0.002559495	72.48	0.079388158	2248.01	45.98	48.53	4/18/2003 19:24	255:19:00	255:16:00	255:09:30	15.97863156		
120	75	1083	0.00424	535	14.057	0.003938756	111.53	0.083326914	2359.55	48.26	50.81	4/20/2003 17:33	301:28:00	301:25:00	301:18:30	17.36279547		
61	75	1085	0.00215	535	14.083	0.002005899	56.80	0.085332813	2416.35	49.42	51.97	4/21/2003 15:27	323:22:00	323:19:00	323:12:30	17.9823988		
65	75	1082	0.0023	535	14.044	0.002131523	60.36	0.087464336	2476.70	50.65	53.21	4/22/2003 19:58	351:53:00	351:50:00	351:43:30	18.7585536		
106	75	1068	0.00374	535	13.862	0.003431046	97.16	0.090895382	2573.86	52.64	55.20	4/24/2003 10:42	390:37:00	390:34:00	390:27:30	19.76402456		
109	75	1080	0.00385	535	14.018	0.003567793	101.03	0.094463175	2674.89	54.71	57.26	4/26/2003 12:46	440:41:00	440:38:00	440:31:30	20.99245896		
83	65	1080	0.00293	525	14.018	0.002768508	78.40	0.097231683	2753.28	56.31	58.87	4/28/2003 10:49	486:44:00	486:41:00	486:34:30	22.06203375		
82	75	1081	0.0029	535	14.031	0.002686513	76.07	0.099918196	2829.36	57.87	60.42	4/29/2003 12:06	512:01:00	511:58:00	511:51:30	22.62778528		
69	74	1072	0.00244	534	13.914	0.00224598	63.60	0.102164176	2892.96	59.17	61.72	4/30/2003 12:03	535:58:00	535:55:00	535:48:30	23.1509539		
56	76	1079	0.00198	536	14.005	0.001827881	51.76	0.103992057	2944.72	60.22	62.78	5/1/2003 13:13	561:08:00	561:05:00	560:58:30	23.68825307		
52	75	1084	0.00184	535	14.070	0.00170837	48.38	0.105700427	2993.09	61.21	63.77	5/2/2003 14:34	586:29:00	586:26:00	586:19:30	24.21741797		
11	75	1085	0.00039	535	14.083	0.000361719	10.24	0.106062147	3003.33	61.42	63.98	5/3/2003 10:48	606:43:00	606:40:00	606:33:30	24.63161925		
53	75	1067	0.00187	535	13.849	0.001713917	48.53	0.107776063	3051.87	62.42	64.97	5/4/2003 10:31	630:26:00	630:23:00	630:16:30	25.10843152		
58	75	1069	0.00205	535	13.875	0.001879123	53.21	0.109655186	3105.08	63.50	66.06	5/5/2003 14:28	658:23:00	658:20:00	658:13:30	25.65898153		
48	75	1075	0.0017	535	13.953	0.001563865	44.28	0.111219051	3149.36	64.41	66.97	5/6/2003 12:32	680:27:00	680:24:00	680:17:30	26.08543655		
44	78	1080	0.00155	538	14.018	0.001432179	40.55	0.11265123	3189.92	65.24	67.80	5/7/2003 15:46	707:41:00	707:38:00	707:31:30	26.60231819		
116	75	1066	0.0041	535	13.836	0.003747698	106.12	0.116398928	3296.04	67.41	69.97	5/10/2003 15:22	779:17:00	779:14:00	779:07:30	27.91564675		
63	75	1088	0.00222	535	14.122	0.002077394	58.83	0.118476322	3354.86	68.61	71.17	5/12/2003 14:27	826:22:00	826:19:00	826:12:30	28.746594		
63	75	1079	0.00222	535	14.005	0.00206021	58.34	0.120536532	3413.20	69.81	72.36	5/14/2003 12:02	871:57:00	871:54:00	871:47:30	29.5287995		
73	74	1078	0.00258	534	13.992	0.002389481	67.66	0.122926013	3480.86	71.19	73.75	5/16/2003 11:52	919:47:00	919:44:00	919:37:30	30.32792992		
89	75	1083	0.00314	535	14.057	0.002921244	82.72	0.125847257	3563.58	72.88	75.44	5/19/2003 14:14	994:09:00	994:06:00	993:59:30	31.53014431		
81	75	1091	0.00286	535	14.161	0.0026783	75.84	0.128525557	3639.42	74.43	76.99	5/22/2003 9:19	1061:14:00	1061:11:00	1061:04:30	32.57657645		
75	75	1083	0.00265	535	14.057	0.002461723	69.71	0.13098728	3709.13	75.86	78.41	5/25/2003 2:06	1126:01:00	1125:58:00	1125:51:30	33.55617181		
145	75	1083	0.00512	535	14.057	0.004759331	134.77	0.13574661	3843.90	78.61	81.17	5/30/2003 16:38	1260:33:00	1260:30:00	1260:23:30	35.5042251		
82	75	1075	0.0029	535	13.953	0.002671602	75.65	0.138418212	3919.55	80.16	82.72	6/2/2003 16:11	1332:06:00	1332:03:00	1331:56:30	36.49794515		
60	75	1084	0.00212	535	14.070	0.001971197	55.82	0.140389409	3975.37	81.30	83.86	6/5/2003 11:30	1399:25:00	1399:22:00	1399:15:30	37.40877794		
85	75	1078	0.003	535	13.992	0.002777072	78.64	0.143166481	4054.01	82.91	85.47	6/9/2003 14:07	1498:02:00	1497:59:00	1497:52:30	38.70443558		
80	76	1075	0.00283	536	13.953	0.002601578	73.67	0.145768059	4127.68	84.42	86.97	6/12/2003 13:43	1569:38:00	1569:35:00	1569:28:30	39.61859833	estimate	
103	76	1075	0.00364	536	13.953	0.003349532	94.85	0.149117591	4222.52	86.36	88.91	6/15/2003 14:55	1642:50:00	1642:47:00	1642:40:30	40.53188046		
75	78	1081	0.00265	538	14.031	0.002443475	69.19	0.151561066	4291.72	87.77	90.33	6/18/2003 13:58	1713:53:00	1713:50:00	1713:43:30	41.39907406		
44	77	1085	0.00155	537	14.083	0.001441489	40.82	0.153002555	4332.53	88.61	91.16	6/20/2003 14:07	1762:02:00	1761:59:00	1761:52:30	41.97658077		
57	78	1079	0.00201	538	14.005	0.001853605	52.49	0.15485616	4385.02	89.68	92.24	6/23/2003 11:23	1831:18:00	1831:15:00	1831:08:30	42.79369112		
47	76	1078	0.00166	536	13.992	0.001532693	43.40	0.156388852	4428.42	90.57	93.13	6/25/2003 16:20	1884:15:00	1884:12:00	1884:05:30	43.40794858		
32	78	1082	0.00113	538	14.044	0.001043514	29.55	0.157432366	4457.97	91.17	93.73	6/27/2003 15:17	1931:12:00	1931:09:00	1931:02:30	43.94542069		
26	75	1088	0.00092	535	14.122	0.000857337	24.28	0.158289703	4482.25	91.67	94.23	6/30/2003 11:15	1999:10:00	1999:07:00	1999:00:30	44.71204163		
56	78	1078	0.00198	538	13.992	0.001819398	51.52	0.160109101	4533.77	92.72	95.28	7/3/2003 9:55	2069:50:00	2069:47:00	2069:40:30	45.49542102		
53	78	1078	0.00187	538	13.992	0.00172193	48.76	0.161831031	4582.53	93.72	96.28	7/5/2003 19:53	2127:48:00	2127:45:00	2127:38:30	46.12808255		
25	75	1081	0.00088	535	14.031	0.000819059	23.19	0.16265009	4605.72	94.20	96.75	7/7/2003 14:05	2170:00:00	2169:57:00	2169:50:30	46.5832588		
62	78	1081	0.00219	538	14.031	0.002019939	57.20	0.16467003	4662.92	95.36	97.92	7/11/2003 16:09	2268:04:00	2268:01:00	2267:54:30	47.62422353		
57	79	1084	0.00201	539	14.070	0.00185874	52.63	0.166528769	4715.55	96.44	99.00	7/15/2003 13:57	2361:52:00	2361:49:00	2361:42:30	48.59903977		
81	78	1079	0.00286	538	14.005	0.002634071	74.59	0.16916284	4790.14	97.97	100.52	7/21/2003 16:32	2508:27:00	2508:24:00	2508:17:30	50.08442872		
87	77	1081	0.00307	537	14.031	0.002839709	80.41	0.172002549	4870.55	99.61	102.17	7/28/2003 20:27	2680:22:00	2680:19:00	2680:12:30	51.77225769		
50	70	1079	0.00177	530	14.005	0.001650512	46.74	0.173653061	4917.29	100.57	103.12	8/4/2003 13:47	2841:42:00	2841:39:00	2841:32:30	53.30759796		
92	78	1086	0.00325	538	14.096	0.003011193	85.27	0.176664254	5002.56	102.31	104.87	8/11/2003 14:02	3009:57:00	3009:54:00	3009:47:30	54.86301122		
98	84	1082	0.00346	544	14.044	0.003160513	89.50	0.179824768	5092.05	104.14	106.70	8/18/2003 20:04	3183:59:00	3183:56:00	3183:49:30	56.42679623		
66	80	1083	0.00233	540	14.057	0.002146258	60.78	0.181971025	5152.83	105.38	107.94	8/24/2003 22:49	3330:44:00	3330:41:00	3330:34:30	57.71250587		
75	84	1086	0.00265	544	14.096	0.002427702	68.74	0.184398728	5221.57	106.79	109.35	9/1/2003 14:51	3514:46:00	3514:43:00	3514:36:30	59.28546758		
32	83	1084	0.00113	543	14.070	0.001035816	29.33	0.185434544	5250.90	107.39	109.95	9/8/2003 14:06	3682:01:00	3681:58:00	3681:51:30	60.67962316		

35	76	1085	0.00124	536	14.083	0.001148778	32.53	0.186583322	5283.43	108.06	110.61	9/15/2003 15:15	3851:10:00	3851:07:00	3851:00:30	62.05776879		
42	79	1084	0.00148	539	14.070	0.001369598	38.78	0.187952919	5322.21	108.85	111.41	9/23/2003 10:51	4038:46:00	4038:43:00	4038:36:30	63.55129162		
10	72	1091	0.00035	532	14.161	0.000332519	9.42	0.188285438	5331.63	109.04	111.60	9/26/2003 18:54	4118:49:00	4118:46:00	4118:39:30	64.17800766		
46	78	1085	0.00162	538	14.083	0.00150421	42.59	0.189789648	5374.22	109.91	112.47	10/6/2003 12:13	4352:08:00	4352:05:00	4351:58:30	65.97070057		
72	81	1084	0.00254	541	14.070	0.002339202	66.24	0.19212885	5440.46	111.27	113.82	10/14/2003 23:11	4555:06:00	4555:03:00	4554:56:30	67.49148094		
29	76	1081	0.00102	536	14.031	0.000948336	26.85	0.193077186	5467.32	111.82	114.37	10/20/2003 15:39	4691:34:00	4691:31:00	4691:24:30	68.49501198		
21	69	1075	0.00074	529	13.953	0.000691951	19.59	0.193769137	5486.91	112.22	114.77	10/27/2003 15:06	4859:01:00	4858:58:00	4858:51:30	69.70664722		
19	73	1080	0.00067	533	14.018	0.000624243	17.68	0.19439338	5504.59	112.58	115.13	11/3/2003 10:14	5022:09:00	5022:06:00	5021:59:30	70.86712919		
22	75	1085	0.00078	535	14.083	0.000723439	20.49	0.195116819	5525.07	113.00	115.55	11/10/2003 11:22	5191:17:00	5191:14:00	5191:07:30	72.05056095		
40	75	1069	0.00141	535	13.875	0.001295947	36.70	0.196412765	5561.77	113.75	116.30	11/17/2003 16:30	5364:25:00	5364:22:00	5364:15:30	73.24217819		
7	73	1086	0.00025	533	14.096	0.000231262	6.55	0.196644027	5568.32	113.88	116.44	11/24/2003 14:26	5530:21:00	5530:18:00	5530:11:30	74.36632302		
24	72	1090	0.00085	532	14.148	0.000797314	22.58	0.197441341	5590.90	114.34	116.90	12/4/2003 20:05	5776:00:00	5775:57:00	5775:50:30	76		
22	70	1083	0.00078	530	14.057	0.000728918	20.64	0.198170258	5611.54	114.77	117.32	12/10/2003 15:01	5914:56:00	5914:53:00	5914:46:30	76.90860377		
35	76	1087	0.00124	536	14.109	0.001150896	32.59	0.199321154	5644.13	115.43	117.99	12/16/2003 14:24	6058:19:00	6058:16:00	6058:09:30	77.83518913		
22	75	1081	0.00078	535	14.031	0.000720772	20.41	0.200041926	5664.54	115.85	118.41	12/22/2003 16:10	6204:05:00	6204:02:00	6203:55:30	78.76600366		
22	73	1082	0.00078	533	14.044	0.000724146	20.51	0.200766072	5685.04	116.27	118.83	12/29/2003 14:36	6370:31:00	6370:28:00	6370:21:30	79.81551645		
5	73	1103	0.00018	533	14.316	0.000167773	4.75	0.200933845	5689.79	116.37	118.92	1/6/2004 15:13	6563:08:00	6563:05:00	6562:58:30	81.01316765		
25	75	1093	0.00088	535	14.187	0.000828151	23.45	0.201761996	5713.24	116.85	119.40	1/12/2004 11:46	6703:41:00	6703:38:00	6703:31:30	81.87602417		
25	73	1089	0.00088	533	14.135	0.000828217	23.45	0.202590212	5736.69	117.33	119.88	1/21/2004 10:37	6918:32:00	6918:29:00	6918:22:30	83.17772138		
12	70	1091	0.00042	530	14.161	0.000400528	11.34	0.202990741	5748.04	117.56	120.11	1/27/2004 10:13	7062:08:00	7062:05:00	7061:58:30	84.03650001		
31	73	1085	0.00109	533	14.083	0.001023216	28.97	0.204013957	5777.01	118.15	120.71	2/2/2004 15:43	7211:38:00	7211:35:00	7211:28:30	84.92133615		
18	74	1091	0.00064	534	14.161	0.000596292	16.89	0.204610249	5793.90	118.50	121.05	2/9/2004 10:35	7374:30:00	7374:27:00	7374:20:30	85.87490902		
21	75	1091	0.00074	535	14.161	0.000694374	19.66	0.205304623	5813.56	118.90	121.45	2/16/2004 14:26	7546:21:00	7546:18:00	7546:11:30	86.86973006		
26	75	1086	0.00092	535	14.096	0.000855761	24.23	0.206160384	5837.79	119.39	121.95	2/23/2004 14:33	7714:28:00	7714:25:00	7714:18:30	87.83203668		
19	75	1091	0.00067	535	14.161	0.000628243	17.79	0.206788628	5855.58	119.76	122.31	3/2/2004 10:48	7902:43:00	7902:40:00	7902:33:30	88.8972253		
23	75	1088	0.00081	535	14.122	0.000758414	21.48	0.207547041	5877.06	120.20	122.75	3/8/2004 10:07	8046:02:00	8045:59:00	8045:52:30	89.69968413		
25	74	1081	0.00088	534	14.031	0.000820593	23.24	0.208367634	5900.29	120.67	123.23	3/15/2004 11:41	8215:36:00	8215:33:00	8215:26:30	90.63994704		
10	77	1097	0.00035	537	14.239	0.000331234	9.38	0.208698868	5909.67	120.86	123.42	3/22/2004 10:06	8382:01:00	8381:58:00	8381:51:30	91.55335421		
21	74	1088	0.00074	534	14.122	0.000693761	19.65	0.20939263	5929.32	121.26	123.82	3/30/2004 20:36	8584:31:00	8584:28:00	8584:21:30	92.65266681		
27	75	1080	0.00095	535	14.018	0.000883765	25.03	0.210276395	5954.34	121.78	124.33	4/6/2004 14:45	8746:40:00	8746:37:00	8746:30:30	93.52361556		
6	74	1086	0.00021	534	14.096	0.000197853	5.60	0.210474248	5959.94	121.89	124.45	4/12/2004 15:03	8890:58:00	8890:55:00	8890:48:30	94.2919226		
24	77	1088	0.00085	537	14.122	0.000788441	22.33	0.211262689	5982.27	122.35	124.90	4/19/2004 14:30	9058:25:00	9058:22:00	9058:15:30	95.17571469		
13	76	1090	0.00046	536	14.148	0.000428655	12.14	0.211691344	5994.41	122.60	125.15	4/26/2004 11:36	9223:31:00	9223:28:00	9223:21:30	96.03914133		
19	74	1083	0.00067	534	14.057	0.000624804	17.69	0.212316149	6012.10	122.96	125.51	5/3/2004 19:13	9399:08:00	9399:05:00	9398:58:30	96.94912755		
25	76	1081	0.00088	536	14.031	0.000817531	23.15	0.21313368	6035.25	123.43	125.99	5/10/2004 14:05	9562:00:00	9561:57:00	9561:50:30	97.78547949		
8	75	1082	0.00028	535	14.044	0.000262341	7.43	0.213396021	6042.68	123.58	126.14	5/17/2004 9:48	9725:43:00	9725:40:00	9725:33:30	98.61904819		
31	78	1075	0.00109	538	13.953	0.001004364	28.44	0.214400385	6071.12	124.17	126.72	5/24/2004 10:34	9894:29:00	9894:26:00	9894:19:30	99.47101755		
14	75	1077	0.00049	535	13.979	0.000456976	12.94	0.21485736	6084.06	124.43	126.99	6/1/2004 10:57	10086:52:00	10086:49:00	10086:42:30	100.4333942		
18	76	1076	0.00064	536	13.966	0.0005859	16.59	0.21544326	6100.65	124.77	127.33	6/7/2004 10:39	10230:34:00	10230:31:00	10230:24:30	101.1462637		
24	79	1078	0.00085	539	13.992	0.000778295	22.04	0.216221555	6122.69	125.22	127.78	6/14/2004 10:53	10398:48:00	10398:45:00	10398:38:30	101.9745066		
10	76	1082	0.00035	536	14.044	0.000327315	9.27	0.21654887	6131.96	125.41	127.97	6/23/2004 16:28	10620:23:00	10620:20:00	10620:13:30	103.0552441		
15	77	1082	0.00053	537	14.044	0.000490058	13.88	0.217038928	6145.83	125.69	128.25	7/1/2004 11:56	10807:51:00	10807:48:00	10807:41:30	103.9608099		
16	78	1081	0.00057	538	14.031	0.000521275	14.76	0.217560203	6160.60	125.99	128.55	7/7/2004 10:35	10950:30:00	10950:27:00	10950:20:30	104.6446367		
17	79	1082	0.0006	539	14.044	0.000553338	15.67	0.218113541	6176.26	126.32	128.87	7/13/2004 14:22	11098:17:00	11098:14:00	11098:07:30	105.3483903		
13	75	1080	0.00046	535	14.018	0.000425517	12.05	0.218539058	6188.31	126.56	129.12	7/19/2004 11:24	11239:19:00	11239:16:00	11239:09:30	106.0156435		
4	76	1091	0.00014	536	14.161	0.000132015	3.74	0.218671073	6192.05	126.64	129.19	7/26/2004 10:25	11406:20:00	11406:17:00	11406:10:30	106.800437		
21	77	1079	0.00074	537	14.005	0.000684179	19.37	0.219355251	6211.43	127.03	129.59	8/2/2004 14:44	11578:39:00	11578:36:00	11578:29:30	107.6041356		
9	78	1086	0.00032	538	14.096	0.000294573	8.34	0.219649825	6219.77	127.21	129.76	8/9/2004 14:02	11745:57:00	11745:54:00	11745:47:30	108.3787341		
6	76	1088	0.00021	536	14.122	0.000197478	5.59	0.219847303	6225.36	127.32	129.88	8/16/2004 11:08	11911:03:00	11911:00:00	11910:53:30	109.137757		
18	75	1076	0.00064	535	13.966	0.000586995	16.62	0.220434297	6241.98	127.66	130.22	8/23/2004 14:12	12082:07:00	12082:04:00	12081:57:30	109.9186821		
12	76	1087	0.00042	536	14.109	0.000394593	11.17	0.22082889	6253.15	127.89	130.44	8/30/2004 16:47	12252:42:00	12252:39:00	12252:32:30	110.6919148		
8	75	1088	0.00028	535	14.122	0.000263796	7.47	0.221092686	6260.62	128.04	130.60	9/7/2004 15:59	12443:54:00	12443:51:00	12443:44:30	111.5522299		
19	76	1073	0.00067	536	13.927	0.000616725	17.46	0.221709412	6278.09	128.40	130.95	9/14/2004 18:42	12614:37:00	12614:34:00	12614:27:30	112.3148105		
1	76	1083	3.5E-05	536	14.057	3.27617E-05	0.93	0.221742173	6279.02	128.42	130.97	9/21/2004 16:48	12780:36:00	12780:40:00	12780:33:30	113.0518318		
0	75	1089	0	535	14.135	0	0.00	0.221742173	6279.02	128.42	130.97	9/28/2004 21:07	12953:02:00	12952:59:00	12952:52:30	113.8113937		
11	75	1085	0.00039	535	14.083	0.000361719	10.24	0.222103893	6289.26	128.63	131.18	10/8/2004 10:14	13182:09:00	13182:06:00	13181:59:30	114.8135445		
11	75	1079	0.00039	535	14.005	0.000359719	10.19	0.222463612	6299.44	128.83	131.39	10/19/2004 14:16	13450:11:00	13450:08:00	13450:01:30	115.9749255		
12	77	1086	0.00042	537	14.096	0.000393496	11.14	0.222857108	6310.59	129.06	131.62	10/27/2004 14:05	13642:00:00	13641:57:00	13641:50:30	116.7989726		
10	78	1090	0.00035	538	14.148	0.000328509	9.30	0.223185617	6319.89	129.25	131.81	11/5/2004 11:12	13855:07:00	13855:04:00	13854:57:30	117.7077596		
-2	76	1095	-7E-05	536	14.213	-6.62495E-05	-1.88	0.223119367	6318.01	129.21	131.77	11/12/2004 16:30	14028:25:00	14028:22:00	14028:15:30	118.4416171		
23	75	1080	0.00081	535	14.018	0.000752837	21.32	0.223872204	6339.33	129.65	132.21	11/24/2004 10:51	14310:46:00	14310:43:00	14310:36:30	119.6276167		
15	78	1081	0.00053	538	14.031	0.000488695	13.84	0.224360899	6353.17	129.93	132.49	12/3/2004 15:59	14531:54:00	14531:51:00	14531:44:30	120.5483306		
1	75	1089	3.5E-05	535	14.135	3.30048E-05	0.93	0.224393904	6354.10	129.95	132.51	12/15/2004 17:32	14821:27:00	14821:24:00	14821:17:30	121.7433776		
-3	72	1100	-0.0001	532	14.278	-0.000100579	-2.85	0.224293326	6351.26	129.89	132.45	12/23/2004 12:04	15007:59:00	15007:56:00	15007:49:30	122.5070746		
22	76	1085	0.00078	536	14.083	0.000722089	20.45	0.225015415	6371.70	130.31	132.87	12/31/2004 17:59	15205:54:00	15205:51:00	15205:44:30	123.3122054		
9	75	1081	0.00032	535	14.031	0.000294861	8.35	0.225310276	6380.05	130.48	133.04	1/10/2005 14:00	15441:55:00	15441:52:00	15441:45:30	124.2655088		
15	76	1078	0.00053	536	13.992	0.000489157	13.85	0.225799433	6393.90	130.77	133.32	1/20/2005 15:04	15682:59:00	15682:56:00	15682:49:30	125.2317186		
-2	76	1094	-7E-05	536	14.200	-6.6189E-05	-1.87	0.225733244	6392.03	130.73	133.28	1/27/2005 16:15	15852:10:00	15852:07:00	15852:00:30	125.9053878		
7	75	1093	0.00025	535	14.187	0.000231882	6.57	0.225965126	6398.60	130.86	133.42	2/3/2005 15:21	16019:16:00	16019:13:00	16019:06:30	126.5672417		
5	75	1093	0.00018	535	14.187	0.00016563	4.69	0.226130757	6403.29	130.96	133.51	2/10/2005 14:56	16186:51:00	16186:48:00	16186:41:30	127.227552		
9	75	1089	0.00032	535	14.135	0.000297043	8.41	0.2264278	6411.70	131.13	133.69	2/17/2005 13:59	16353:54:00	16353:51:00	16353:44:30	127.8823678		
10	77	1087	0.00035	537	14.109	0.000328215	9.29	0.226756015	6420.99	131.32	133.88	2/24/2005 15:17	16523:12:00	16523:09:00	16523:02:30	128.5425999		
10	75	1080	0.00035	535	14.018	0.00032732	9.27	0.227083335	6430.26	131.51	134.07	3/3/2005 14:12	16690:07:00	16690:04:00	16689:57:30	129.1902344		
10	75	1075	0.00035	535	13.953	0.000325805	9.23	0.227409141	6439.49	131.70	134.26	3/10/2005 13:56	16857:51:00	16857:48:00	16857:41:30	129.8377834		
7	75	1071	0.00025	535	13.901	0.000227215	6.43	0.227636356	6445.92	131.83	134.39	3/18/2005 10:37	17046:32:00	17046:29:00	17046:22:30	130.5623733		
-2	75	1081	-7E-05	535	14.031	-6.55247E-05	-1.86	0.227570831	6444.06	131.79	134.35	3/23/2005 12:22	17168:17:00	17168:14:00	17168:07:30	131.027796		
6	75	1084	0.00021	535	14.070	0.00019712	5.58	0.22776795	6449.65	131.91	134.46	4/2/2005 15:09	17411:04:00	17411:01:00	17410:54:30	131.951001		
12	75	1080	0.00042	535	14.018	0.000392785	11.12	0.228160735	6460.77	132.13	134.69	4/8/2005 14:35	17554:30:00	17554:27:00	17554:20:30	132.4933961		
0	75	1091	0	535	14.161	0	0.00	0.228160735	6460.77	132.13	134.69	4/15/2005 10:14	17718:09:00	17718:06:00	17717:59:30	133.1095414		
18	76	1072	0.00064	536	13.914	0.000583722	16.53	0.228744457	6477.30	132.47	135.03	4/21/2005 17:14	17869:09:00	17869:06:00	17868:59:30	133.67554		
-5	75	1080	-0.0002	535	14.018	-0.00016366	-4.63	0.228580796	6472.66	132.38	134.93	4/28/2005 14:39	18034:34:00	18034:31:00	18034:24:30	134.2928392		
10	76	1087	0.00035	536	14.109	0.000328827	9.31	0.228909624	6481.97	132.57	135.12	5/5/2005 21:29	18209:24:00	18209:21:00	18209:14:30	134.9422099		
15	77	1080	0.00053	537	14.018	0.000489152	13.85	0.229398776	6495.83	132.85	135.41	5/12/2005 11:35	18367:30:00	18367:27:00	18367:20:30	135.5267501		
5	72	1081	0.00018	532	14.031	0.000164736	4.66	0.229563511	6500.49	132.95	135.50	5/20/2005 11:47	18559:42:00	18559:39:00	18559:32:30	136.2339899		
6	73	1085	0.00021	533	14.083	0.000198042	5.61	0.229761553	6506.10	133.06	135.62	5/26/2005 15:37	18707:32:00	18707:29:00	18707:22:30	136.7754851		
29.1	119	1083	0.00103	579	14.057	0.000882564	24.99	0.230644117	6531.09	133.57	136.13	5/26/2005 18:50	18710:45:00	18710:42:00	18710:35:30	136.7872436	note 1	
31.0	118	1083	0.00109	578	14.057	0.000941815	26.67	0.231585932	6557.76	134.12	136.67	5/26/2005 20:35	18712:30:00	18712:27:00	18712:20:30	136.7936402	note 1	
28.3	129	1083	0.001	589	14.057	0.000843729	23.89	0.23242966	6581.65	134.61	137.16	5/26/2005 22:21	18714:16:00	18714:13:00	18714:06:30	136.8000975	note 1	
42.6	131	1084	0.0015	591	14.070	0.001266936	35.88	0.233696596	6617.53	135.34	137.90	5/27/2005 9:13	18725:08:00	18725:05:00	18724:58:30	136.839809	note 1	
29.1	122	1081	0.00103	582	14.031	0.000876393	24.82	0.234572989	6642.34	135.85	138.40	5/27/2005 18:38	18734:33:00	18734:30:00	18734:23:30	136.8742123	note 1	
29.5	122	1080	0.00104	582	14.018	0.000887618	25.13	0.235460607	6667.48	136.36	138.92	5/28/2005 15:08	18755:03:00	18755:00:00	18754:53:30	136.9490781	note 1	
66.2	130	1078	0.00234	590	13.992	0.001961227	55.54	0.237421834	6723.01	137.50	140.05	5/29/2005 16:13	18780:08:00	18780:05:00	18779:58:30	137.0406266	note 1	
-4.5	117	1082	-0.0002	577	14.044	-0.000136826	-3.87	0.237285009	6719.14	137.42	139.97	5/30/2005 15:17	18803:12:00	18803:09:00	18803:02:30	137.1247607	note 1	
DECANISTERED 06/02/2005; sample air dried for 16 days														note 1 - volume adjusted for headspace expansion and contraction				

SAMPLE:	731.5' to 732.2' (Croweburg coal) in canister 10																	
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)		
dry sample weight:		2.600	1179.5		wet sample weight:		2.618	1187.38	0.66%		97		off bottom	at surface	in canister	10.7	minutes	
													4/8/2003 5:00	4/8/2003 5:03	4/8/2003 5:10	0.179	hours	
RIG/LAB MEASUREMENTS			CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg					CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.423280837	SQRT (hrs)	
measured cc	measured T (F	measured P	cubic ft	absolute T (F	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)		
18	75	1099	0.00064	535	14.265	0.000599542	16.98	0.000599542	16.98	0.46	3.10	4/8/2003 5:14	0:14:45	0:11:30	0:04:00	0.495815826		
9	75	1099	0.00032	535	14.265	0.000299771	8.49	0.000899313	25.47	0.69	3.33	4/8/2003 5:18	0:18:30	0:15:15	0:07:45	0.555277708		
18	75	1099	0.00064	535	14.265	0.000599542	16.98	0.001498855	42.44	1.15	3.79	4/8/2003 5:22	0:22:00	0:18:45	0:11:15	0.605530071		
14	75	1099	0.00049	535	14.265	0.00046631	13.20	0.001965165	55.65	1.51	4.15	4/8/2003 5:26	0:26:00	0:22:45	0:15:15	0.658280589		
8	75	1099	0.00028	535	14.265	0.000266463	7.55	0.002231629	63.19	1.72	4.35	4/8/2003 5:29	0:29:00	0:25:45	0:18:15	0.695221787		
17	75	1099	0.0006	535	14.265	0.000566234	16.03	0.002797863	79.23	2.15	4.79	4/8/2003 5:36	0:36:00	0:32:45	0:25:15	0.774596669		
28	75	1099	0.00099	535	14.265	0.000932621	26.41	0.003730484	105.64	2.87	5.50	4/8/2003 5:48	0:48:00	0:44:45	0:37:15	0.894427191		
22	75	1099	0.00078	535	14.265	0.000732774	20.75	0.004463257	126.38	3.43	6.07	4/8/2003 5:58	0:58:45	0:55:30	0:48:00	0.989528507		
19	75	1099	0.00067	535	14.265	0.00063285	17.92	0.005096107	144.31	3.92	6.55	4/8/2003 6:09	1:09:00	1:05:45	0:58:15	1.072380529		
40	75	1099	0.00141	535	14.265	0.001332316	37.73	0.006428423	182.03	4.94	7.58	4/8/2003 6:33	1:33:00	1:29:45	1:22:15	1.24498996		
48	75	1100	0.0017	535	14.278	0.001600233	45.31	0.008028656	227.35	6.18	8.81	4/8/2003 7:05	2:05:00	2:01:45	1:54:15	1.443375673		
50	75	1100	0.00177	535	14.278	0.00166691	47.20	0.009695566	274.55	7.46	10.09	4/8/2003 7:44	2:44:00	2:40:45	2:33:15	1.653279569		
34	75	1102	0.0012	535	14.303	0.00113556	32.16	0.010831126	306.70	8.33	10.97	4/8/2003 8:27	3:27:45	3:24:30	3:17:00	1.860779407		
80	75	1102	0.00283	535	14.303	0.002671905	75.66	0.013503031	382.36	10.39	13.02	4/8/2003 9:44	4:44:00	4:40:45	4:33:15	2.175622516		
42	75	1102	0.00148	535	14.303	0.00140275	39.72	0.014905781	422.08	11.46	14.10	4/8/2003 10:40	5:40:00	5:36:45	5:29:15	2.380476143		
72	75	1102	0.00254	535	14.303	0.002404714	68.09	0.017310495	490.18	13.31	15.95	4/8/2003 12:20	7:20:00	7:16:45	7:09:15	2.708012802		
48	75	1101	0.0017	535	14.291	0.001601688	45.35	0.018912183	535.53	14.55	17.18	4/8/2003 13:20	8:20:45	8:17:30	8:10:00	2.888915598		
40	75	1101	0.00141	535	14.291	0.00133474	37.80	0.020246924	573.33	15.57	18.21	4/8/2003 14:22	9:22:00	9:18:45	9:11:15	3.060501048		
37	75	1101	0.00131	535	14.291	0.001234635	34.96	0.021481558	608.29	16.52	19.16	4/8/2003 15:22	10:22:00	10:18:45	10:11:15	3.219730838		
33	75	1101	0.00117	535	14.291	0.001101161	31.18	0.022582719	639.47	17.37	20.00	4/8/2003 16:21	11:21:00	11:17:45	11:10:15	3.368976106		
53	75	1101	0.00187	535	14.291	0.001768531	50.08	0.02435125	689.55	18.73	21.36	4/8/2003 18:04	13:04:00	13:00:45	12:53:15	3.614784456		
40	75	1101	0.00141	535	14.291	0.00133474	37.80	0.02568599	727.34	19.76	22.39	4/8/2003 20:03	15:03:00	14:59:45	14:52:15	3.879432948		
37	75	1101	0.00131	535	14.291	0.001234635	34.96	0.026920624	762.30	20.71	23.34	4/8/2003 21:32	16:32:00	16:28:45	16:21:15	4.066120182		
37	75	1101	0.00131	535	14.291	0.001234635	34.96	0.028155259	797.27	21.65	24.29	4/8/2003 22:50	17:50:00	17:46:45	17:39:15	4.222953153		
40	75	1100	0.00141	535	14.278	0.001333528	37.76	0.029488787	835.03	22.68	25.32	4/9/2003 0:28	19:28:00	19:24:45	19:17:15	4.412104562		
48	75	1101	0.0017	535	14.291	0.001601688	45.35	0.031090475	880.38	23.91	26.55	4/9/2003 3:24	22:24:00	22:20:45	22:13:15	4.732863826		
77	75	1100	0.00272	535	14.278	0.002567041	72.69	0.033657516	953.07	25.89	28.52	4/9/2003 7:06	26:06:00	26:02:45	25:55:15	5.10881591		
61	75	1100	0.00215	535	14.278	0.00203363	57.59	0.035691146	1010.66	27.45	30.09	4/9/2003 11:04	30:04:00	30:00:45	29:53:15	5.483308004		
97	78	1090	0.00343	538	14.148	0.003186538	90.23	0.038877685	1100.89	29.90	32.54	4/9/2003 17:43	36:43:00	36:39:45	36:32:15	6.059427916		
199	75	1089	0.00703	535	14.135	0.006567958	185.98	0.045445643	1286.87	34.95	37.59	4/10/2003 8:58	51:58:00	51:54:45	51:47:15	7.20879093		
165	75	1083	0.00583	535	14.057	0.00541579	153.36	0.050861433	1440.23	39.12	41.75	4/10/2003 23:52	66:52:00	66:48:45	66:41:15	8.177204086		
91	75	1083	0.00321	535	14.057	0.00298689	84.58	0.053848324	1524.81	41.42	44.05	4/11/2003 8:47	75:47:00	75:43:45	75:36:15	8.705362332		
122	75	1081	0.00431	535	14.031	0.003997007	113.18	0.057845331	1637.99	44.49	47.13	4/11/2003 23:45	90:45:00	90:41:45	90:34:15	9.526279442		
92	75	1083	0.00325	535	14.057	0.003019713	85.51	0.060865044	1723.50	46.81	49.45	4/12/2003 12:39	103:39:00	103:35:45	103:28:15	10.1808644		
143	75	1084	0.00505	535	14.070	0.004698019	133.03	0.065563063	1856.53	50.43	53.06	4/13/2003 12:52	127:52:00	127:48:45	127:41:15	11.30781441		
136	75	1078	0.0048	535	13.992	0.004443315	125.82	0.070006378	1982.35	53.84	56.48	4/14/2003 15:28	154:28:00	154:24:45	154:17:15	12.42846196		
98	75	1074	0.00346	535	13.940	0.00318992	90.33	0.073196298	2072.68	56.30	58.93	4/15/2003 12:01	175:01:00	174:57:45	174:50:15	13.22938648		
136	75	1064	0.0048	535	13.810	0.00438561	124.19	0.077581907	2196.87	59.67	62.30	4/16/2003 16:30	203:30:00	203:26:45	203:19:15	14.26534262		
88	75	1081	0.00311	535	14.031	0.002883087	81.64	0.080464995	2278.51	61.89	64.52	4/17/2003 21:46	232:46:00	232:42:45	232:35:15	15.25669252		
72	75	1069	0.00254	535	13.875	0.002332704	66.05	0.082797699	2344.56	63.68	66.32	4/18/2003 19:26	254:26:00	254:22:45	254:15:15	15.95096653		
119	75	1083	0.0042	535	14.057	0.003905933	110.60	0.086703632	2455.16	66.69	69.32	4/20/2003 17:35	300:35:00	300:31:45	300:24:15	17.33733928		
48	75	1085	0.0017	535	14.083	0.001578412	44.70	0.088282044	2499.86	67.90	70.53	4/21/2003 15:28	322:28:00	322:24:45	322:17:15	17.9573569		
68	75	1082	0.0024	535	14.044	0.002229901	63.14	0.090511945	2563.00	69.62	72.25	4/22/2003 19:59	350:59:00	350:55:45	350:48:15	18.73454919		
104	75	1068	0.00367	535	13.862	0.003366309	95.32	0.093878254	2658.33	72.20	74.84	4/24/2003 10:45	389:45:00	389:41:45	389:34:15	19.74208702		
69	75	1080	0.00244	535	14.018	0.002258511	63.95	0.096136766	2722.28	73.94	76.58	4/26/2003 12:47	439:47:00	439:43:45	439:36:15	20.97101174		
58	71	1080	0.00205	531	14.018	0.00191276	54.16	0.098049526	2776.44	75.41	78.05	4/28/2003 10:53	485:53:00	485:49:45	485:42:15	22.04276147		
40	75	1081	0.00141	535	14.031	0.001310494	37.11	0.09936002	2813.55	76.42	79.06	4/29/2003 12:07	511:07:00	511:03:45	510:56:15	22.60788948		
44	72	1072	0.00155	532	13.914	0.001437603	40.71	0.100797623	2854.26	77.53	80.16	4/30/2003 12:05	535:05:00	535:01:45	534:54:15	23.13186835		
38	76	1079	0.00134	536	14.005	0.001240348	35.12	0.102037971	2889.38	78.48	81.11	5/1/2003 13:16	560:16:00	560:12:45	560:05:15	23.66995282		
21	75	1084	0.00074	535	14.070	0.000689919	19.54	0.10272789	2908.92	79.01	81.65	5/2/2003 14:36	585:36:00	585:32:45	585:25:15	24.19917354		
36	75	1085	0.00127	535	14.083	0.001183809	33.52	0.103911699	2942.44	79.92	82.56	5/3/2003 10:50	605:50:00	605:46:45	605:39:15	24.61368183		
35	75	1067	0.00124	535	13.849	0.001131832	32.05	0.10504353	2974.49	80.79	83.43	5/4/2003 10:32	629:32:00	629:28:45	629:21:15	25.09050285		
41	73	1069	0.00145	533	13.875	0.00133333	37.76	0.10637686	3012.25	81.82	84.45	5/5/2003 14:29	657:29:00	657:25:45	657:18:15	25.64143782		
26	73	1075	0.00092	533	13.953	0.000850272	24.08	0.107227132	3036.32	82.47	85.11	5/6/2003 12:34	679:34:00	679:30:45	679:23:15	26.06849951		
22	76	1080	0.00078	536	14.018	0.000718762	20.35	0.107945894	3056.68	83.02	85.66	5/7/2003 15:47	706:47:00	706:43:45	706:36:15	26.58539699		
82	77	1066	0.0029	537	13.836	0.002639368	74.74	0.110585262	3131.41	85.05	87.69	5/10/2003 15:24	778:24:00	778:20:45	778:13:15	27.89982079		
28	75	1088	0.00099	535	14.122	0.000923286	26.14	0.111508548	3157.56	85.76	88.40	5/12/2003 14:28	825:28:00	825:24:45	825:17:15	28.73093571		
45	75	1079	0.00159	535	14.005	0.001471578	41.67	0.112980126	3199.23	86.90	89.53	5/14/2003 12:02	871:02:00	870:58:45	870:51:15	29.51327385		
49	77	1078	0.00173	537	13.992	0.001594938	45.16	0.114575064	3244.39	88.12	90.76	5/16/2003 11:52	918:52:00	918:48:45	918:41:15	30.31281357		
35	75	1083	0.00124	535	14.057	0.001148804	32.53	0.115723868	3276.92	89.01	91.64	5/19/2003 14:14	993:14:00	993:10:45	993:03:15	31.5156046		
41	73	1091	0.00145	533	14.161	0.00136077	38.53	0.117084638	3315.46	90.05	92.69	5/22/2003 9:19	1060:19:00	1060:15:45	1060:08:15	32.562504		
39	75	1083	0.00138	535	14.057	0.001280096	36.25	0.118364734	3351.70	91.04	93.67	5/25/2003 2:07	1125:07:00	1125:03:45	1124:56:15	33.54275878		
75	75	1083	0.00265	535	14.057	0.002461723	69.71	0.120826456	3421.41	92.93	95.57	5/30/2003 16:40	1259:40:00	1259:36:45	1259:29:15	35.49178309		
54	75	1075	0.00191	535	13.953	0.001759348	49.82	0.122585804	3471.23	94.28	96.92	6/2/2003 16:15	1331:15:00	1331:11:45	1331:04:15	36.4862988		
22	75	1084	0.00078	535	14.070	0.000722772	20.47	0.123308576	3491.70	94.84	97.47	6/5/2003 11:31	1398:31:00	1398:27:45	1398:20:15	37.39674674		
47	75	1078	0.00166	535	13.992	0.001535557	43.48	0.124844133	3535.18	96.02	98.66	6/9/2003 14:07	1497:07:00	1497:03:45	1496:56:15	38.69259188		
40	74	1075	0.00141	534	13.953	0.001305661	36.97	0.126149794	3572.15	97.03	99.66	6/12/2003 13:44	1568:44:00	1568:40:45	1568:33:15	39.6072384		
23	75	1085	0.00081	535	14.083	0.000756322	21.42	0.126906117	3593.57	97.61	100.24	6/15/2003 14:56	1641:56:00	1641:52:45	1641:45:15	40.52077656		
33	74	1081	0.00117	534	14.031	0.001083182	30.67	0.127989299	3624.24	98.44	101.07	6/18/2003 13:58	1712:58:00	1712:54:45	1712:47:15	41.38800148		
18	73	1085	0.00064	533	14.083	0.000594126	16.82	0.128583425	3641.06	98.90	101.53	6/20/2003 14:08	1761:08:00	1761:04:45	1760:57:15	41.96585914		
38	73	1079	0.00134	533	14.005	0.001247329	35.32	0.129830754	3676.38	99.86	102.49	6/23/2003 11:24	1830:24:00	1830:20:45	1830:13:15	42.78317426		
26	73	1078	0.00092	533	13.992	0.000852645	24.14	0.130683399	3700.53	100.51	103.15	6/25/2003 16:21	1883:21:00	1883:17:45	1883:10:15	43.39758058		
14	74	1082	0.00049	534	14.044	0.000459957	13.02	0.131143356	3713.55	100.87	103.50	6/27/2003 15:18	1930:18:00	1930:14:45	1930:07:15	43.93517953		
15	72	1088	0.00053	532	14.122	0.000497407	14.08	0.131640762	3727.64	101.25	103.88	6/30/2003 11:15	1998:15:00	1998:11:45	1998:04:15	44.70178967		
31	73	1078	0.00109	533	13.992	0.001016615	28.79	0.132657377	3756.42	102.03	104.66	7/3/2003 9:55	2068:55:00	2068:51:45	2068:44:15	45.48534563		
31	75	1078	0.00109	535	13.992	0.001012814	28.68	0.133670192	3785.10	102.81	105.44	7/5/2003 19:55	2126:55:00	2126:51:45	2126:44:15	46.11850677		
9	74	1081	0.00032	534	14.031	0.000295413	8.37	0.133965605	3793.47	103.04	105.67	7/7/2003 14:06	2169:06:00	2169:02:45	2168:55:15	46.57359767		
30	75	1081	0.00106	535	14.031	0.000982871	27.83	0.134948476	3821.30	103.79	106.43	7/11/2003 16:10	2267:10:00	2267:06:45	2266:59:15	47.61477362		
26	75	1084	0.00092	535	14.070	0.000854185	24.19	0.135802661	3845.49	104.45	107.08	7/15/2003 13:57	2360:57:00	2360:53:45	2360:46:15	48.58960794		
40	75	1079	0.00141	535	14.005	0.00130807	37.04	0.137110731	3882.53	105.46	108.09	7/21/2003 16:33	2507:33:00	2507:29:45	2507:22:15	50.07544308		
37	79	1081	0.00131	539	14.031	0.001203211	34.07	0.138313942	3916.60	106.38	109.02	7/28/2003 20:29	2679:29:00	2679:25:45	2679:18:15	51.76372604		
30	75	1079	0.00106	535	14.005	0.000981052	27.78	0.139294994	3944.38	107.14	109.77	8/4/2003 13:48	2840:48:00	2840:44:45	2840:37:15	53.29915572		
31	78	1086	0.00109	538	14.096	0.001014641	28.73	0.140309635	3973.11	107.92	110.55	8/11/2003 14:03	3009:03:00	3008:59:45	3008:52:15	54.85480836		
40	76	1082	0.00141	536	14.044	0.001309259	37.07	0.141618894	4010.19	108.92	111.56	8/18/2003 20:05	3183:05:00	3183:01:45	3182:54:15	56.41882074		
31	76	1083	0.00109	536	14.057	0.001015614	28.76	0.142634508	4038.94	109.70	112.34	8/24/2003 22:49	3329:49:00	3329:45:45	3329:38:15	57.70456366		
18	78	1086	0.00064	538	14.096	0.000589146	16.68	0.143223655	4055.63	110.16	112.79	9/1/2003 14:52	3513:52:00	3513:48:45	3513:41:15	59.27787671		
19	75	1084	0.00067	535	14.070	0.000624212	17.68	0.143847867	4073.30	110.64	113.27	9/8/2003 14:07	3681:07:00	3681:03:45	3680:56:15	60.67220671		
21	76	1085	0.00074	536	14.083	0.000689267	19.52	0.144537134	4092.82	111.17	113.80	9/15/2003 15:16	3850:16:00	3850:12:45	3850:05:15	62.05051705		
35	78	1084	0.00124	538	14.070	0.001143453	32.38	0.145680587	4125.20	112.05	114.68	9/23/2003 10:52	4037:52:00	4037:48:45	4037:41:15	63.54421033		
5	78	1091	0.00018	538	14.161	0.000164405	4.66	0.145844992	4129.85	112.17	114.81	9/26/2003 18:54	4117:54:00	4117:50:45	4117:43:15	64.17086566		
39	80	1085	0.00138	540	14.083	0.001270585	35.98	0.147115577	4165.83	113.15	115.79	10/6/2003 12:14	4351:14:00	4351:10:45	4351:03:15	65.963879		
24	81	1084	0.00085	541	14.070	0.000779734	22.08	0.147895311	4187.91	113.75	116.38	10/14/2003 23:13	4554:13:00	4554:09:45	4554:02:15	67.48493659		

20	78	1081	0.00071	538	14.031	0.000651593	18.45	0.148546904	4206.36	114.25	116.89	10/20/2003 15:40	4690:40:00	4690:36:45	4690:29:15	68.48844185		
4	72	1075	0.00014	532	13.953	0.000131057	3.71	0.148677961	4210.08	114.35	116.99	10/27/2003 15:06	4858:06:00	4858:02:45	4857:55:15	69.70007174		
7	72	1080	0.00025	532	14.018	0.000230416	6.52	0.148908378	4216.60	114.53	117.16	11/3/2003 10:15	5021:15:00	5021:11:45	5021:04:15	70.860779		
18	75	1085	0.00064	535	14.083	0.000591905	16.76	0.149500282	4233.36	114.98	117.62	11/10/2003 11:23	5190:23:00	5190:19:45	5190:12:15	72.04431507		
35	75	1069	0.00124	535	13.875	0.001133953	32.11	0.150634236	4265.47	115.86	118.49	11/17/2003 16:31	5363:31:00	5363:27:45	5363:20:15	73.23603394		
-8	73	1086	-0.0003	533	14.096	-0.000264299	-7.48	0.150369936	4257.99	115.65	118.29	11/24/2003 14:27	5529:27:00	5529:23:45	5529:16:15	74.36027165		
-2	75	1090	-7E-05	535	14.148	-6.60702E-05	-1.87	0.150303866	4256.12	115.60	118.24	12/4/2003 20:07	5775:07:00	5775:03:45	5774:56:15	75.99418837		
DECANISTERED 12/05/2003, sample air dried for 36 days																		

SAMPLE:	772.0' to 773.0' (Mineral coal) in canister 11																	
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)		
dry sample weight:		3.529	1600.94		wet sample weight:		3.599	1632.58	1.94%		205		off bottom	at surface	in canister	15.5	minutes	
													4/8/2003 6:46	4/8/2003 6:50	4/8/2003 7:02	0.258	hours	
RIG/LAB MEASUREMENTS			CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg					CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.508265023	SQRT (hrs)	
measured cc	measured T (F	measured P	cubic ft	absolute T (F	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)		
60	75	1100	0.00212	535	14.278	0.002000292	56.64	0.002000292	56.64	1.13	5.24	4/8/2003 7:11	0:25:00	0:21:30	0:09:30	0.645497224		
10	75	1100	0.00035	535	14.278	0.000333382	9.44	0.002333674	66.08	1.32	5.42	4/8/2003 7:13	0:27:00	0:23:30	0:11:30	0.670820393		
16	75	1100	0.00057	535	14.278	0.000533411	15.10	0.002867085	81.19	1.62	5.73	4/8/2003 7:16	0:30:15	0:26:45	0:14:45	0.710046947		
15	75	1100	0.00053	535	14.278	0.000500073	14.16	0.003367158	95.35	1.91	6.01	4/8/2003 7:19	0:32:30	0:29:00	0:17:00	0.735980072		
15	75	1100	0.00053	535	14.278	0.000500073	14.16	0.003867231	109.51	2.19	6.29	4/8/2003 7:22	0:36:15	0:32:45	0:20:45	0.777281588		
17	75	1100	0.0006	535	14.278	0.000566749	16.05	0.00443398	125.56	2.51	6.61	4/8/2003 7:27	0:40:30	0:37:00	0:25:00	0.821583836		
12	75	1100	0.00042	535	14.278	0.000400058	11.33	0.004834039	136.88	2.74	6.84	4/8/2003 7:29	0:43:15	0:39:45	0:27:45	0.849019042		
6	75	1100	0.00021	535	14.278	0.000200029	5.66	0.005034068	142.55	2.85	6.95	4/8/2003 7:31	0:44:45	0:41:15	0:29:15	0.863616427		
13	75	1100	0.00046	535	14.278	0.000433397	12.27	0.005467464	154.82	3.10	7.20	4/8/2003 7:34	0:48:15	0:44:45	0:32:45	0.896753403		
14	75	1100	0.00049	535	14.278	0.000466735	13.22	0.005934199	168.04	3.36	7.47	4/8/2003 7:38	0:52:15	0:48:45	0:36:45	0.933184512		
11	75	1100	0.00039	535	14.278	0.00036672	10.38	0.006300919	178.42	3.57	7.67	4/8/2003 7:42	0:55:30	0:52:00	0:40:00	0.961769203		
30	75	1100	0.00106	535	14.278	0.001000146	28.32	0.007301065	206.74	4.14	8.24	4/8/2003 7:51	1:05:00	1:01:30	0:49:30	1.040833		
42	75	1100	0.00148	535	14.278	0.001400204	39.65	0.008701269	246.39	4.93	9.03	4/8/2003 8:07	1:20:30	1:17:00	1:05:00	1.158303357		
48	75	1101	0.0017	535	14.291	0.001601688	45.35	0.010302958	291.75	5.84	9.94	4/8/2003 8:26	1:39:30	1:36:00	1:24:00	1.287762918		
154	75	1101	0.00544	535	14.291	0.00513875	145.51	0.015441707	437.26	8.75	12.85	4/8/2003 9:42	2:55:30	2:52:00	2:40:00	1.710263138		
85	75	1102	0.003	535	14.303	0.002838899	80.39	0.018280606	517.65	10.36	14.46	4/8/2003 10:39	3:53:15	3:49:45	3:37:45	1.971674415		
128	75	1102	0.00452	535	14.303	0.004275048	121.06	0.022555654	638.70	12.78	16.88	4/8/2003 12:18	5:31:35	5:28:05	5:16:05	2.350827278		
80	75	1102	0.00283	535	14.303	0.002671905	75.66	0.025227559	714.36	14.30	18.40	4/8/2003 13:19	6:32:30	6:29:00	6:17:00	2.557668209		
60	75	1102	0.00212	535	14.303	0.002003929	56.74	0.027231488	771.11	15.43	19.53	4/8/2003 14:20	7:33:30	7:30:00	7:18:00	2.74924232		
60	75	1101	0.00212	535	14.291	0.00200211	56.69	0.029233598	827.80	16.57	20.67	4/8/2003 15:21	8:34:30	8:31:00	8:19:00	2.928310093		
50	75	1101	0.00177	535	14.291	0.001668425	47.24	0.030902023	875.04	17.51	21.61	4/8/2003 16:20	9:33:30	9:30:00	9:18:00	3.091655436		
83	75	1101	0.00293	535	14.291	0.002769586	78.43	0.033671609	953.47	19.08	23.18	4/8/2003 18:05	11:18:30	11:15:00	11:03:00	3.362786543		
68	75	1101	0.0024	535	14.291	0.002269058	64.25	0.035940668	1017.72	20.37	24.47	4/8/2003 20:00	13:13:30	13:10:00	12:58:00	3.636619309		
56	75	1101	0.00198	535	14.291	0.001868636	52.91	0.037809304	1070.64	21.42	25.53	4/8/2003 21:31	14:44:30	14:41:00	14:29:00	3.839487813		
45	75	1101	0.00159	535	14.291	0.001501583	42.52	0.039310887	1113.16	22.28	26.38	4/8/2003 22:47	16:00:30	15:57:00	15:45:00	4.001041531		
59	75	1100	0.00208	535	14.278	0.001966954	55.70	0.04127784	1168.85	23.39	27.49	4/9/2003 0:30	17:43:30	17:40:00	17:28:00	4.210106887		
78	75	1101	0.00275	535	14.291	0.002602743	73.70	0.043880584	1242.56	24.87	28.97	4/9/2003 3:26	20:39:30	20:36:00	20:24:00	4.545143929		
90	75	1100	0.00318	535	14.278	0.003000438	84.96	0.046881021	1327.52	26.57	30.67	4/9/2003 7:04	24:17:30	24:14:00	24:02:00	4.928657694		
107	75	1100	0.00378	535	14.278	0.003567187	101.01	0.050448208	1428.53	28.59	32.69	4/9/2003 11:07	28:20:30	28:17:00	28:05:00	5.323689197		
99	78	1090	0.0035	538	14.148	0.00325224	92.09	0.053700449	1520.62	30.43	34.53	4/9/2003 17:48	35:01:30	34:58:00	34:46:00	5.918192292		
252	75	1089	0.0089	535	14.135	0.008317213	235.52	0.062017662	1756.14	35.14	39.25	4/10/2003 8:55	50:08:30	50:05:00	49:53:00	7.081078072		
222	75	1083	0.00784	535	14.057	0.007286699	206.34	0.069304362	1962.47	39.27	43.37	4/10/2003 23:50	65:03:30	65:00:00	64:48:00	8.065874617		
125	75	1083	0.00441	535	14.057	0.004102871	116.18	0.073407233	2078.65	41.60	45.70	4/11/2003 8:46	73:59:30	73:56:00	73:44:00	8.601840888		
163	75	1081	0.00576	535	14.031	0.005340264	151.22	0.078747497	2229.87	44.62	48.73	4/11/2003 23:42	88:55:30	88:52:00	88:40:00	9.430005302		
128	75	1083	0.00452	535	14.057	0.00420134	118.97	0.082948837	2348.84	47.00	51.11	4/12/2003 12:37	101:50:30	101:47:00	101:35:00	10.09166323		
194	75	1084	0.00685	535	14.070	0.006373536	180.48	0.089322373	2529.32	50.62	54.72	4/13/2003 12:53	126:06:30	126:03:00	125:51:00	11.22979667		
160	75	1079	0.00565	535	14.005	0.005232278	148.16	0.094554651	2677.48	53.58	57.68	4/14/2003 14:36	151:49:30	151:46:00	151:34:00	12.32172877		
115	75	1075	0.00406	535	13.953	0.003746759	106.10	0.09830141	2783.58	55.70	59.81	4/15/2003 11:44	172:57:30	172:54:00	172:42:00	13.15136241		
127	75	1064	0.00448	535	13.810	0.004095385	115.97	0.102396796	2899.54	58.02	62.13	4/16/2003 16:31	201:44:30	201:41:00	201:29:00	14.20357936		
137	75	1081	0.00484	535	14.031	0.004488443	127.10	0.106885238	3026.64	60.57	64.67	4/17/2003 21:47	231:00:30	230:57:00	230:45:00	15.1989583		
108	75	1069	0.00381	535	13.875	0.003499056	99.08	0.110384294	3125.72	62.55	66.65	4/18/2003 19:27	252:40:30	252:37:00	252:25:00	15.89575415		
170	75	1083	0.006	535	14.057	0.005579905	158.00	0.115964199	3283.73	65.71	69.81	4/20/2003 17:36	298:49:30	298:46:00	298:34:00	17.28655547		
87	75	1085	0.00307	535	14.083	0.002860872	81.01	0.118825071	3364.74	67.33	71.44	4/21/2003 15:29	320:42:30	320:39:00	320:27:00	17.90833139		
99	75	1082	0.0035	535	14.044	0.003246474	91.93	0.122071545	3456.67	69.17	73.28	4/22/2003 20:00	349:13:30	349:10:00	348:58:00	18.68756271		
135	75	1068	0.00477	535	13.862	0.004369728	123.74	0.126441273	3580.40	71.65	75.75	4/24/2003 10:48	388:01:30	387:58:00	387:46:00	19.69835018		
125	80	1080	0.00441	540	14.018	0.004053622	114.79	0.130494895	3695.19	73.95	78.05	4/26/2003 12:49	438:02:30	437:59:00	437:47:00	20.92944497		
99	71	1080	0.0035	531	14.018	0.003264883	92.45	0.133759778	3787.64	75.80	79.90	4/28/2003 10:54	484:07:30	484:04:00	483:52:00	22.00284073		
68	75	1081	0.0024	535	14.031	0.00222784	63.09	0.135987618	3850.73	77.06	81.16	4/29/2003 12:08	509:21:30	509:18:00	509:06:00	22.56896837		
61	72	1071	0.00215	532	13.901	0.001991182	56.38	0.1379788	3907.11	78.19	82.29	4/30/2003 12:06	533:19:30	533:16:00	533:04:00	23.09383034		
59	76	1079	0.00208	536	14.005	0.001925803	54.53	0.139904603	3961.64	79.28	83.38	5/1/2003 13:17	558:30:30	558:27:00	558:15:00	23.63278091		
49	75	1084	0.00173	535	14.070	0.001609811	45.58	0.141514413	4007.23	80.19	84.29	5/2/2003 14:36	583:49:30	583:46:00	583:34:00	24.1624709		
55	75	1085	0.00194	535	14.083	0.001808597	51.21	0.143323011	4058.44	81.22	85.32	5/3/2003 10:51	604:04:30	604:01:00	603:49:00	24.57793726		
50	75	1067	0.00177	535	13.849	0.001616903	45.79	0.144939913	4104.23	82.13	86.23	5/4/2003 10:32	627:45:30	627:42:00	627:30:00	25.05510593		
60	73	1069	0.00212	533	13.875	0.001951214	55.25	0.146891127	4159.48	83.24	87.34	5/5/2003 14:30	655:43:30	655:40:00	655:28:00	25.60712791		
44	73	1075	0.00155	533	13.953	0.001438922	40.75	0.148330049	4200.22	84.05	88.15	5/6/2003 12:35	677:48:30	677:45:00	677:33:00	26.03475242		
45	76	1080	0.00159	536	14.018	0.001470194	41.63	0.149800243	4241.85	84.89	88.99	5/7/2003 15:48	705:01:30	704:58:00	704:46:00	26.55230687		
113	77	1066	0.00399	537	13.836	0.003637178	102.99	0.153437421	4344.85	86.95	91.05	5/10/2003 15:25	776:38:30	776:35:00	776:23:00	27.86829142		
69	75	1088	0.00244	535	14.122	0.002275241	64.43	0.155712662	4409.27	88.24	92.34	5/12/2003 14:29	823:42:30	823:39:00	823:27:00	28.70031939		
69	75	1079	0.00244	535	14.005	0.00225642	63.89	0.157969082	4473.17	89.51	93.62	5/14/2003 12:04	869:17:30	869:14:00	869:02:00	29.48375259		
70	75	1078	0.00247	535	13.992	0.002287	64.76	0.160256083	4537.93	90.81	94.91	5/16/2003 11:55	917:08:30	917:05:00	916:53:00	30.28434689		
72	75	1083	0.00254	535	14.057	0.002363254	66.92	0.162619337	4604.85	92.15	96.25	5/19/2003 14:15	991:28:30	991:25:00	991:13:00	31.48769601		
72	73	1091	0.00254	533	14.161	0.002389644	67.67	0.165008981	4672.52	93.50	97.61	5/22/2003 9:23	1058:36:30	1058:33:00	1058:21:00	32.53626182		
67	75	1083	0.00237	535	14.057	0.002199139	62.27	0.16720812	4734.79	94.75	98.85	5/25/2003 2:08	1123:21:30	1123:18:00	1123:06:00	33.51653821		
115	75	1083	0.00406	535	14.057	0.003774642	106.89	0.170982761	4841.67	96.89	100.99	5/30/2003 16:41	1257:54:30	1257:51:00	1257:39:00	35.46700344		
92	74	1075	0.00325	534	13.953	0.00300302	85.04	0.173985782	4926.71	98.59	102.69	6/2/2003 16:16	1329:29:30	1329:26:00	1329:14:00	36.46219503		
55	75	1084	0.00194	535	14.070	0.00180693	51.17	0.175792712	4977.88	99.61	103.72	6/5/2003 11:31	1396:44:30	1396:41:00	1396:29:00	37.37300719		
82	75	1078	0.0029	535	13.992	0.002679058	75.86	0.178471769	5053.74	101.13	105.24	6/9/2003 14:08	1495:21:30	1495:18:00	1495:06:00	38.66986337		
70	74	1075	0.00247	534	13.953	0.002284907	64.70	0.180756676	5118.44	102.43	106.53	6/12/2003 13:45	1566:58:30	1566:55:00	1566:43:00	39.58503505		
52	75	1085	0.00184	535	14.083	0.001709946	48.42	0.182466622	5166.86	103.40	107.50	6/15/2003 14:57	1640:10:30	1640:07:00	1639:55:00	40.49907406		
57	74	1081	0.00201	534	14.031	0.001870951	52.98	0.184337574	5219.84	104.46	108.56	6/18/2003 13:59	1711:12:30	1711:09:00	1710:57:00	41.36675396		
38	73	1085	0.00134	533	14.083	0.001254265	35.52	0.185591839	5255.36	105.17	109.27	6/20/2003 14:04	1759:17:30	1759:14:00	1759:02:00	41.94391096		

48	73	1079	0.0017	533	14.005	0.001575574	44.62	0.187167412	5299.97	106.06	110.16	6/23/2003 11:24	1828:37:30	1828:34:00	1828:22:00	42.76242509	
44	73	1078	0.00155	533	13.992	0.001442937	40.86	0.18861035	5340.83	106.88	110.98	6/25/2003 16:21	1881:34:30	1881:31:00	1881:19:00	43.37712531	
33	74	1082	0.00117	534	14.044	0.001084184	30.70	0.189694534	5371.53	107.49	111.59	6/27/2003 15:18	1928:31:30	1928:28:00	1928:16:00	43.91497467	
35	72	1088	0.00124	532	14.122	0.001160616	32.86	0.19085515	5404.40	108.15	112.25	6/30/2003 11:15	1996:28:30	1996:25:00	1996:13:00	44.68193147	
47	73	1078	0.00166	533	13.992	0.001541319	43.65	0.192396469	5448.04	109.02	113.13	7/3/2003 9:56	2067:09:30	2067:06:00	2066:54:00	45.46601295	
46	75	1078	0.00162	535	13.992	0.001502886	42.56	0.193899355	5490.60	109.87	113.98	7/5/2003 19:56	2125:09:30	2125:06:00	2124:54:00	46.09943962	
28	74	1081	0.00099	534	14.031	0.000919064	26.02	0.194818419	5516.62	110.40	114.50	7/7/2003 14:06	2167:19:30	2167:16:00	2167:04:00	46.55453791	
54	75	1081	0.00191	535	14.031	0.001769167	50.10	0.196587586	5566.72	111.40	115.50	7/11/2003 16:11	2265:24:30	2265:21:00	2265:09:00	47.59630588	
52	75	1084	0.00184	535	14.070	0.00170837	48.38	0.198295957	5615.09	112.37	116.47	7/15/2003 13:57	2359:10:30	2359:07:00	2358:55:00	48.57133929	
72	75	1079	0.00254	535	14.005	0.002354525	66.67	0.200650482	5681.77	113.70	117.80	7/21/2003 16:33	2505:46:30	2505:43:00	2505:31:00	50.05771669	
74	79	1081	0.00261	539	14.031	0.002406422	68.14	0.203056904	5749.91	115.06	119.17	7/28/2003 20:29	2677:42:30	2677:39:00	2677:27:00	51.74657799	
64	75	1079	0.00226	535	14.005	0.002092911	59.26	0.205149816	5809.17	116.25	120.35	8/4/2003 13:48	2839:01:30	2838:58:00	2838:46:00	53.28250182	
66	78	1086	0.00233	538	14.096	0.002160204	61.17	0.207310019	5870.34	117.47	121.58	8/11/2003 14:03	3007:16:30	3007:13:00	3007:01:00	54.8386269	
70	76	1082	0.00247	536	14.044	0.002291204	64.88	0.209601223	5935.22	118.77	122.87	8/18/2003 20:05	3181:18:30	3181:15:00	3181:03:00	56.40308798	
63	76	1083	0.00222	536	14.057	0.002063989	58.45	0.211665212	5993.67	119.94	124.04	8/24/2003 22:50	3328:03:30	3328:00:00	3327:48:00	57.68932599	
50	78	1086	0.00177	538	14.096	0.001636518	46.34	0.21330173	6040.01	120.87	124.97	9/1/2003 14:53	3512:06:30	3512:03:00	3511:51:00	59.26304357	
43	75	1084	0.00152	535	14.070	0.001412691	40.00	0.214714421	6080.01	121.67	125.77	9/8/2003 14:07	3679:20:30	3679:17:00	3679:05:00	60.65757716	
44	76	1085	0.00155	536	14.083	0.001444178	40.89	0.2161586	6120.91	122.49	126.59	9/15/2003 15:16	3848:29:30	3848:26:00	3848:14:00	62.03621254	
58	78	1084	0.00205	538	14.070	0.001894865	53.66	0.218053464	6174.56	123.56	127.66	9/23/2003 10:52	4036:05:30	4036:02:00	4035:50:00	63.53024214	
29	78	1091	0.00102	538	14.161	0.00095355	27.00	0.219007015	6201.56	124.10	128.20	9/26/2003 18:55	4116:08:30	4116:05:00	4115:53:00	64.1571638	
56	80	1085	0.00198	540	14.083	0.00182443	51.66	0.220831445	6253.23	125.14	129.24	10/6/2003 12:18	4349:31:30	4349:28:00	4349:16:00	65.95092873	
50	81	1084	0.00177	541	14.070	0.001624446	46.00	0.222455891	6299.23	126.06	130.16	10/14/2003 23:14	4552:27:30	4552:24:00	4552:12:00	67.47190773	
31	78	1081	0.00109	538	14.031	0.00100997	28.60	0.22346586	6327.82	126.63	130.73	10/20/2003 15:40	4688:53:30	4688:50:00	4688:38:00	68.47548223	
21	72	1075	0.00074	532	13.953	0.000688049	19.48	0.224153909	6347.31	127.02	131.12	10/27/2003 15:09	4856:22:30	4856:19:00	4856:07:00	69.68769619	
19	72	1080	0.00067	532	14.018	0.000625416	17.71	0.224779325	6365.02	127.37	131.48	11/3/2003 10:15	5019:28:30	5019:25:00	5019:13:00	70.84825333	
32	75	1085	0.00113	535	14.083	0.001052275	29.80	0.2258316	6394.81	127.97	132.07	11/10/2003 11:24	5188:37:30	5188:34:00	5188:22:00	72.0321109	
45	76	1069	0.00159	536	13.875	0.00145522	41.21	0.22728682	6436.02	128.79	132.90	11/17/2003 16:31	5361:44:30	5361:41:00	5361:29:00	73.22391458	
14	73	1086	0.00049	533	14.096	0.000462524	13.10	0.227749343	6449.12	129.06	133.16	11/24/2003 14:28	5527:41:30	5527:38:00	5527:26:00	74.34844764	
25	75	1090	0.00088	535	14.148	0.000825878	23.39	0.228575221	6472.51	129.52	133.63	12/4/2003 20:13	5773:26:30	5773:23:00	5773:11:00	75.983167	
23	74	1083	0.00081	534	14.057	0.000756342	21.42	0.229331563	6493.92	129.95	134.06	12/10/2003 15:01	5912:14:30	5912:11:00	5911:59:00	76.89110265	
22	76	1087	0.00078	536	14.109	0.00072342	20.48	0.230054984	6514.41	130.36	134.47	12/16/2003 14:25	6055:38:30	6055:35:00	6055:23:00	77.81800349	
23	73	1081	0.00081	533	14.031	0.000756362	21.42	0.230811345	6535.82	130.79	134.89	12/22/2003 16:10	6201:23:30	6201:20:00	6201:08:00	78.74891534	
24	75	1082	0.00085	535	14.044	0.000787024	22.29	0.231598369	6558.11	131.24	135.34	12/29/2003 14:37	6367:50:30	6367:47:00	6367:35:00	79.7987573	
11	74	1103	0.00039	534	14.316	0.000368409	10.43	0.231966778	6568.54	131.45	135.55	1/6/2004 15:13	6560:26:30	6560:23:00	6560:11:00	80.99655342	
28	75	1093	0.00099	535	14.187	0.000927529	26.26	0.232894307	6594.81	131.97	136.07	1/12/2004 11:47	6701:00:30	6700:57:00	6700:45:00	81.85968686	
36	75	1089	0.00127	535	14.135	0.001188173	33.65	0.234082481	6628.45	132.65	136.75	1/21/2004 10:37	6915:50:30	6915:47:00	6915:35:00	83.16153959	
13	71	1091	0.00046	531	14.161	0.000433089	12.26	0.234515569	6640.72	132.89	136.99	1/27/2004 10:13	7059:26:30	7059:23:00	7059:11:00	84.02048361	
24	75	1085	0.00085	535	14.083	0.000789206	22.35	0.235304775	6663.06	133.34	137.44	2/2/2004 15:44	7208:57:30	7208:54:00	7208:42:00	84.90558482	
15	75	1091	0.00053	535	14.161	0.000495981	14.04	0.235800757	6677.11	133.62	137.72	2/9/2004 10:36	7371:49:30	7371:46:00	7371:34:00	85.85933263	
19	75	1091	0.00067	535	14.161	0.000628243	17.79	0.236429	6694.90	133.97	138.08	2/16/2004 14:27	7543:40:30	7543:37:00	7543:25:00	86.85433207	
20	74	1086	0.00071	534	14.096	0.000659511	18.68	0.237088511	6713.57	134.35	138.45	2/23/2004 14:34	7711:47:30	7711:44:00	7711:32:00	87.81680743	
16	75	1091	0.00057	535	14.161	0.000529047	14.98	0.237617557	6728.55	134.65	138.75	3/2/2004 10:50	7900:03:30	7900:00:00	7899:48:00	88.88227232	
3	75	1088	0.00011	535	14.122	9.89235E-05	2.80	0.237716481	6731.36	134.70	138.81	3/8/2004 10:09	8043:22:30	8043:19:00	8043:07:00	89.68486494	
35	74	1081	0.00124	534	14.031	0.00114883	32.53	0.238865311	6763.89	135.36	139.46	3/15/2004 11:43	8212:56:30	8212:53:00	8212:41:00	90.62528161	
13	75	1097	0.00046	535	14.239	0.000432215	12.24	0.239297525	6776.13	135.60	139.70	3/22/2004 10:07	8379:20:30	8379:17:00	8379:05:00	91.53874407	
19	75	1088	0.00067	535	14.122	0.000626516	17.74	0.239924041	6793.87	135.96	140.06	3/30/2004 20:37	8581:50:30	8581:47:00	8581:35:00	92.63823005	
24	75	1080	0.00085	535	14.018	0.000785569	22.24	0.24070961	6816.11	136.40	140.50	4/6/2004 14:46	8743:59:30	8743:56:00	8743:44:00	93.50931326	
8	75	1086	0.00028	535	14.096	0.000263311	7.46	0.240972921	6823.57	136.55	140.65	4/12/2004 15:03	8888:16:30	8888:13:00	8888:01:00	94.27764846	
10	68	1088	0.00035	528	14.122	0.000334117	9.46	0.241307038	6833.03	136.74	140.84	4/19/2004 14:32	9055:45:30	9055:42:00	9055:30:00	95.16174827	estimate
30	76	1090	0.00106	536	14.148	0.000989205	28.01	0.242296243	6861.04	137.30	141.40	4/26/2004 11:37	9220:50:30	9220:47:00	9220:35:00	96.0252137	
29	76	1083	0.00102	536	14.057	0.00095009	26.90	0.243246333	6887.94	137.84	141.94	5/3/2004 19:15	9396:28:30	9396:25:00	9396:13:00	96.93541664	
25	77	1081	0.00088	537	14.031	0.000816008	23.11	0.244062341	6911.05	138.30	142.40	5/10/2004 14:05	9559:18:30	9559:15:00	9559:03:00	97.77171541	
18	78	1082	0.00064	538	14.044	0.000586976	16.62	0.244649318	6927.67	138.63	142.74	5/17/2004 9:48	9723:01:30	9722:58:00	9722:46:00	98.60540046	
20	74	1075	0.00071	534	13.953	0.00065283	18.49	0.245302148	6946.16	139.00	143.11	5/24/2004 10:34	9891:47:30	9891:44:00	9891:32:00	99.45748673	
15	77	1077	0.00053	537	13.979	0.000487793	13.81	0.245789942	6959.97	139.28	143.38	6/1/2004 10:58	10084:11:30	10084:08:00	10083:56:00	100.420076	
21	78	1076	0.00074	538	13.966	0.000681008	19.28	0.24647095	6979.25	139.67	143.77	6/7/2004 10:39	10227:52:30	10227:49:00	10227:37:00	101.132957	
8	75	1078	0.00028	535	13.992	0.000261371	7.40	0.246732322	6986.65	139.81	143.92	6/14/2004 10:53	10396:06:30	10396:03:00	10395:51:00	101.961308	
7	77	1082	0.00025	537	14.044	0.000228694	6.48	0.246961015	6993.13	139.94	144.05	6/23/2004 16:29	10617:42:30	10617:39:00	10617:27:00	103.0422648	
20	77	1082	0.00071	537	14.044	0.000653411	18.50	0.247614426	7011.63	140.31	144.42	7/1/2004 11:57	10805:10:30	10805:07:00	10804:55:00	103.9479437	
21	79	1081	0.00074	539	14.031	0.000682904	19.34	0.24829733	7030.97	140.70	144.80	7/7/2004 10:36	10947:49:30	10947:46:00	10947:34:00	104.6318546	
25	79	1082	0.00088	539	14.044	0.000813733	23.04	0.249111062	7054.01	141.16	145.26	7/13/2004 14:23	11095:36:30	11095:33:00	11095:21:00	105.3356935	
-2	73	1080	-7E-05	533	14.018	-6.57097E-05	-1.86	0.249045352	7052.15	141.12	145.23	7/19/2004 11:24	11236:37:30	11236:34:00	11236:22:00	106.0029481	
15	79	1091	0.00053	539	14.161	0.000492301	13.94	0.249537653	7066.09	141.40	145.51	7/26/2004 10:26	11403:39:30	11403:36:00	11403:24:00	106.7879129	
28	80	1079	0.00099	540	14.005	0.000907171	25.69	0.250444824	7091.78	141.92	146.02	8/2/2004 14:45	11575:58:30	11575:55:00	11575:43:00	107.5917051	
12	78	1086	0.00042	538	14.096	0.000392764	11.12	0.250837588	7102.90	142.14	146.24	8/9/2004 14:03	11743:16:30	11743:13:00	11743:01:00	108.3663924	
9	78	1088	0.00032	538	14.122	0.000295116	8.36	0.251132704	7111.26	142.31	146.41	8/16/2004 11:08	11908:21:30	11908:18:00	11908:06:00	109.1254248	
19	75	1076	0.00067	535	13.966	0.000619606	17.55	0.251752309	7128.80	142.66	146.76	8/23/2004 14:14	12079:27:30	12079:24:00	12079:12:00	109.9065891	
-4	73	1087	-0.0001	533	14.109	-0.000132271	-3.75	0.251620038	7125.06	142.58	146.69	8/30/2004 16:48	12250:01:30	12249:58:00	12249:46:00	110.679831	
19	75	1088	0.00067	535	14.122	0.000626516	17.74	0.252246554	7142.80	142.94	147.04	9/7/2004 15:59	12441:12:30	12441:09:00	12440:57:00	111.5401647	
23	77	1073	0.00081	537	13.927	0.000745172	21.10	0.252991725	7163.90	143.36	147.46	9/14/2004 18:42	12611:55:30	12611:52:00	12611:40:00	112.3028272	
-4	77	1083	-0.0001	537	14.057	-0.000130803	-3.70	0.252860923	7160.20	143.29	147.39	9/21/2004 16:49	12778:02:30	12777:59:00	12777:47:00	113.0400003	
6	75	1089	0.00021	535	14.135	0.000198029	5.61	0.253058951	7165.80	143.40	147.50	9/28/2004 21:08	12950:21:30	12950:18:00	12950:06:00	113.7996412	
12	76	1085	0.00042	536	14.083	0.000393867	11.15	0.253452818	7176.96	143.62	147.72	10/8/2004 10:15	13179:28:30	13179:25:00	13179:13:00	114.8018946	
5	72	1079	0.00018	532	14.005	0.000164431	4.66	0.253617249	7181.61	143.71	147.82	10/19/2004 14:16	13447:29:30	13447:26:00	13447:14:00	115.9633204	
8	75	1086	0.00028	535	14.096	0.000263311	7.46	0.25388056	7189.07	143.86	147.97	10/27/2004 14:06	13639:19:30	13639:16:00	13639:04:00	116.7875207	
1	73	1090	3.5E-05	533	14.148	3.31591E-05	0.94	0.253913719	7190.01	143.88	147.98	11/5/2004 11:13	13852:26:30	13852:23:00	13852:11:00	117.6963961	

6	75	1095	0.00021	535	14.213	0.00019912	5.64	0.254112839	7195.65	144.00	148.10	11/12/2004 16:30	14025:43:30	14025:40:00	14025:28:00	118.4302537		
21	75	1080	0.00074	535	14.018	0.000687373	19.46	0.254800212	7215.11	144.38	148.49	11/24/2004 10:54	14308:07:30	14308:04:00	14307:52:00	119.6165749		
8	75	1088	0.00028	535	14.122	0.000263796	7.47	0.255064008	7222.58	144.53	148.64	12/2/2004 11:35	14500:48:30	14500:45:00	14500:33:00	120.4193022		
DECANISTERED 12/03/2003, sample air dried for 21 days																		

SAMPLE:	838.3' to 839.1' (Tebo coal) in canister L																
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)	
dry sample weight:		3.225	1462.90		wet sample weight:		3.290	1492.38	1.98%		208		off bottom	at surface	in canister	16.1	minutes
													4/8/2003 10:54	4/8/2003 10:58	4/8/2003 11:10	0.269	hours
RIG/LAB MEASUREMENTS			CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg (					CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.518812747	SQRT (hrs)
measured cc	measured T (F	measured P	cubic ft	absolute T (F	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)	
15	80	1102	0.00053	540	14.303	0.000496343	14.05	0.000496343	14.05	0.31	4.86	4/8/2003 11:13	0:19:00	0:15:00	0:02:51	0.562731434	
13	80	1102	0.00046	540	14.303	0.000430164	12.18	0.000926508	26.24	0.57	5.13	4/8/2003 11:15	0:21:00	0:17:00	0:04:51	0.591607978	
7	80	1102	0.00025	540	14.303	0.000231627	6.56	0.001158135	32.79	0.72	5.27	4/8/2003 11:16	0:22:23	0:18:23	0:06:14	0.61078274	
12	80	1102	0.00042	540	14.303	0.000397075	11.24	0.001555209	44.04	0.96	5.52	4/8/2003 11:18	0:24:25	0:20:25	0:08:16	0.637921974	
8	80	1102	0.00028	540	14.303	0.000264717	7.50	0.001819926	51.53	1.13	5.68	4/8/2003 11:20	0:26:00	0:22:00	0:09:51	0.658280588	
9	80	1102	0.00032	540	14.303	0.000297806	8.43	0.002117732	59.97	1.31	5.87	4/8/2003 11:21	0:27:27	0:23:27	0:11:18	0.676387463	
9	80	1102	0.00032	540	14.303	0.000297806	8.43	0.002415538	68.40	1.50	6.05	4/8/2003 11:23	0:29:45	0:25:45	0:13:36	0.704154339	
7	80	1102	0.00025	540	14.303	0.000231627	6.56	0.002647165	74.96	1.64	6.20	4/8/2003 11:25	0:31:20	0:27:20	0:15:11	0.722649446	
15	80	1102	0.00053	540	14.303	0.000496343	14.05	0.003143509	89.01	1.95	6.50	4/8/2003 11:28	0:34:31	0:30:31	0:18:22	0.758470683	
11	80	1102	0.00039	540	14.303	0.000363985	10.31	0.003507494	99.32	2.18	6.73	4/8/2003 11:30	0:36:36	0:32:36	0:20:27	0.781024968	
64	80	1102	0.00226	540	14.303	0.002117732	59.97	0.005625226	159.29	3.49	8.04	4/8/2003 11:49	0:55:26	0:51:26	0:39:17	0.96119139	
34	80	1102	0.0012	540	14.303	0.001125045	31.86	0.006750271	191.15	4.19	8.74	4/8/2003 11:57	1:03:58	0:59:58	0:47:49	1.032526567	
23	80	1102	0.00081	540	14.303	0.00076106	21.55	0.007511331	212.70	4.66	9.21	4/8/2003 12:06	1:12:40	1:08:40	0:56:31	1.100504935	
32	80	1102	0.00113	540	14.303	0.001058866	29.98	0.008570197	242.68	5.31	9.87	4/8/2003 12:16	1:22:36	1:18:36	1:06:27	1.173314394	
35	80	1102	0.00124	540	14.303	0.001158135	32.79	0.009728332	275.47	6.03	10.59	4/8/2003 12:28	1:34:28	1:30:28	1:18:19	1.254768682	
23	80	1102	0.00081	540	14.303	0.00076106	21.55	0.010489392	297.03	6.50	11.06	4/8/2003 12:36	1:42:30	1:38:30	1:26:21	1.307032262	
27	80	1102	0.00095	540	14.303	0.000893418	25.30	0.01138281	322.32	7.06	11.61	4/8/2003 12:49	1:55:40	1:51:40	1:39:31	1.388444373	
30	80	1102	0.00106	540	14.303	0.000992687	28.11	0.012375497	350.43	7.67	12.23	4/8/2003 13:04	2:10:00	2:06:00	1:53:51	1.471960144	
73	80	1102	0.00258	540	14.303	0.002415538	68.40	0.014791035	418.83	9.17	13.73	4/8/2003 13:47	2:53:00	2:49:00	2:36:51	1.698038084	
80	80	1101	0.00283	540	14.291	0.002644763	74.89	0.017435798	493.72	10.81	15.37	4/8/2003 14:42	3:48:00	3:44:00	3:31:51	1.949358869	estimate
70	80	1101	0.00247	540	14.291	0.002314168	65.53	0.019749966	559.25	12.25	16.80	4/8/2003 15:38	4:44:00	4:40:00	4:27:51	2.175622516	
72	80	1101	0.00254	540	14.291	0.002380287	67.40	0.022130252	626.66	13.72	18.28	4/8/2003 16:37	5:43:00	5:39:00	5:26:51	2.390955179	
98	80	1101	0.00346	540	14.291	0.003239835	91.74	0.025370087	718.40	15.73	20.29	4/8/2003 18:09	7:15:00	7:11:00	6:58:51	2.692582404	
74	80	1101	0.00261	540	14.291	0.002446406	69.27	0.027816493	787.67	17.25	21.80	4/8/2003 19:18	8:24:00	8:20:00	8:07:51	2.898275349	
64	80	1101	0.00226	540	14.291	0.00211581	59.91	0.029932303	847.59	18.56	23.12	4/8/2003 21:28	10:34:00	10:30:00	10:17:51	3.250640962	
49	80	1101	0.00173	540	14.291	0.001619917	45.87	0.03155222	893.46	19.57	24.12	4/8/2003 22:46	11:52:00	11:48:00	11:35:51	3.444802849	
58	80	1100	0.00205	540	14.278	0.001915712	54.25	0.033467932	947.70	20.75	25.31	4/9/2003 0:31	13:37:00	13:33:00	13:20:51	3.690076783	
65	80	1101	0.0023	540	14.291	0.00214887	60.85	0.035616802	1008.55	22.09	26.64	4/9/2003 3:27	16:33:00	16:29:00	16:16:51	4.068169121	
90	80	1100	0.00318	540	14.278	0.002972656	84.18	0.038589458	1092.73	23.93	28.49	4/9/2003 7:02	20:08:00	20:04:00	19:51:51	4.487018312	
85	80	1100	0.003	540	14.278	0.002807508	79.50	0.041396966	1172.23	25.67	30.23	4/9/2003 11:08	24:14:00	24:10:00	23:57:51	4.922736366	
91	80	1090	0.00321	540	14.148	0.002978361	84.34	0.044375327	1256.56	27.52	32.07	4/9/2003 17:49	30:55:00	30:51:00	30:38:51	5.560275773	
240	80	1089	0.00848	540	14.135	0.007847812	222.22	0.052223139	1478.79	32.39	36.94	4/10/2003 8:52	45:58:00	45:54:00	45:41:51	6.779872172	
190	80	1083	0.00671	540	14.057	0.00617862	174.96	0.058401759	1653.75	36.22	40.77	4/10/2003 20:47	57:53:00	57:49:00	57:36:51	7.608109708	
104	80	1083	0.00367	540	14.057	0.003381982	95.77	0.06178374	1749.51	38.31	42.87	4/11/2003 8:45	69:51:00	69:47:00	69:34:51	8.357631243	
134	80	1081	0.00473	540	14.031	0.004349506	123.16	0.066133246	1872.68	41.01	45.57	4/11/2003 23:41	84:47:00	84:43:00	84:30:51	9.20778656	
98	80	1083	0.00346	540	14.057	0.003186867	90.24	0.069320114	1962.92	42.99	47.54	4/12/2003 12:35	97:41:00	97:37:00	97:24:51	9.883487913	
168	80	1084	0.00593	540	14.070	0.005468246	154.84	0.074788359	2117.76	46.38	50.93	4/13/2003 12:55	122:01:00	121:57:00	121:44:51	11.04611546	
138	80	1078	0.00487	540	13.992	0.004466911	126.49	0.07925527	2244.25	49.15	53.70	4/14/2003 15:29	148:35:00	148:31:00	148:18:51	12.18947634	
98	80	1074	0.00346	540	13.940	0.003160384	89.49	0.082415654	2333.74	51.11	55.66	4/15/2003 12:01	169:07:00	169:03:00	168:50:51	13.00448641	
128	80	1064	0.00452	540	13.810	0.004089414	115.80	0.086505068	2449.54	53.64	58.20	4/16/2003 16:32	197:38:00	197:34:00	197:21:51	14.05821231	
90	80	1081	0.00318	540	14.031	0.00292131	82.72	0.089426378	2532.26	55.46	60.01	4/17/2003 21:48	226:54:00	226:50:00	226:37:51	15.06320019	
81	80	1069	0.00286	540	13.875	0.002599993	73.62	0.092026371	2605.89	57.07	61.62	4/18/2003 19:28	248:34:00	248:30:00	248:17:51	15.76599717	
122	80	1083	0.00431	540	14.057	0.003967325	112.34	0.095993695	2718.23	59.53	64.08	4/20/2003 17:39	294:45:00	294:41:00	294:28:51	17.16828471	
62	80	1085	0.00219	540	14.083	0.002019905	57.20	0.0980136	2775.43	60.78	65.34	4/21/2003 15:30	316:36:00	316:32:00	316:19:51	17.79325715	
70	80	1082	0.00247	540	14.044	0.002274232	64.40	0.100287832	2839.82	62.19	66.75	4/22/2003 20:01	345:07:00	345:03:00	344:50:51	18.57731592	
109	80	1068	0.00385	540	13.862	0.003495483	98.98	0.103783315	2938.81	64.36	68.91	4/24/2003 10:49	383:55:00	383:51:00	383:38:51	19.59379153	
94	80	1080	0.00332	540	14.018	0.003048324	86.32	0.106831638	3025.12	66.25	70.80	4/26/2003 12:51	433:57:00	433:53:00	433:40:51	20.83146658	
81	80	1081	0.00286	540	14.031	0.002629179	74.45	0.109460817	3099.57	67.88	72.43	4/28/2003 10:57	480:03:00	479:59:00	479:46:51	21.91004336	
47	80	1081	0.00166	540	14.031	0.001525573	43.20	0.11098639	3142.77	68.83	73.38	4/29/2003 12:09	505:15:00	505:11:00	504:58:51	22.47776679	
47	80	1071	0.00166	540	13.901	0.00151146	42.80	0.112497851	3185.57	69.76	74.32	4/30/2003 12:07	529:13:00	529:09:00	528:56:51	23.00470966	
34	80	1079	0.0012	540	14.005	0.001101564	31.19	0.113599415	3216.77	70.45	75.00	5/1/2003 13:20	554:26:00	554:22:00	554:09:51	23.54640808	
32	80	1084	0.00113	540	14.070	0.001041571	29.49	0.114640986	3246.26	71.09	75.65	5/2/2003 14:27	579:33:00	579:29:00	579:16:51	24.07384473	
36	80	1085	0.00127	540	14.083	0.001172848	33.21	0.115813833	3279.47	71.82	76.37	5/3/2003 10:58	600:04:00	600:00:00	599:47:51	24.49625822	
39	80	1067	0.00138	540	13.849	0.001249506	35.38	0.11706334	3314.85	72.59	77.15	5/4/2003 10:33	623:39:00	623:35:00	623:22:51	24.9729854	
43	80	1069	0.00152	540	13.875	0.001380243	39.08	0.118443583	3353.94	73.45	78.01	5/5/2003 14:32	651:38:00	651:34:00	651:21:51	25.52710977	
26	80	1075	0.00092	540	13.953	0.00083925	23.76	0.119282833	3377.70	73.97	78.53	5/6/2003 12:36	673:42:00	673:38:00	673:25:51	25.95573154	
27	80	1080	0.00095	540	14.018	0.000875582	24.79	0.120158415	3402.49	74.51	79.07	5/7/2003 15:48	700:54:00	700:50:00	700:37:51	26.47451605	
85	80	1066	0.003	540	13.836	0.002720731	77.04	0.122879146	3479.54	76.20	80.76	5/10/2003 15:26	772:32:00	772:28:00	772:15:51	27.79448387	
33	80	1088	0.00117	540	14.122	0.001078083	30.53	0.123957229	3510.06	76.87	81.42	5/12/2003 14:30	819:36:00	819:32:00	819:19:51	28.62865697	
40	80	1079	0.00141	540	14.005	0.001295958	36.70	0.125253187	3546.76	77.67	82.23	5/14/2003 12:06	865:12:00	865:08:00	864:55:51	29.41428225	
29	80	1078	0.00102	540	13.992	0.000938699	26.58	0.126191886	3573.34	78.26	82.81	5/16/2003 11:58	913:04:00	913:00:00	912:47:51	30.21699301	estimate
15	68	1083	0.00053	528	14.057	0.000498872	14.13	0.126690758	3587.47	78.56	83.12	5/19/2003 14:16	987:22:00	987:18:00	987:05:51	31.42239117	
112	80	1091	0.00396	540	14.161	0.003669038	103.90	0.130359796	3691.36	80.84	85.39	5/22/2003 9:15	1054:21:00	1054:17:00	1054:04:51	32.47075607	
70	86	1083	0.00247	546	14.057	0.002251319	63.75	0.132611115	3755.11	82.24	86.79	5/25/2003 2:09	1119:15:00	1119:11:00	1118:58:51	33.45519392	
92	85	1083	0.00325	545	14.057	0.002964306	83.94	0.13557542	3839.05	84.07	88.63	5/30/2003 16:42	1253:48:00	1253:44:00	1253:31:51	35.40903839	
53	84	1075	0.00187	544	13.953	0.001698199	48.09	0.13727362	3887.14	85.13	89.68	6/2/2003 16:17	1325:23:00	1325:19:00	1325:06:51	36.40581455	
46	80	1084	0.00162	540	14.070	0.001497258	42.40	0.138770877	3929.54	86.06	90.61	6/5/2003 11:32	1392:38:00	1392:34:00	1392:21:51	37.3180028	
33	70	1078	0.00117	530	13.992	0.001088329	30.82	0.139859206	3960.36	86.73	91.29	6/9/2003 14:09	1491:15:00	1491:11:00	1490:58:51	38.61670623	
71	88	1075	0.00251	548	13.953	0.002258341	63.95	0.142117547	4024.31	88.13	92.69	6/12/2003 13:46	1562:52:00	1562:48:00	1562:35:51	39.53310849	
43	85	1085	0.00152	545	14.083	0.001388049	39.31	0.143505596	4063.61	88.99	93.55	6/15/2003 14:58	1636:04:00	1636:00:00	1635:47:51	40.44832094	
-4	68	1081	-0.0001	528	14.031	-0.000132787	-3.76	0.143372809	4059.85	88.91	93.46	6/18/2003 14:02	1707:08:00	1707:04:00	1706:51:51	41.31747007	
58	81	1085	0.00205	541	14.083	0.001886095	53.41	0.145258905	4113.26	90.08	94.63	6/20/2003 14:10	1755:16:00	1755:12:00	1754:59:51	41.89590274	
41	87	1079	0.00145	547	14.005	0.001311358	37.13	0.146570262	4150.39	90.89	95.45	6/23/2003 11:25	1824:31:00	1824:27:00	1824:14:51	42.71436136	
43	88	1078	0.00152	548	13.992	0.001371544	38.84	0.147941807	4189.23	91.74	96.30	6/25/2003 16:22	1877:28:00	1877:24:00	1877:11:51	43.32974344	
-30	68	1082	-0.0011	528	14.044	-0.000996822	-28.23	0.146944984	4161.00	91.12	95.68	6/27/2003 15:19	1924:25:00	1924:21:00	1924:08:51	43.86817373	
-9	66	1088	-0.0003	526	14.122	-0.000301848	-8.55	0.146643136	4152.46	90.94	95.49	6/30/2003 11:16	1992:22:00	1992:18:00	1992:05:51	44.6359347	
44	80	1078	0.00155	540	13.992	0.001424232	40.33	0.148067368	4192.79	91.82	96.38	7/3/2003 9:57	2063:03:00	2062:59:00	2062:46:51	45.42081021	
28	80	1078	0.00099	540	13.992	0.00090633	25.66	0.148973698	4218.45	92.38	96.94	7/5/2003 19:59	2121:05:00	2121:01:00	2120:48:51	46.05522048	
5	80	1081	0.00018	540	14.031	0.000162295	4.60	0.149135993	4223.05	92.48	97.04	7/7/2003 14:06	2163:12:00	2163:08:00	2162:55:51	46.51021393	
48	79	1081	0.0017	539	14.031	0.001560923	44.20	0.150696916	4267.25	93.45	98.01	7/11/2003 16:12	2261:18:00	2261:14:00	2261:01:51	47.55312818	
24	80	1084	0.00085	540	14.070	0.000781178	22.12	0.151478094	4289.37	93.94	98.49	7/15/2003 13:58	2355:04:00	2355:00:00	2354:47:51	48.52902911	
40	78	1079	0.00141	538	14.005	0.001300776	36.83	0.152778869	4326.20	94.74	99.30	7/21/2003 16:33	2501:39:00	2501:35:00	2501:22:51	50.01649728	
40	80	1081	0.00141	540	14.031	0.00129836	36.77	0.154077229	4362.96	95.55	100.10	7/28/2003 20:30	2673:36:00	2673:32:00	2673:19:51	51.70686608	
35	79	1079	0.00124	539	14.005	0.001136067	32.17	0.155213296	4395.13	96.25	100.81	8/4/2003 13:49	2834:55:00	2834:51:00	2834:38:51	53.24393549	
42	78	1086	0.00148	538	14.096	0.001374675	38.93	0.156587971	4434.06	97.10	101.66	8/11/2003 14:04	3003:10:00	3003:06:00	3002:53:51	54.80115571	
60	79	1082	0.00212	539	14.044	0.001952958	55.30	0.15854093	4489.36	98.32	102.87	8/18/2003 20:07	3177:13:00	3177:09:00	3176:56:51	56.36680465	
32	80	1083	0.00113	540	14.057	0.00104061	29.47	0.159581539	4518.83	98.96	103.52	8/24/2003 22:51	3323:57:00	3323:53:00	3323:40:51	57.6537076	
26	81	1086	0.00092	541	14.096	0.00084627	23.96	0.16042781	4542.79	99.49	104.04	9/1/2003 14:54	3508:00:00	3507:56:00	3507:43:51	59.22837158	
28	83	1084	0.00099	543	14.070	0.000906339	25.66	0.161334149	4568.46	100.05	104.60	9/8/2003 14:07	3675:13:00	3675:09:00	3674:56:51	60.62356528	
28	80	1085	0.00099	540	14.083	0.000912215	25.83	0.162246364	4594.29	100.61	105.17	9/15/2003 15:17	3844:23:00	3844:19:00	3844:06:51	62.00309132	
35	80	1084	0.00124	540	14.070	0.001139218	32.26	0.163385581	4626.55	101.32	105.88	9/23/2003 10:53	4031:59:00	4031:55:00	4031:42:51	63.49790023	
11	80	1091	0.00039	540	14.161	0.000360352	10.20	0.163745933	4636.75	101.54	106.10	9/26/2003 18:56	4112:02:00	4111:58:00	4111:45:51	64.12513808	

36	83	1085	0.00127	543	14.083	0.001166368	33.03	0.164912301	4669.78	102.27	106.82	10/6/2003 12:19	4345:25:00	4345:21:00	4345:08:51	65.91977447		
31	81	1084	0.00109	541	14.070	0.001007156	28.52	0.165919458	4698.30	102.89	107.45	10/14/2003 23:17	4548:23:00	4548:19:00	4548:06:51	67.44170322		
22	83	1081	0.00078	543	14.031	0.000710153	20.11	0.166629611	4718.41	103.33	107.89	10/20/2003 15:42	4684:48:00	4684:44:00	4684:31:51	68.44559884		
18	82	1075	0.00064	542	13.953	0.000578875	16.39	0.167208486	4734.80	103.69	108.25	10/27/2003 15:09	4852:15:00	4852:11:00	4851:58:51	69.65809357		
15	80	1080	0.00053	540	14.018	0.000486435	13.77	0.16769492	4748.57	103.99	108.55	11/3/2003 10:16	5015:22:00	5015:18:00	5015:05:51	70.8192535		
24	80	1085	0.00085	540	14.083	0.000781899	22.14	0.168476819	4770.71	104.48	109.03	11/10/2003 11:25	5184:31:00	5184:27:00	5184:14:51	72.00358787		
37	83	1069	0.00131	543	13.875	0.001181089	33.44	0.169657908	4804.16	105.21	109.76	11/17/2003 16:32	5357:38:00	5357:34:00	5357:21:51	73.19585598		
8	81	1086	0.00028	541	14.096	0.000260391	7.37	0.169918299	4811.53	105.37	109.93	11/24/2003 14:28	5523:34:00	5523:30:00	5523:17:51	74.32070147		
31	84	1090	0.00109	544	14.148	0.001007146	28.52	0.170925445	4840.05	106.00	110.55	12/4/2003 20:16	5769:22:00	5769:18:00	5769:05:51	75.95634711		
19	83	1083	0.00067	543	14.057	0.000614448	17.40	0.171539894	4857.45	106.38	110.93	12/10/2003 15:01	5908:07:00	5908:03:00	5907:50:51	76.86427432		
25	88	1087	0.00088	548	14.109	0.000804067	22.77	0.172343961	4880.22	106.88	111.43	12/16/2003 14:26	6051:32:00	6051:28:00	6051:15:51	77.79160195		
24	85	1081	0.00085	545	14.031	0.000771869	21.86	0.17311583	4902.08	107.35	111.91	12/22/2003 16:11	6197:17:00	6197:13:00	6197:00:51	78.722826		
17	83	1082	0.0006	543	14.044	0.000549262	15.55	0.173665092	4917.63	107.69	112.25	12/29/2003 14:38	6363:44:00	6363:40:00	6363:27:51	79.77301131		
6	86	1103	0.00021	546	14.316	0.000196534	5.57	0.173861626	4923.19	107.82	112.37	1/6/2004 15:14	6556:20:00	6556:16:00	6556:03:51	80.97118829		
10	81	1093	0.00035	541	14.187	0.000327587	9.28	0.174189212	4932.47	108.02	112.57	1/12/2004 11:48	6696:54:00	6696:50:00	6696:37:51	81.83458926		
20	80	1089	0.00071	540	14.135	0.000653984	18.52	0.174843197	4950.99	108.43	112.98	1/21/2004 10:38	6911:44:00	6911:40:00	6911:27:51	83.136835		
6	80	1091	0.00021	540	14.161	0.000196556	5.57	0.175039752	4956.56	108.55	113.10	1/27/2004 10:14	7055:20:00	7055:16:00	7055:03:51	83.99603165		
18	82	1085	0.00064	542	14.083	0.00058426	16.54	0.175624012	4973.10	108.91	113.46	2/2/2004 15:44	7204:50:00	7204:46:00	7204:33:51	84.88128965		
14	84	1091	0.00049	544	14.161	0.000455257	12.89	0.17607927	4985.99	109.19	113.75	2/9/2004 10:37	7367:43:00	7367:39:00	7367:26:51	85.83540451		
6	80	1091	0.00021	540	14.161	0.000196556	5.57	0.176275825	4991.56	109.31	113.87	2/16/2004 14:27	7539:33:00	7539:29:00	7539:16:51	86.83058217		
18	80	1086	0.00064	540	14.096	0.000586964	16.62	0.17686279	5008.18	109.68	114.23	2/23/2004 14:34	7707:40:00	7707:36:00	7707:23:51	87.79331789		
6	80	1091	0.00021	540	14.161	0.000196556	5.57	0.177059345	5013.74	109.80	114.35	3/2/2004 10:50	7895:56:00	7895:52:00	7895:39:51	88.85906444		
16	83	1088	0.00057	543	14.122	0.000519819	14.72	0.177579164	5028.46	110.12	114.68	3/8/2004 10:10	8039:16:00	8039:12:00	8038:59:51	89.66195775		
11	80	1081	0.00039	540	14.031	0.000357049	10.11	0.177936213	5038.57	110.34	114.90	3/15/2004 11:44	8208:50:00	8208:46:00	8208:33:51	90.60261218		
-2	81	1097	-7E-05	541	14.239	-6.57571E-05	-1.86	0.177870456	5036.71	110.30	114.86	3/22/2004 10:07	8375:13:00	8375:09:00	8374:56:51	91.51620986		
11	81	1088	0.00039	541	14.122	0.000358697	10.16	0.178229153	5046.87	110.52	115.08	3/30/2004 20:37	8577:43:00	8577:39:00	8577:26:51	92.61596335		
23	83	1080	0.00081	543	14.018	0.000741746	21.00	0.178970899	5067.87	110.98	115.54	4/6/2004 14:46	8739:52:00	8739:48:00	8739:35:51	93.48725403		
-1	81	1086	-4E-05	541	14.096	-3.25489E-05	-0.92	0.17893835	5066.95	110.96	115.52	4/12/2004 15:04	8884:10:00	8884:06:00	8883:53:51	94.25585747		
11	81	1088	0.00039	541	14.122	0.000358697	10.16	0.179297047	5077.11	111.19	115.74	4/19/2004 14:33	9051:39:00	9051:35:00	9051:22:51	95.14015976		
5	80	1090	0.00018	540	14.148	0.000163646	4.63	0.179460693	5081.74	111.29	115.84	4/26/2004 11:37	9216:43:00	9216:39:00	9216:26:51	96.00373257		
11	80	1083	0.00039	540	14.057	0.00035771	10.13	0.179818403	5091.87	111.51	116.07	5/3/2004 19:16	9392:22:00	9392:18:00	9392:05:51	96.91422324		
16	80	1081	0.00057	540	14.031	0.000519344	14.71	0.180337747	5106.58	111.83	116.39	5/10/2004 14:06	9555:12:00	9555:08:00	9554:55:51	97.75070332		
13	80	1082	0.00046	540	14.044	0.000422357	11.96	0.180760104	5118.54	112.09	116.65	5/17/2004 9:48	9718:54:00	9718:50:00	9718:37:51	98.58448154		
15	80	1075	0.00053	540	13.953	0.000484183	13.71	0.181244286	5132.25	112.39	116.95	5/24/2004 10:35	9887:41:00	9887:37:00	9887:24:51	99.43683087		
11	80	1077	0.00039	540	13.979	0.000355728	10.07	0.181600014	5142.32	112.62	117.17	6/1/2004 10:58	10080:04:00	10080:00:00	10079:47:51	100.3995352		
18	82	1076	0.00064	542	13.966	0.000579414	16.41	0.182179428	5158.73	112.97	117.53	6/7/2004 10:40	10223:46:00	10223:42:00	10223:29:51	101.1126435		
12	83	1078	0.00042	543	13.992	0.000386281	10.94	0.182565709	5169.67	113.21	117.77	6/14/2004 10:53	10391:59:00	10391:55:00	10391:42:51	101.9410778		
3	81	1082	0.00011	541	14.044	9.72869E-05	2.75	0.182662996	5172.42	113.27	117.83	6/23/2004 16:30	10613:36:00	10613:32:00	10613:19:51	103.0223277		
8	81	1082	0.00028	541	14.044	0.000259432	7.35	0.182922428	5179.77	113.44	117.99	7/1/2004 11:57	10801:03:00	10800:59:00	10800:46:51	103.9281001		
-12	73	1081	-0.0004	533	14.031	-0.000394623	-11.17	0.182527804	5168.59	113.19	117.75	7/7/2004 10:37	10943:43:00	10943:39:00	10943:26:51	104.6122204		
18	81	1082	0.00064	541	14.044	0.000583722	16.53	0.183111526	5185.12	113.55	118.11	7/13/2004 14:24	11091:30:00	11091:26:00	11091:13:51	105.3161906		
11	81	1080	0.00039	541	14.018	0.000356059	10.08	0.183467585	5195.20	113.77	118.33	7/19/2004 11:25	11232:31:00	11232:27:00	11232:14:51	105.9835679		
-7	80	1091	-0.0002	540	14.161	-0.000229315	-6.49	0.18323827	5188.71	113.63	118.19	7/26/2004 10:26	11399:32:00	11399:28:00	11399:15:51	106.7685971		
20	82	1079	0.00071	542	14.005	0.000645588	18.28	0.183883858	5206.99	114.03	118.59	8/2/2004 14:46	11571:52:00	11571:48:00	11571:35:51	107.5726111		
2	81	1086	7.1E-05	541	14.096	6.50977E-05	1.84	0.183948956	5208.83	114.07	118.63	8/9/2004 14:06	11739:12:00	11739:08:00	11738:55:51	108.3475888		
-2	80	1088	-7E-05	540	14.122	-6.53384E-05	-1.85	0.183883617	5206.98	114.03	118.59	8/16/2004 11:09	11904:15:00	11904:11:00	11903:58:51	109.1065993		
20	81	1076	0.00071	541	13.966	0.000644983	18.26	0.1845286	5225.25	114.43	118.99	8/23/2004 14:16	12075:22:00	12075:18:00	12075:05:51	109.8879733		
-5	77	1087	-0.0002	537	14.109	-0.000164108	-4.65	0.184364493	5220.60	114.33	118.88	8/30/2004 16:49	12245:55:00	12245:51:00	12245:38:51	110.6612699		
5	80	1088	0.00018	540	14.122	0.000163346	4.63	0.184527839	5225.23	114.43	118.99	9/7/2004 16:00	12437:06:00	12437:02:00	12436:49:51	111.5217468		
DECANISTERED 9/07/2004; sample air dried for 21 days																		

SAMPLE:	847.0' to 848.0' (Weir-Pittsburg coal) in canister 9																	
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)		
dry sample weight:		3.387	1536.29		wet sample weight:		3.413	1548.24	0.77%			146	off bottom	at surface	in canister	15.8	minutes	
													4/8/2003 11:29	4/8/2003 11:34	4/8/2003 11:44	0.264	hours	
RIG/LAB MEASUREMENTS			CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg					CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.513701167	SQRT (hrs)	
measured cc	measured T (F	measured P	cubic ft	absolute T (F	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)		
18	80	1102	0.00064	540	14.303	0.000595612	16.87	0.000595612	16.87	0.35	3.40	4/8/2003 11:50	0:21:47	0:16:47	0:05:57	0.602540916		
10	80	1102	0.00035	540	14.303	0.000330896	9.37	0.000926508	26.24	0.55	3.59	4/8/2003 11:52	0:23:47	0:18:47	0:07:57	0.629594226		
6	80	1102	0.00021	540	14.303	0.000198537	5.62	0.001125045	31.86	0.66	3.71	4/8/2003 11:54	0:25:28	0:20:28	0:09:38	0.651494009		
9	80	1102	0.00032	540	14.303	0.000297806	8.43	0.001422851	40.29	0.84	3.88	4/8/2003 11:57	0:28:05	0:23:05	0:12:15	0.684145858		
15	80	1102	0.00053	540	14.303	0.000496343	14.05	0.001919195	54.35	1.13	4.18	4/8/2003 12:01	0:32:00	0:27:00	0:16:10	0.730296743		
7	80	1102	0.00025	540	14.303	0.000231627	6.56	0.002150822	60.90	1.27	4.31	4/8/2003 12:03	0:34:20	0:29:20	0:18:30	0.756453715		
7	80	1102	0.00025	540	14.303	0.000231627	6.56	0.002382449	67.46	1.41	4.45	4/8/2003 12:05	0:36:44	0:31:44	0:20:54	0.782446306		
12	80	1102	0.00042	540	14.303	0.000397075	11.24	0.002779523	78.71	1.64	4.69	4/8/2003 12:08	0:39:44	0:34:44	0:23:54	0.813770374		
13	80	1102	0.00046	540	14.303	0.000430164	12.18	0.003209688	90.89	1.90	4.94	4/8/2003 12:12	0:43:55	0:38:55	0:28:05	0.855537518		
40	80	1102	0.00141	540	14.303	0.001323583	37.48	0.00453327	128.37	2.68	5.72	4/8/2003 12:29	1:00:20	0:55:20	0:44:30	1.00277393		
25	80	1102	0.00088	540	14.303	0.000827239	23.42	0.005360509	151.79	3.17	6.21	4/8/2003 12:37	1:08:55	1:03:55	0:53:05	1.071732761		
30	80	1102	0.00106	540	14.303	0.000992687	28.11	0.006353196	179.90	3.75	6.80	4/8/2003 12:51	1:22:20	1:17:20	1:06:30	1.171418893		
27	80	1102	0.00095	540	14.303	0.000893418	25.30	0.007246614	205.20	4.28	7.32	4/8/2003 13:05	1:36:18	1:31:18	1:20:28	1.266885946		
20	80	1102	0.00071	540	14.303	0.000661791	18.74	0.007908406	223.94	4.67	7.71	4/8/2003 13:16	1:47:14	1:42:14	1:31:24	1.336870309		
60	80	1102	0.00212	540	14.303	0.001985374	56.22	0.00989378	280.16	5.84	8.89	4/8/2003 13:48	2:19:05	2:14:05	2:03:15	1.522516192		
42	80	1102	0.00148	540	14.303	0.001389762	39.35	0.011283541	319.51	6.66	9.71	4/8/2003 14:12	2:43:25	2:38:25	2:27:35	1.650336666		
40	80	1102	0.00141	540	14.303	0.001323583	37.48	0.012607124	356.99	7.44	10.49	4/8/2003 14:38	3:09:40	3:04:40	2:53:50	1.77795138		
30	80	1102	0.00106	540	14.303	0.000992687	28.11	0.013599811	385.10	8.03	11.08	4/8/2003 14:58	3:29:35	3:24:35	3:13:45	1.868971791		
45	80	1101	0.00159	540	14.291	0.001487679	42.13	0.01508749	427.23	8.91	11.95	4/8/2003 15:33	4:04:40	3:59:40	3:48:50	2.019350831		
65	80	1101	0.0023	540	14.291	0.00214887	60.85	0.01723636	488.08	10.18	13.22	4/8/2003 16:32	5:03:00	4:58:00	4:47:10	2.247220505		
105	80	1101	0.00371	540	14.291	0.003471251	98.29	0.020707611	586.37	12.23	15.27	4/8/2003 18:13	6:44:00	6:39:00	6:28:10	2.594866727		
75	80	1101	0.00265	540	14.291	0.002479465	70.21	0.023187076	656.58	13.69	16.74	4/8/2003 19:55	8:26:00	8:21:00	8:10:10	2.904020202		
70	80	1101	0.00247	540	14.291	0.002314168	65.53	0.025501244	722.11	15.06	18.10	4/8/2003 21:27	9:58:00	9:53:00	9:42:10	3.157002798		
63	80	1101	0.00222	540	14.291	0.002082751	58.98	0.027583995	781.09	16.29	19.33	4/8/2003 22:44	11:15:00	11:10:00	10:59:10	3.354101966		
67	80	1100	0.00237	540	14.278	0.002212977	62.66	0.029796972	843.75	17.60	20.64	4/9/2003 0:33	13:04:00	12:59:00	12:48:10	3.614784456		
60	80	1101	0.00212	540	14.291	0.001983572	56.17	0.031780544	899.92	18.77	21.81	4/9/2003 2:31	15:02:00	14:57:00	14:46:10	3.877284273		
20	80	1101	0.00071	540	14.291	0.000661191	18.72	0.032441735	918.64	19.16	22.20	4/9/2003 3:29	16:00:00	15:55:00	15:44:10	4		
90	80	1100	0.00318	540	14.278	0.002972656	84.18	0.035414391	1002.82	20.91	23.96	4/9/2003 7:00	19:31:00	19:26:00	19:15:10	4.417767158		
106	80	1100	0.00374	540	14.278	0.003501128	99.14	0.038915519	1101.96	22.98	26.02	4/9/2003 11:12	23:43:00	23:38:00	23:27:10	4.869976044		
104	80	1090	0.00367	540	14.148	0.003403841	96.39	0.04231936	1198.35	24.99	28.03	4/9/2003 17:51	30:22:00	30:17:00	30:06:10	5.510595854		
297	80	1089	0.01049	540	14.135	0.009711667	275.00	0.052031027	1473.35	30.72	33.77	4/10/2003 8:48	45:19:00	45:14:00	45:03:10	6.731765494		
242	80	1083	0.00855	540	14.057	0.007869611	222.84	0.059900638	1696.19	35.37	38.42	4/10/2003 23:45	60:16:00	60:11:00	60:00:10	7.763160868		
130	80	1083	0.00459	540	14.057	0.004227477	119.71	0.064128115	1815.90	37.87	40.91	4/11/2003 8:44	69:15:00	69:10:00	68:59:10	8.321658489		
183	80	1081	0.00646	540	14.031	0.005939997	168.20	0.070068112	1984.10	41.38	44.42	4/11/2003 23:38	84:09:00	84:04:00	83:53:10	9.173330911		
137	80	1083	0.00484	540	14.057	0.00445511	126.15	0.074523222	2110.25	44.01	47.05	4/12/2003 12:34	97:05:00	97:00:00	96:49:10	9.853087503		
232	80	1084	0.00819	540	14.070	0.007551387	213.83	0.082074609	2324.09	48.47	51.51	4/13/2003 12:57	121:28:00	121:23:00	121:12:10	11.02119171		
175	80	1079	0.00618	540	14.005	0.005669816	160.55	0.087744425	2484.64	51.81	54.86	4/14/2003 14:24	146:55:00	146:50:00	146:39:10	12.12091856		
121	80	1074	0.00427	540	13.940	0.003902106	110.49	0.091646531	2595.13	54.12	57.16	4/15/2003 12:01	168:32:00	168:27:00	168:16:10	12.98203887		
157	80	1064	0.00554	540	13.810	0.005015921	142.03	0.096662453	2737.17	57.08	60.12	4/16/2003 16:32	197:03:00	196:58:00	196:47:10	14.03744991		
124	80	1081	0.00438	540	14.031	0.004024916	113.97	0.100687369	2851.14	59.46	62.50	4/17/2003 21:48	226:19:00	226:14:00	226:03:10	15.04382487		
102	80	1069	0.0036	540	13.875	0.003274065	92.71	0.103961434	2943.85	61.39	64.43	4/18/2003 19:28	247:59:00	247:54:00	247:43:10	15.74748657		
154	80	1083	0.00544	540	14.057	0.005007934	141.81	0.108969368	3085.66	64.35	67.39	4/20/2003 17:39	294:10:00	294:05:00	293:54:10	17.15128761		
80	80	1085	0.00283	540	14.083	0.002606329	73.80	0.111575697	3159.46	65.89	68.93	4/21/2003 15:30	316:01:00	315:56:00	315:45:10	17.77685762		
91	80	1082	0.00321	540	14.044	0.002956501	83.72	0.114532198	3243.18	67.63	70.68	4/22/2003 20:02	344:33:00	344:28:00	344:17:10	18.56205808		
126	80	1068	0.00445	540	13.862	0.00404065	114.42	0.118572848	3357.60	70.02	73.06	4/24/2003 10:51	383:22:00	383:17:00	383:06:10	19.57975145		
115	80	1080	0.00406	540	14.018	0.003729332	105.60	0.12230218	3463.20	72.22	75.26	4/26/2003 12:53	433:24:00	433:19:00	433:08:10	20.81826121		
68	75	1081	0.0024	535	14.031	0.00222784	63.09	0.124530021	3526.28	73.54	76.58	4/28/2003 10:58	479:29:00	479:24:00	479:13:10	21.89710788		
91	80	1081	0.00321	540	14.031	0.002953769	83.64	0.12748379	3609.93	75.28	78.32	4/29/2003 12:12	504:43:00	504:38:00	504:27:10	22.46590009		
62	73	1071	0.00219	533	13.901	0.002020027	57.20	0.129503817	3667.13	76.47	79.52	4/30/2003 12:08	528:39:00	528:34:00	528:23:10	22.99239005		
70	79	1079	0.00247	539	14.005	0.002272134	64.34	0.13177595	3731.47	77.81	80.86	5/1/2003 13:21	553:52:00	553:47:00	553:36:10	23.53437203		
40	80	1084	0.00141	540	14.070	0.001301963	36.87	0.133077914	3768.33	78.58	81.63	5/2/2003 14:28	578:59:00	578:54:00	578:43:10	24.06207251		
72	84	1085	0.00254	544	14.083	0.002328448	65.93	0.135406362	3834.27	79.96	83.00	5/3/2003 10:59	599:30:00	599:25:00	599:14:10	24.48468909		
57	81	1067	0.00201	541	13.849	0.001822826	51.62	0.137229188	3885.88	81.03	84.08	5/4/2003 10:34	623:05:00	623:00:00	622:49:10	24.96163723		
82	88	1069	0.0029	548	13.875	0.002593667	73.44	0.139822855	3959.33	82.57	85.61	5/5/2003 14:32	651:03:00	650:58:00	650:47:10	25.51568145		
25	78	1075	0.00088	538	13.953	0.000809971	22.94	0.140632826	3982.26	83.04	86.09	5/6/2003 12:38	673:09:00	673:04:00	672:53:10	25.94513442		
15	70	1080	0.00053	530	14.018	0.000495613	14.03	0.141128438	3996.30	83.34	86.38	5/7/2003 15:51	700:22:00	700:17:00	700:06:10	26.46444155		
171	88	1066	0.00604	548	13.836	0.005393566	152.73	0.146522004	4149.03	86.52	89.57	5/10/2003 15:29	772:00:00	771:55:00	771:44:10	27.78488798		
98	90	1088	0.00346	550	14.122	0.00314337	89.01	0.149665374	4238.04	88.38	91.42	5/12/2003 14:31	819:02:00	818:57:00	818:46:10	28.61875842		
55	80	1079	0.00194	540	14.005	0.001781942	50.46	0.151447316	4288.49	89.43	92.47	5/14/2003 12:08	864:39:00	864:34:00	864:23:10	29.40493156		
70	80	1078	0.00247	540	13.992	0.002265824	64.16	0.15371314	4352.65	90.77	93.81	5/16/2003 11:59	912:30:00	912:25:00	912:14:10	30.20761493		
85	80	1083	0.003	540	14.057	0.00276412	78.27	0.15647726	4430.93	92.40	95.45	5/19/2003 14:18	986:49:00	986:44:00	986:33:10	31.41363823		
78	80	1091	0.00275	540	14.161	0.002555223	72.36	0.159032483	4503.28	93.91	96.95	5/22/2003 9:27	1053:58:00	1053:53:00	1053:42:10	32.46485279		
73	83	1083	0.00258	543	14.057	0.002360776	66.85	0.161393258	4570.13	95.30	98.35	5/25/2003 2:10	1118:41:00	1118:36:00	1118:25:10	33.44672381		
125	84	1083	0.00441	544	14.057	0.004034993	114.26	0.165428251	4684.39	97.69	100.73	5/30/2003 16:45	1253:16:00	1253:11:00	1253:00:10	35.40150656		
73	80	1075	0.00258	540	13.953	0.002356355	66.72	0.167784606	4751.11	99.08	102.12	6/2/2003 16:18	1324:49:00	1324:44:00	1324:33:10	36.39803108		
57	82	1084	0.00201	542	14.070	0.001848451	52.34	0.169633058	4803.46	100.17	103.21	6/5/2003 11:35	1392:06:00	1392:01:00	1391:50:10	37.31085633		
79	80	1078	0.00279	540	13.992	0.002557145	72.41	0.172190202	4875.87	101.68	104.72	6/9/2003 14:10	1490:41:00	1490:36:00	1490:25:10	38.60936847		
67	80	1075	0.00237	540	13.953	0.002162682	61.24	0.174352885	4937.11	102.96	106.00	6/12/2003 13:47	1562:18:00	1562:13:00	1562:02:10	39.52594085		
45	81	1085	0.00159	541	14.083	0.00146335	41.44	0.175816235	4978.54	103.82	106.86	6/15/2003 14:58	1635:29:00	1635:24:00	1635:13:10	40.44110945		
54	84	1081	0.00191	544	14.031	0.001739898	49.27	0.177556133	5027.81	104.85	107.89	6/18/2003 14:03	1706:34:00	1706:29:00	1706:18:10	41.31061203		
28	80	1085	0.00099	540	14.083	0.000912215	25.83	0.178468348	5053.64	105.39	108.43	6/20/2003 14:11	1754:42:00	1754:37:00	1754:26:10	41.8891394		
44	83	1079	0.00155	543	14.005	0.001417678	40.14	0.179886025	5093.79	106.22	109.27	6/23/2003 11:28	1823:59:00	1823:54:00	1823:43:10	42.70811789		
36	80	1078	0.00127	540	13.992	0.001165281	33.00	0.181051306	5126.78	106.91	109.96	6/25/2003 16:25	1876:56:00	1876:51:00	1876:40:10	43.32358865		
25	80	1082	0.00088	540	14.044	0.000812226	23.00	0.181863532	5149.78	107.39	110.44	6/27/2003 15:20	1923:51:00	1923:46:00	1923:35:10	43.86171451		
30	80	1088	0.00106	540	14.122	0.000980076	27.75	0.182843608	5177.53	107.97	111.01	6/30/2003 11:16	1991:47:00	1991:42:00	1991:31:10	44.62939988		
45	81	1078	0.00159	541	13.992	0.001453909	41.17	0.184297517	5218.70	108.83	111.87	7/3/2003 9:57	2062:28:00	2062:23:00	2062:12:10	45.41438832		
39	80	1078	0.00138	540	13.992	0.001262388	35.75	0.185559905	5254.45	109.57	112.62	7/5/2003 20:01	2120:32:00	2120:27:00	2120:16:10	46.049249		
20	81	1081	0.00071	541	14.031	0.00064798	18.35	0.186207885	5272.80	109.96	113.00	7/7/2003 14:08	2162:39:00	2162:34:00	2162:23:10	46.50430088		
48	82	1081	0.0017	542	14.031	0.001552283	43.96	0.187760167	5316.76	110.87	113.92	7/11/2003 16:13	2260:44:00	2260:39:00	2260:28:10	47.54716956		
50	85	1084	0.00177	545	14.070	0.001612523	45.66	0.189372691	5362.42	111.83	114.87	7/15/2003 13:58	2354:29:00	2354:24:00	2354:13:10	48.52301859		
70	80	1079	0.00247	540	14.005	0.002267926	64.22	0.191640617	5426.64	113.16	116.21	7/21/2003 16:34	2501:05:00	2501:00:00	2500:49:10	50.01083216		
66	83	1081	0.00233	543	14.031	0.002130458	60.33	0.193771075	5486.97	114.42	117.47	7/28/2003 20:31	2673:02:00	2672:57:00	2672:46:10	51.70138618		
53	80	1079	0.00187	540	14.005	0.001717144	48.62	0.195488219	5535.59	115.44	118.48	8/4/2003 13:49	2834:20:00	2834:15:00	2834:04:10	53.23845728		
58	81	1086	0.00205	541	14.096	0.001887834	53.46	0.197376053	5589.05	116.55	119.60	8/11/2003 14:04	3002:35:00	3002:30:00	3002:19:10	54.79583317		
68	84	1082	0.0024	544	14.044	0.002193009	62.10	0.199569062	5651.15	117.85	120.89	8/18/2003 20:08	3176:39:00	3176:34:00	3176:23:10	56.36177783		
60	85	1083	0.00212	545	14.057	0.001933243	54.74	0.201502305	5705.89	118.99	122.03	8/24/2003 22:51	3323:22:00	3323:17:00	3323:06:10	57.64864844		
46	82	1086	0.00162	542	14.096	0.001494485	42.32	0.20299679	5748.21	119.87	122.91	9/1/2003 14:54	3507:25:00	3507:20:00	3507:09:10	59.22344693		
32	80	1084	0.00113	540	14.070	0.001041571	29.49	0.204038361	5777.70	120.49	123.53	9/8/2003 14:08	3674:39:00	3674:34:00	3674:23:10	60.61889144		
49	83	1085	0.00173	543	14.083	0.001587557	44.95	0.205625917	5822.66	121.42	124.47	9/15/2003 15:18	3843:49:00	3843:44:00	3843:33:10	61.99852149		
47	85	1084	0.00166	545	14.070	0.001515772	42.92	0.207141689	5865.58	122.32	125.36	9/23/2003 10:54	4031:25:00	4031:20:00	4031:09:10	63.49343798		
23	80	1091	0.00081	540	14.161	0.000753463	21.34	0.207895152	5886.91	122.76	125.81	9/26/2003 18:56	4111:27:00	4111:22:00	4111:11:10	64.12058952		
57	86	1085	0.00201	546	14.083	0.001836602	52.01	0.209731755	5938.92	123.85	126.89	10/6/2003 12:21	4344:52:00	4344:47:00	4344:36:10	65.9156026		

42	85	1084	0.00148	545	14.070	0.00135452	38.36	0.211086274	5977.28	124.65	127.69	10/14/2003 23:18	4547:49:00	4547:44:00	4547:33:10	67.43750193		
22	81	1081	0.00078	541	14.031	0.000712778	20.18	0.211799052	5997.46	125.07	128.11	10/20/2003 15:43	4684:14:00	4684:09:00	4683:58:10	68.44145917		
18	82	1075	0.00064	542	13.953	0.000578875	16.39	0.212377928	6013.85	125.41	128.45	10/27/2003 15:09	4851:40:00	4851:35:00	4851:24:10	69.65390633		
15	80	1080	0.00053	540	14.018	0.000486435	13.77	0.212864362	6027.62	125.70	128.74	11/3/2003 10:16	5014:47:00	5014:42:00	5014:31:10	70.81513492		
24	80	1085	0.00085	540	14.083	0.000781899	22.14	0.213646261	6049.77	126.16	129.20	11/10/2003 11:25	5183:56:00	5183:51:00	5183:40:10	71.99953704		
61	90	1069	0.00215	550	13.875	0.001922419	54.44	0.21556868	6104.20	127.29	130.34	11/17/2003 16:33	5357:04:00	5356:59:00	5356:48:10	73.19198499		
3	83	1086	0.00011	543	14.096	9.72869E-05	2.75	0.215665967	6106.96	127.35	130.40	11/24/2003 14:30	5523:01:00	5522:56:00	5522:45:10	74.3170012		
12	75	1090	0.00042	535	14.148	0.000396421	11.23	0.216062388	6118.18	127.59	130.63	12/4/2003 20:18	5768:49:00	5768:44:00	5768:33:10	75.95272653		
40	80	1083	0.00141	540	14.057	0.001300762	36.83	0.21736315	6155.02	128.35	131.40	12/10/2003 15:02	5907:33:00	5907:28:00	5907:17:10	76.86058808		
21	83	1087	0.00074	543	14.109	0.000681636	19.30	0.218044786	6174.32	128.76	131.80	12/16/2003 14:26	6050:57:00	6050:52:00	6050:41:10	77.78785252		
33	86	1081	0.00117	546	14.031	0.001059376	30.00	0.219104162	6204.32	129.38	132.43	12/22/2003 16:11	6196:42:00	6196:37:00	6196:26:10	78.71912093		
5	78	1082	0.00018	538	14.044	0.000163049	4.62	0.219267211	6208.93	129.48	132.52	12/29/2003 14:38	6363:09:00	6363:04:00	6362:53:10	79.76935502		
35	87	1103	0.00124	547	14.316	0.001144351	32.40	0.220411563	6241.34	130.15	133.20	1/6/2004 15:15	6555:46:00	6555:41:00	6555:30:10	80.96768903		
-1	79	1093	-4E-05	539	14.187	-3.28802E-05	-0.93	0.220378682	6240.41	130.13	133.18	1/12/2004 11:48	6696:19:00	6696:14:00	6696:03:10	81.83102509		
22	80	1089	0.00078	540	14.135	0.000719383	20.37	0.221098065	6260.78	130.56	133.60	1/21/2004 10:39	6911:10:00	6911:05:00	6910:54:10	83.13342689		
10	79	1091	0.00035	539	14.161	0.0003282	9.29	0.221426266	6270.07	130.75	133.80	1/27/2004 10:14	7054:45:00	7054:40:00	7054:29:10	83.99255919		
18	80	1085	0.00064	540	14.083	0.000586424	16.61	0.22201269	6286.68	131.10	134.14	2/2/2004 15:45	7204:16:00	7204:11:00	7204:00:10	84.87795159		
12	81	1091	0.00042	541	14.161	0.000392385	11.11	0.222405074	6297.79	131.33	134.38	2/9/2004 10:37	7367:08:00	7367:03:00	7366:52:10	85.83200646		
17	81	1091	0.0006	541	14.161	0.000555878	15.74	0.222960952	6313.53	131.66	134.70	2/16/2004 14:28	7538:59:00	7538:54:00	7538:43:10	86.82731905		
10	80	1086	0.00035	540	14.096	0.000326091	9.23	0.223287044	6322.76	131.85	134.90	2/23/2004 14:35	7707:06:00	7707:01:00	7706:50:10	87.79009056		
12	80	1091	0.00042	540	14.161	0.000393111	11.13	0.223680155	6333.89	132.08	135.13	3/2/2004 10:50	7895:21:00	7895:16:00	7895:05:10	88.85578203		
15	80	1088	0.00053	540	14.122	0.000490038	13.88	0.224170193	6347.77	132.37	135.42	3/8/2004 10:11	8038:42:00	8038:37:00	8038:26:10	89.65879767		
17	81	1081	0.0006	541	14.031	0.000550783	15.60	0.224720976	6363.37	132.70	135.74	3/15/2004 11:45	8208:16:00	8208:11:00	8208:00:10	90.59948491		
6	80	1097	0.00021	540	14.239	0.000197637	5.60	0.224918612	6368.96	132.82	135.86	3/22/2004 10:08	8374:39:00	8374:34:00	8374:23:10	91.51311381		
-18	75	1088	-0.0006	535	14.122	-0.000593541	-16.81	0.224325071	6352.15	132.46	135.51	3/30/2004 20:38	8577:09:00	8577:04:00	8576:53:10	92.61290407		
0	74	1080	0	534	14.018	0	0.00	0.224325071	6352.15	132.46	135.51	4/6/2004 14:46	8739:17:00	8739:12:00	8739:01:10	93.48413413		
DECANISTERED 4/6/2004; sample air dried for 24 days																		

SAMPLE:	848.0' to 849.0' (Weir-Pittsburg coal) in canister A																
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)	
dry sample weight:		2.452	1112.37		wet sample weight:		2.500	1133.83	1.89%		200		off bottom	at surface	in canister	18.4	minutes
													4/8/2003 11:29	4/8/2003 11:34	4/8/2003 11:47	0.306	hours
RIG/LAB MEASUREMENTS			CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg					CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.553273089	SQRT (hrs)
measured cc	measured T (F	measured P	cubic ft	absolute T (F	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)	
12	80	1102	0.00042	540	14.303	0.000397075	11.24	0.000397075	11.24	0.32	6.08	4/8/2003 11:51	0:22:50	0:17:50	0:04:28	0.616891851	
10	80	1102	0.00035	540	14.303	0.000330896	9.37	0.00072797	20.61	0.59	6.35	4/8/2003 11:53	0:24:37	0:19:37	0:06:15	0.640529295	
15	80	1102	0.00053	540	14.303	0.000496343	14.05	0.001224314	34.67	1.00	6.76	4/8/2003 11:56	0:27:20	0:22:20	0:08:58	0.674948558	
17	80	1102	0.0006	540	14.303	0.000562523	15.93	0.001786836	50.60	1.46	7.22	4/8/2003 11:59	0:30:36	0:25:36	0:12:14	0.714142843	
13	80	1102	0.00046	540	14.303	0.000430164	12.18	0.002217001	62.78	1.81	7.57	4/8/2003 12:02	0:33:10	0:28:10	0:14:48	0.743490267	
13	80	1102	0.00046	540	14.303	0.000430164	12.18	0.002647165	74.96	2.16	7.92	4/8/2003 12:04	0:35:36	0:30:36	0:17:14	0.770281334	
20	80	1102	0.00071	540	14.303	0.000661791	18.74	0.003308956	93.70	2.70	8.46	4/8/2003 12:10	0:41:30	0:36:30	0:23:08	0.831664997	
10	80	1102	0.00035	540	14.303	0.000330896	9.37	0.003639852	103.07	2.97	8.73	4/8/2003 12:13	0:44:48	0:39:48	0:26:26	0.86409876	
52	80	1102	0.00184	540	14.303	0.001720657	48.72	0.005360509	151.79	4.37	10.13	4/8/2003 12:30	1:01:25	0:56:25	0:43:03	1.011736681	
28	80	1102	0.00099	540	14.303	0.000926508	26.24	0.006287017	178.03	5.13	10.89	4/8/2003 12:39	1:10:20	1:05:20	0:51:58	1.082692118	
38	80	1102	0.00134	540	14.303	0.001257403	35.61	0.007544421	213.63	6.15	11.91	4/8/2003 12:54	1:25:00	1:20:00	1:06:38	1.190238071	
33	80	1102	0.00117	540	14.303	0.001091956	30.92	0.008636376	244.55	7.04	12.80	4/8/2003 13:06	1:37:17	1:32:17	1:18:55	1.273337696	
27	80	1102	0.00095	540	14.303	0.000893418	25.30	0.009529794	269.85	7.77	13.53	4/8/2003 13:17	1:48:10	1:43:10	1:29:48	1.342675604	
55	80	1101	0.00194	540	14.291	0.001818275	51.49	0.011348069	321.34	9.25	15.01	4/8/2003 13:49	2:20:00	2:15:00	2:01:38	1.527525232	
50	80	1101	0.00177	540	14.291	0.001652977	46.81	0.013001046	368.15	10.60	16.36	4/8/2003 14:13	2:44:35	2:39:35	2:26:13	1.656217243	
45	80	1101	0.00159	540	14.291	0.001487679	42.13	0.014488725	410.27	11.82	17.58	4/8/2003 14:39	3:10:40	3:05:40	2:52:18	1.782632261	
35	80	1101	0.00124	540	14.291	0.001157084	32.76	0.015645809	443.04	12.76	18.52	4/8/2003 14:59	3:30:30	3:25:30	3:12:08	1.873054546	
49	80	1101	0.00173	540	14.291	0.001619917	45.87	0.017265726	488.91	14.08	19.84	4/8/2003 15:34	4:05:50	4:00:50	3:47:28	2.024159634	
70	80	1101	0.00247	540	14.291	0.002314168	65.53	0.019579894	554.44	15.97	21.73	4/8/2003 16:33	5:04:26	4:59:26	4:46:04	2.252529442	
105	80	1101	0.00371	540	14.291	0.003471251	98.29	0.023051145	652.73	18.80	24.56	4/8/2003 18:15	6:46:00	6:41:00	6:27:38	2.601281735	
65	80	1101	0.0023	540	14.291	0.00214887	60.85	0.025200015	713.58	20.55	26.31	4/8/2003 19:55	8:26:00	8:21:00	8:07:38	2.904020202	
64	80	1101	0.00226	540	14.291	0.00211581	59.91	0.027315825	773.50	22.28	28.04	4/8/2003 21:25	9:56:00	9:51:00	9:37:38	3.151719108	
54	80	1101	0.00191	540	14.291	0.001785215	50.55	0.02910104	824.05	23.73	29.49	4/8/2003 22:43	11:14:00	11:09:00	10:55:38	3.351616525	
63	80	1100	0.00222	540	14.278	0.002080859	58.92	0.031181899	882.97	25.43	31.19	4/9/2003 0:35	13:06:00	13:01:00	12:47:38	3.619392214	
80	80	1101	0.00283	540	14.291	0.002644763	74.89	0.033826662	957.86	27.59	33.35	4/9/2003 3:32	16:03:00	15:58:00	15:44:38	4.006245125	
85	80	1100	0.003	540	14.278	0.002807508	79.50	0.036634171	1037.36	29.88	35.64	4/9/2003 6:59	19:30:00	19:25:00	19:11:38	4.415880433	
90	80	1100	0.00318	540	14.278	0.002972656	84.18	0.039606827	1121.54	32.30	38.06	4/9/2003 11:16	23:47:00	23:42:00	23:28:38	4.876815901	
94	80	1090	0.00332	540	14.148	0.003076549	87.12	0.042683375	1208.65	34.81	40.57	4/9/2003 17:53	30:24:00	30:19:00	30:05:38	5.513619501	
201	80	1089	0.0071	540	14.135	0.006572542	186.11	0.049255918	1394.77	40.17	45.93	4/10/2003 8:45	45:16:00	45:11:00	44:57:38	6.728050733	
174	80	1083	0.00614	540	14.057	0.005658315	160.23	0.054914233	1554.99	44.78	50.55	4/10/2003 23:43	60:14:00	60:09:00	59:55:38	7.761013679	
88	80	1083	0.00311	540	14.057	0.002861677	81.03	0.05777591	1636.03	47.12	52.88	4/11/2003 8:43	69:14:00	69:09:00	68:55:38	8.320657025	
121	80	1081	0.00427	540	14.031	0.003927539	111.22	0.061703449	1747.24	50.32	56.08	4/11/2003 23:37	84:08:00	84:03:00	83:49:38	9.172422435	
96	80	1083	0.00339	540	14.057	0.003121829	88.40	0.064825278	1835.64	52.87	58.63	4/12/2003 12:33	97:04:00	96:59:00	96:45:38	9.852241708	
140	80	1084	0.00494	540	14.070	0.004556871	129.04	0.069382149	1964.68	56.58	62.34	4/13/2003 12:58	121:29:00	121:24:00	121:10:38	11.0219478	
133	80	1078	0.0047	540	13.992	0.004305066	121.91	0.073687216	2086.58	60.10	65.86	4/14/2003 15:30	148:01:00	147:56:00	147:42:38	12.16621004	
97	80	1074	0.00343	540	13.940	0.003128135	88.58	0.07681535	2175.16	62.65	68.41	4/15/2003 12:03	168:34:00	168:29:00	168:15:38	12.98332264	
122	80	1064	0.00431	540	13.810	0.003897722	110.37	0.080713073	2285.53	65.82	71.59	4/16/2003 16:34	197:05:00	197:00:00	196:46:38	14.03863716	
87	80	1081	0.00307	540	14.031	0.002823933	79.96	0.083537006	2365.50	68.13	73.89	4/17/2003 21:50	226:21:00	226:16:00	226:02:38	15.0449327	
77	80	1069	0.00272	540	13.875	0.002471598	69.99	0.086008604	2435.48	70.14	75.90	4/18/2003 19:30	248:01:00	247:56:00	247:42:38	15.74854491	
111	80	1083	0.00392	540	14.057	0.003609615	102.21	0.089618219	2537.70	73.09	78.85	4/20/2003 17:41	294:12:00	294:07:00	293:53:38	17.15225933	
52	80	1085	0.00184	540	14.083	0.001694114	47.97	0.091312333	2585.67	74.47	80.23	4/21/2003 15:31	316:02:00	315:57:00	315:43:38	17.77732638	
65	80	1082	0.0023	540	14.044	0.002111787	59.80	0.093424119	2645.47	76.19	81.95	4/22/2003 20:03	344:34:00	344:29:00	344:15:38	18.56250701	
95	80	1068	0.00335	540	13.862	0.003046522	86.27	0.096470641	2731.73	78.68	84.44	4/24/2003 10:52	383:23:00	383:18:00	383:04:38	19.58017705	
83	80	1080	0.00293	540	14.018	0.002691605	76.22	0.099162246	2807.95	80.87	86.63	4/26/2003 12:54	433:25:00	433:20:00	433:06:38	20.8186615	
33	75	1081	0.00117	535	14.031	0.001081158	30.61	0.100243404	2838.57	81.75	87.51	4/28/2003 10:59	479:30:00	479:25:00	479:11:38	21.89748844	
79	80	1081	0.00279	540	14.031	0.002564261	72.61	0.102807665	2911.18	83.84	89.60	4/29/2003 12:12	504:43:00	504:38:00	504:24:38	22.46590009	
44	73	1071	0.00155	533	13.901	0.001433567	40.59	0.104241232	2951.77	85.01	90.77	4/30/2003 12:09	528:40:00	528:35:00	528:21:38	22.99275248	
59	79	1079	0.00208	539	14.005	0.001915084	54.23	0.106156317	3006.00	86.57	92.34	5/1/2003 13:22	553:53:00	553:48:00	553:34:38	23.53472612	
18	80	1084	0.00064	540	14.070	0.000585883	16.59	0.1067422	3022.59	87.05	92.81	5/2/2003 14:28	578:59:00	578:54:00	578:40:38	24.06207251	
60	84	1085	0.00212	544	14.083	0.001940373	54.95	0.108682573	3077.54	88.64	94.40	5/3/2003 11:00	599:31:00	599:26:00	599:12:38	24.48502944	
44	81	1067	0.00155	541	13.849	0.001407094	39.84	0.110089667	3117.38	89.78	95.54	5/4/2003 10:35	623:06:00	623:01:00	622:47:38	24.96197108	
65	88	1069	0.0023	548	13.875	0.002055955	58.22	0.112145623	3175.60	91.46	97.22	5/5/2003 14:35	651:06:00	651:01:00	650:47:38	25.51666122	
6	78	1075	0.00021	538	13.953	0.000194393	5.50	0.112340016	3181.10	91.62	97.38	5/6/2003 12:38	673:09:00	673:04:00	672:50:38	25.94513442	
-4	70	1080	-0.0001	530	14.018	-0.000132163	-3.74	0.112207852	3177.36	91.51	97.27	5/7/2003 15:52	700:23:00	700:18:00	700:04:38	26.46475644	
146	88	1066	0.00516	548	13.836	0.004605033	130.40	0.116812885	3307.76	95.27	101.03	5/10/2003 15:29	772:00:00	771:55:00	771:41:38	27.78488798	
68	90	1088	0.0024	550	14.122	0.002181114	61.76	0.118993999	3369.52	97.04	102.80	5/12/2003 14:36	819:07:00	819:02:00	818:48:38	28.6202143	
32	80	1079	0.00113	540	14.005	0.001036766	29.36	0.120030765	3398.88	97.89	103.65	5/14/2003 12:09	864:40:00	864:35:00	864:21:38	29.40521496	
49	80	1078	0.00173	540	13.992	0.001586077	44.91	0.121616842	3443.79	99.18	104.94	5/16/2003 12:02	912:33:00	912:28:00	912:14:38	30.20844253	
56	80	1083	0.00198	540	14.057	0.001821067	51.57	0.123437909	3495.36	100.67	106.43	5/19/2003 14:20	986:51:00	986:46:00	986:32:38	31.41416878	
29	77	1095	0.00102	537	14.213	0.000958829	27.15	0.124396738	3522.51	101.45	107.21	5/21/2003 0:07	1020:38:00	1020:33:00	1020:19:38	31.94735252	estimate
32	80	1091	0.00113	540	14.161	0.001048297	29.68	0.125445034	3552.19	102.31	108.07	5/22/2003 9:29	1054:00:00	1053:55:00	1053:41:38	32.46536616	
52	83	1083	0.00184	543	14.057	0.001681648	47.62	0.127126683	3599.81	103.68	109.44	5/25/2003 2:11	1118:42:00	1118:37:00	1118:23:38	33.44697296	
85	84	1083	0.003	544	14.057	0.002743795	77.70	0.129870478	3677.51	105.91	111.68	5/30/2003 16:47	1253:18:00	1253:13:00	1252:59:38	35.40197735	
51	80	1075	0.0018	540	13.953	0.001646221	46.62	0.131516699	3724.12	107.26	113.02	6/2/2003 16:19	1324:50:00	1324:45:00	1324:31:38	36.39826003	
30	82	1084	0.00106	542	14.070	0.000972869	27.55	0.132489568	3751.67	108.05	113.81	6/5/2003 11:36	1392:07:00	1392:02:00	1391:48:38	37.31107968	
55	80	1078	0.00194	540	13.992	0.001780291	50.41	0.134269859	3802.08	109.50	115.26	6/9/2003 14:11	1490:42:00	1490:37:00	1490:23:38	38.6095843	
47	80	1075	0.00166	540	13.953	0.001517105	42.96	0.135786964	3845.04	110.74	116.50	6/12/2003 13:47	1562:18:00	1562:13:00	1561:59:38	39.52594085	
28	81	1085	0.00099	541	14.083	0.000910529	25.78	0.136697493	3870.83	111.48	117.24	6/15/2003 14:59	1635:30:00	1635:25:00	1635:11:38	40.44131551	
39	84	1081	0.00138	544	14.031	0.001256593	35.58	0.137954086	3906.41	112.51	118.27	6/18/2003 14:04	1706:35:00	1706:30:00	1706:16:38	41.31081376	
21	80	1085	0.00074	540	14.083	0.000684161	19.37	0.138638247	3925.78	113.07	118.83	6/20/2003 14:12	1754:43:00	1754:38:00	1754:24:38	41.88933834	
36	83	1079	0.00127	543	14.005	0.001159918	32.85	0.139798165	3958.63	114.01	119.77	6/23/2003 11:28	1823:59:00	1823:54:00	1823:40:38	42.70811789	
22	80	1078	0.00078	540	13.992	0.000712116	20.16	0.140510281	3978.79	114.59	120.35	6/25/2003 16:25	1876:56:00	1876:51:00	1876:37:38	43.32358865	
17	80	1082	0.0006	540	14.044	0.000552313	15.64	0.141062595	3994.43	115.04	120.80	6/27/2003 15:20	1923:51:00	1923:46:00	1923:32:38	43.86171451	
18	80	1088	0.00064	540	14.122	0.000588045	16.65	0.14165064	4011.08	115.52	121.28	6/30/2003 11:17	1991:48:00	1991:43:00	1991:29:38	44.6295866	
35	81	1078	0.00124	541	13.992	0.001130818	32.02	0.142781458	4043.11	116.44	122.20	7/3/2003 9:58	2062:29:00	2062:24:00	2062:10:38	45.41457182	
28	80	1078	0.00099	540	13.992	0.00090633	25.66	0.143687788	4068.77	117.18	122.94	7/5/2003 20:02	2120:33:00	2120:28:00	2120:14:38	46.04942996	
8	81	1081	0.00028	541	14.031	0.000259192	7.34	0.14394698	4076.11	117.39	123.15	7/7/2003 14:08	2162:39:00	2162:34:00	2162:20:38	46.50430088	
28	82	1081	0.00099	542	14.031	0.000905498	25.64	0.144852478	4101.75	118.13	123.89	7/11/2003 16:14	2260:45:00	2260:40:00	2260:26:38	47.54734483	
30	85	1084	0.00106	545	14.070	0.000967514	27.40	0.145819992	4129.15	118.92	124.68	7/15/2003 13:59	2354:30:00	2354:25:00	2354:11:38	48.52319033	
43	80	1079	0.00152	540	14.005	0.001393155	39.45	0.147213147	4168.60	120.06	125.82	7/21/2003 16:35	2501:06:00	2501:01:00	2500:47:38	50.01099879	
40	83	1081	0.00141	543	14.031	0.001291187	36.56	0.148504334	4205.16	121.11	126.87	7/28/2003 20:32	2673:03:00	2672:58:00	2672:44:38	51.70154737	
28	80	1079	0.00099	540	14.005	0.000907171	25.69	0.149411504	4230.85	121.85	127.61	8/4/2003 13:50	2834:21:00	2834:16:00	2834:02:38	53.23861381	
34	81	1086	0.0012	541	14.096	0.001106661	31.34	0.150518166	4262.18	122.75	128.51	8/11/2003 14:05	3002:36:00	3002:31:00	3002:17:38	54.79598525	
47	84	1082	0.00166	544	14.044	0.001515756	42.92	0.152033922	4305.10	123.99	129.75	8/18/2003 20:09	3176:40:00	3176:35:00	3176:21:38	56.36192568	
58	85	1083	0.00205	545	14.057	0.001868801	52.92	0.153902723	4358.02	125.51	131.27	8/24/2003 22:52	3323:23:00	3323:18:00	3323:04:38	57.64879299	
26	82	1086	0.00092	542	14.096	0.000844709	23.92	0.154747432	4381.94	126.20	131.96	9/1/2003 14:55	3507:26:00	3507:21:00	3507:07:38	59.22358764	
17	80	1084	0.0006	540	14.070	0.000553334	15.67	0.155300767	4397.61	126.65	132.41	9/8/2003 14:08	3674:39:00	3674:34:00	3674:20:38	60.61889144	
34	83	1085	0.0012	543	14.083	0.00110157	31.19	0.156402337	4428.80	127.55	133.31	9/15/2003 15:18	3843:49:00	3843:44:00	3843:30:38	61.99852149	
34	85	1084	0.0012	545	14.070	0.001096516	31.05	0.157498852	4459.85	128.45	134.21	9/23/2003 10:54	4031:25:00	4031:20:00	4031:06:38	63.49343798	
8	80	1091	0.00028	540	14.161	0.000262074	7.42	0.157760927	4467.28	128.66	134.42	9/26/2003 18:57	4111:28:00	4111:23:00	4111:09:38	64.12071948	
45	86	1085	0.00159	546	14.083	0.001449949	41.06	0.159210876	4508.33	129.84	135.60	10/6/2003 12:23	4344:54:00	4344:49:00	4344:35:38	65.91585545	
26	85	1084	0.00092	545	14.070	0.000838512	23.74	0.160049388	4532.08	130.53	136.29	10/14/2003 23:19	4547:50:00	4547:45:00	4547:31:38	67.4376255	

17	81	1081	0.0006	541	14.031	0.000550783	15.60	0.160600171	4547.67	130.98	136.74	10/20/2003 15:43	4684:14:00	4684:09:00	4683:55:38	68.44145917		
13	80	1075	0.00046	540	13.953	0.000419625	11.88	0.161019796	4559.56	131.32	137.08	10/27/2003 15:11	4851:42:00	4851:37:00	4851:23:38	69.65414561		
8	81	1080	0.00028	541	14.018	0.000258952	7.33	0.161278748	4566.89	131.53	137.29	11/3/2003 10:17	5014:48:00	5014:43:00	5014:29:38	70.81525259		
27	80	1085	0.00095	540	14.083	0.000879636	24.91	0.162158384	4591.80	132.25	138.01	11/10/2003 11:29	5184:00:00	5183:55:00	5183:41:38	72		
57	90	1069	0.00201	550	13.875	0.001796359	50.87	0.163954743	4642.66	133.71	139.47	11/17/2003 16:34	5357:05:00	5357:00:00	5356:46:38	73.19209884		
-7	83	1086	-0.0002	543	14.096	-0.000227003	-6.43	0.16372774	4636.24	133.53	139.29	11/24/2003 14:30	5523:01:00	5522:56:00	5522:42:38	74.3170012		
-7	75	1090	-0.0002	535	14.148	-0.000231246	-6.55	0.163496494	4629.69	133.34	139.10	12/4/2003 20:19	5768:50:00	5768:45:00	5768:31:38	75.95283624		
DECANISTERED 12/07/2003; sample air dried for 14 days																		

SAMPLE:	888.2' to 889.2' (Bluejacket coal) in canister MER E																
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)	
dry sample weight:		3.996	1812.78		wet sample weight:		4.023	1824.95	0.67%		105		off bottom	at surface	in canister	15.5	minutes
													4/8/2003 13:25	4/8/2003 13:30	4/8/2003 13:40	0.258	hours
RIG/LAB MEASUREMENTS			CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg					CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.508265023	SQRT (hrs)
measured cc	measured T (F	measured P	cubic ft	absolute T (F	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)	
5	80	1102	0.00018	540	14.303	0.000165448	4.68	0.000165448	4.68	0.08	1.94	4/8/2003 13:42	0:17:42		0:02:12	0.543139025	
4	80	1102	0.00014	540	14.303	0.000132358	3.75	0.000297806	8.43	0.15	2.00	4/8/2003 13:44	0:19:10		0:03:40	0.565194165	
5	80	1102	0.00018	540	14.303	0.000165448	4.68	0.000463254	13.12	0.23	2.09	4/8/2003 13:45	0:20:55		0:05:25	0.590432986	
13	80	1102	0.00046	540	14.303	0.000430164	12.18	0.000893418	25.30	0.45	2.30	4/8/2003 13:50	0:25:10		0:09:40	0.647645308	
9	80	1102	0.00032	540	14.303	0.000297806	8.43	0.001191224	33.73	0.60	2.45	4/8/2003 13:53	0:28:00		0:12:30	0.683130051	
8	80	1102	0.00028	540	14.303	0.000264717	7.50	0.001455941	41.23	0.73	2.58	4/8/2003 13:56	0:31:10		0:15:40	0.720724944	
8	80	1102	0.00028	540	14.303	0.000264717	7.50	0.001720657	48.72	0.86	2.72	4/8/2003 13:59	0:34:00		0:18:30	0.752772653	
8	80	1102	0.00028	540	14.303	0.000264717	7.50	0.001985374	56.22	0.99	2.85	4/8/2003 14:02	0:37:15		0:21:45	0.787929777	
9	80	1102	0.00032	540	14.303	0.000297806	8.43	0.00228318	64.65	1.14	3.00	4/8/2003 14:05	0:40:20		0:24:50	0.819891592	
6	80	1102	0.00021	540	14.303	0.000198537	5.62	0.002481717	70.27	1.24	3.10	4/8/2003 14:08	0:43:20		0:27:50	0.849836586	
4	80	1102	0.00014	540	14.303	0.000132358	3.75	0.002614076	74.02	1.31	3.16	4/8/2003 14:10	0:45:40		0:30:10	0.872416822	
7	80	1102	0.00025	540	14.303	0.000231627	6.56	0.002845702	80.58	1.42	3.28	4/8/2003 14:14	0:49:50		0:34:20	0.911348208	
13	80	1102	0.00046	540	14.303	0.000430164	12.18	0.003275867	92.76	1.64	3.50	4/8/2003 14:19	0:54:05		0:38:35	0.949415025	
20	80	1102	0.00071	540	14.303	0.000661791	18.74	0.003937658	111.50	1.97	3.83	4/8/2003 14:29	1:04:50		0:49:20	1.039497742	
10	80	1102	0.00035	540	14.303	0.000330896	9.37	0.004268554	120.87	2.14	3.99	4/8/2003 14:36	1:11:15		0:55:45	1.089724736	
13	80	1102	0.00046	540	14.303	0.000430164	12.18	0.004698718	133.05	2.35	4.21	4/8/2003 14:44	1:19:05		1:03:35	1.148066007	
23	80	1102	0.00081	540	14.303	0.00076106	21.55	0.005459778	154.60	2.73	4.59	4/8/2003 15:00	1:35:30		1:20:00	1.261612724	
41	80	1101	0.00145	540	14.291	0.001355441	38.38	0.006815219	192.98	3.41	5.27	4/8/2003 15:36	2:11:15		1:55:45	1.479019946	
53	80	1101	0.00187	540	14.291	0.001752155	49.62	0.008567374	242.60	4.29	6.14	4/8/2003 16:55	3:30:14		3:14:44	1.871867754	
74	80	1101	0.00261	540	14.291	0.002446406	69.27	0.01101378	311.87	5.51	7.37	4/8/2003 18:16	4:51:00		4:35:30	2.202271555	
45	80	1101	0.00159	540	14.291	0.001487679	42.13	0.012501459	354.00	6.26	8.11	4/8/2003 19:50	6:25:00		6:09:30	2.533114026	
42	80	1101	0.00148	540	14.291	0.001388501	39.32	0.01388996	393.32	6.95	8.81	4/8/2003 21:24	7:59:00		7:43:30	2.82547931	
32	80	1101	0.00113	540	14.291	0.001057905	29.96	0.014947865	423.27	7.48	9.34	4/8/2003 22:42	9:17:00		9:01:30	3.046856303	
39	80	1100	0.00138	540	14.278	0.001288151	36.48	0.016236016	459.75	8.13	9.98	4/9/2003 0:37	11:12:00		10:56:30	3.346640106	
53	80	1101	0.00187	540	14.291	0.001752155	49.62	0.017988171	509.37	9.00	10.86	4/9/2003 3:32	14:07:00		13:51:30	3.757215281	
50	80	1100	0.00177	540	14.278	0.001651476	46.76	0.019639647	556.13	9.83	11.68	4/9/2003 6:58	17:33:00		17:17:30	4.189272013	
59	80	1100	0.00208	540	14.278	0.001948741	55.18	0.021588388	611.31	10.80	12.66	4/9/2003 11:18	21:53:00		21:37:30	4.677962519	
59	80	1090	0.00208	540	14.148	0.001931025	54.68	0.023519413	665.99	11.77	13.63	4/9/2003 17:55	28:30:00		28:14:30	5.338539126	
130	80	1089	0.00459	540	14.135	0.004250898	120.37	0.027770311	786.36	13.90	15.75	4/10/2003 8:41	43:16:00		43:00:30	6.57774024	
110	80	1083	0.00388	540	14.057	0.003577096	101.29	0.031347407	887.66	15.69	17.54	4/10/2003 23:40	58:15:00		57:59:30	7.632168761	
63	80	1083	0.00222	540	14.057	0.0020487	58.01	0.033396108	945.67	16.71	18.57	4/11/2003 8:41	67:16:00		67:00:30	8.201625855	
81	80	1081	0.00286	540	14.031	0.002629179	74.45	0.036025287	1020.12	18.03	19.88	4/11/2003 23:36	82:11:00		81:55:30	9.065502376	
68	80	1083	0.0024	540	14.057	0.002211296	62.62	0.038236582	1082.74	19.14	20.99	4/12/2003 12:31	95:06:00		94:50:30	9.751922887	
94	80	1084	0.00332	540	14.070	0.003059614	86.64	0.041296196	1169.37	20.67	22.52	4/13/2003 12:59	119:34:00		119:18:30	10.93465439	
86	80	1078	0.00304	540	13.992	0.002783727	78.83	0.044079923	1248.20	22.06	23.91	4/14/2003 15:31	146:06:00		145:50:30	12.08718329	
72	80	1074	0.00254	540	13.940	0.002321915	65.75	0.046401838	1313.95	23.22	25.08	4/15/2003 12:04	166:39:00		166:23:30	12.90929897	
84	80	1064	0.00297	540	13.810	0.002683678	75.99	0.049085515	1389.94	24.56	26.42	4/16/2003 16:35	195:10:00		194:54:30	13.97020639	
67	80	1081	0.00237	540	14.031	0.002174753	61.58	0.051260268	1451.52	25.65	27.51	4/17/2003 21:51	224:26:00		224:10:30	14.9810992	
56	80	1069	0.00198	540	13.875	0.001797526	50.90	0.053057794	1502.42	26.55	28.41	4/18/2003 19:31	246:06:00		245:50:30	15.6875747	
75	80	1083	0.00265	540	14.057	0.002438929	69.06	0.055496723	1571.49	27.77	29.63	4/20/2003 17:42	292:17:00		292:01:30	17.0962959	
48	80	1085	0.0017	540	14.083	0.001563797	44.28	0.057060521	1615.77	28.56	30.41	4/21/2003 15:32	314:07:00		313:51:30	17.72333678	
42	80	1082	0.00148	540	14.044	0.001364539	38.64	0.05842506	1654.41	29.24	31.09	4/22/2003 20:04	342:39:00		342:23:30	18.51080765	
59	80	1068	0.00208	540	13.862	0.00189205	53.58	0.06031711	1707.98	30.19	32.04	4/24/2003 10:54	381:29:00		381:13:30	19.53159833	
70	80	1080	0.00247	540	14.018	0.002270028	64.28	0.062587138	1772.26	31.32	33.18	4/26/2003 12:55	431:30:00		431:14:30	20.77257808	
31	75	1081	0.00109	535	14.031	0.001015633	28.76	0.063602771	1801.02	31.83	33.68	4/28/2003 11:01	477:36:00		477:20:30	21.85406141	
61	80	1081	0.00215	540	14.031	0.001979999	56.07	0.06558277	1857.09	32.82	34.68	4/29/2003 12:12	502:47:00		502:31:30	22.42283063	
38	73	1071	0.00134	533	13.901	0.001238081	35.06	0.066820851	1892.15	33.44	35.30	4/30/2003 12:10	526:45:00		526:29:30	22.95103484	
46	79	1079	0.00162	539	14.005	0.001493117	42.28	0.068313968	1934.43	34.19	36.04	5/1/2003 13:24	551:59:00		551:43:30	23.49432556	
26	80	1084	0.00092	540	14.070	0.000846276	23.96	0.069160244	1958.39	34.61	36.47	5/2/2003 14:29	577:04:00		576:48:30	24.02221194	
55	84	1085	0.00194	544	14.083	0.001778676	50.37	0.07093892	2008.76	35.50	37.36	5/3/2003 11:01	597:36:00		597:20:30	24.44585854	
45	81	1067	0.00159	541	13.849	0.001439073	40.75	0.072377993	2049.51	36.22	38.08	5/4/2003 10:36	621:11:00		620:55:30	24.92354977	
60	88	1069	0.00212	548	13.875	0.001897805	53.74	0.074275798	2103.25	37.17	39.03	5/5/2003 14:35	649:10:00		648:54:30	25.47874932	
12	78	1075	0.00042	538	13.953	0.000388786	11.01	0.074664584	2114.26	37.37	39.22	5/6/2003 12:40	671:15:00		670:59:30	25.90849282	
2	70	1080	7.1E-05	530	14.018	6.60817E-05	1.87	0.074730665	2116.13	37.40	39.25	5/7/2003 15:53	698:28:00		698:12:30	26.42851995	
126	88	1066	0.00445	548	13.836	0.003974206	112.54	0.078704872	2228.67	39.39	41.24	5/10/2003 15:31	770:06:00		769:50:30	27.75067567	
76	90	1088	0.00268	550	14.122	0.002437715	69.03	0.081142587	2297.69	40.61	42.46	5/12/2003 14:39	817:14:00		816:58:30	28.58729321	
36	80	1079	0.00127	540	14.005	0.001166362	33.03	0.082308949	2330.72	41.19	43.05	5/14/2003 12:10	862:45:00		862:29:30	29.37260629	
54	80	1078	0.00191	540	13.992	0.001747922	49.50	0.084056871	2380.22	42.07	43.92	5/16/2003 12:03	910:38:00		910:22:30	30.17670183	
95	80	1083	0.00335	540	14.057	0.00308931	87.48	0.087146181	2467.70	43.61	45.47	5/19/2003 14:21	984:56:00		984:40:30	31.38364755	
58	80	1091	0.00205	540	14.161	0.001900038	53.80	0.089046219	2521.50	44.56	46.42	5/22/2003 9:32	1052:07:00		1051:51:30	32.43634792	
53	83	1083	0.00187	543	14.057	0.001713988	48.53	0.090760206	2570.03	45.42	47.28	5/25/2003 2:12	1116:47:00		1116:31:30	33.41830836	
86	84	1083	0.00304	544	14.057	0.002776075	78.61	0.093536281	2648.64	46.81	48.66	5/30/2003 16:48	1251:23:00		1251:07:30	35.37489694	
55	80	1075	0.00194	540	13.953	0.001775336	50.27	0.095311618	2698.91	47.70	49.55	6/2/2003 16:20	1322:55:00		1322:39:30	36.3719214	
45	82	1084	0.00159	542	14.070	0.001459304	41.32	0.096770921	2740.24	48.43	50.28	6/5/2003 11:37	1390:12:00		1389:56:30	37.28538588	
50	80	1078	0.00177	540	13.992	0.001618446	45.83	0.098389367	2786.07	49.24	51.09	6/9/2003 14:11	1488:46:00		1488:30:30	38.58453922	
51	80	1075	0.0018	540	13.953	0.001646221	46.62	0.100035588	2832.68	50.06	51.92	6/12/2003 13:48	1560:23:00		1560:07:30	39.50168773	
38	81	1085	0.00134	541	14.083	0.001235718	34.99	0.101271306	2867.67	50.68	52.54	6/15/2003 15:00	1633:35:00		1633:19:30	40.41761167	
36	84	1081	0.00127	544	14.031	0.001159932	32.85	0.102431238	2900.52	51.26	53.12	6/18/2003 14:04	1704:39:00		1704:23:30	41.28740728	
28	80	1085	0.00099	540	14.083	0.000912215	25.83	0.103343453	2926.35	51.72	53.57	6/20/2003 14:13	1752:48:00		1752:32:30	41.86645435	
38	83	1079	0.00134	543	14.005	0.001224358	34.67	0.104567811	2961.02	52.33	54.19	6/23/2003 11:29	1822:04:00		1821:48:30	42.68567285	
26	80	1078	0.00092	540	13.992	0.000841592	23.83	0.105409403	2984.85	52.75	54.61	6/25/2003 16:26	1875:01:00		1874:45:30	43.30146264	
23	80	1082	0.00081	540	14.044	0.000747248	21.16	0.10615665	3006.01	53.12	54.98	6/27/2003 15:21	1921:56:00		1921:40:30	43.8398601	
26	80	1088	0.00092	540	14.122	0.000849399	24.05	0.107006049	3030.06	53.55	55.41	6/30/2003 11:17	1989:52:00		1989:36:30	44.60792157	
11	81	1078	0.00039	541	13.992	0.0003554	10.06	0.107361449	3040.13	53.73	55.58	7/3/2003 9:58	2060:33:00		2060:17:30	45.39328144	
27	80	1078	0.00095	540	13.992	0.000873961	24.75	0.10823541	3064.87	54.17	56.02	7/5/2003 20:04	2118:39:00		2118:23:30	46.02879534	
7	81	1081	0.00025	541	14.031	0.000226793	6.42	0.108462203	3071.30	54.28	56.13	7/7/2003 14:09	2160:44:00		2160:28:30	46.4836889	
31	82	1081	0.00109	542	14.031	0.001002516	28.39	0.109464719	3099.68	54.78	56.64	7/11/2003 16:15	2258:50:00		2258:34:30	47.5271852	
35	85	1084	0.00124	545	14.070	0.001128766	31.96	0.110593485	3131.65	55.35	57.20	7/15/2003 13:59	2352:34:00		2352:18:30	48.50326449	
46	80	1079	0.00162	540	14.005	0.001490352	42.20	0.112083837	3173.85	56.09	57.95	7/21/2003 16:35	2499:10:00		2498:54:30	49.99166597	
48	83	1081	0.0017	543	14.031	0.001549424	43.87	0.113633261	3217.72	56.87	58.72	7/28/2003 20:32	2671:07:00		2670:51:30	51.68284693	
37	80	1079	0.00131	540	14.005	0.001198761	33.95	0.114832022	3251.67	57.47	59.32	8/4/2003 13:50	2832:25:00		2832:09:30	53.22045346	
40	81	1086	0.00141	541	14.096	0.001301954	36.87	0.116133976	3288.54	58.12	59.97	8/11/2003 14:05	3000:40:00		3000:24:30	54.77834122	
48	84	1082	0.0017	544	14.044	0.001548007	43.83	0.117681983	3332.37	58.89	60.75	8/18/2003 20:10	3174:45:00		3174:29:30	56.34491991	
41	85	1083	0.00145	545	14.057	0.001321049	37.41	0.119003032	3369.78	59.55	61.41	8/24/2003 22:53	3321:28:00		3321:12:30	57.63216694	
32	82	1086	0.00113	542	14.096	0.001039642	29.44	0.120042674	3399.22	60.07	61.93	9/1/2003 14:56	3505:31:00		3505:15:30	59.20740382	
25	80	1084	0.00088	540	14.070	0.000813727	23.04	0.120856401	3422.26	60.48	62.34	9/8/2003 14:09	3672:44:00		3672:28:30	60.60308023	
35	83	1085	0.00124	543	14.083	0.001133969	32.11	0.12199037	3454.37	61.05	62.90	9/15/2003 15:19	3841:54:00		3841:38:30	61.9830622	
36	85	1084	0.00127	545	14.070	0.001161017	32.88	0.123151387	3487.25	61.63	63.49	9/23/2003 10:55	4029:30:00		4029:14:30	63.47834276	
21	80	1091	0.00074	540	14.161	0.000687945	19.48	0.123839331	3506.73	61.97	63.83	9/26/2003 18:58	4109:33:00		4109:17:30	64.10577197	
42	86	1085	0.00148	546	14.083	0.001353286	38.32	0.125192617	3545.05	62.65	64.51	10/6/2003 12:25	4343:00:00		4342:44:30	65.90144156	
34	85	1084	0.0012	545	14.070	0.001096516	31.05	0.126289133	3576.10	63.20	65.06	10/14/2003 23:20	4545:55:00		4545:39:30	67.42341334	
22	81	1081	0.00078	541	14.031	0.000712778	20.18	0.127001911	3596.28	63.56	65.41	10/20/2003 15:44	4682:19:00		4682:03:30	68.4274555	

20	80	1075	0.00071	540	13.953	0.000645577	18.28	0.127647488	3614.56	63.88	65.74	10/27/2003 15:12	4849:47:00		4849:31:30	69.64038579		
13	81	1080	0.00046	541	14.018	0.000420797	11.92	0.128068285	3626.48	64.09	65.95	11/3/2003 10:18	5012:53:00		5012:37:30	70.80171843		
26	80	1085	0.00092	540	14.083	0.000847057	23.99	0.128915342	3650.46	64.51	66.37	11/10/2003 11:30	5182:05:00		5181:49:30	71.98668858		
48	90	1069	0.0017	550	13.875	0.001512723	42.84	0.130428065	3693.30	65.27	67.13	11/17/2003 16:35	5355:10:00		5354:54:30	73.17900427		
8	83	1086	0.00028	543	14.096	0.000259432	7.35	0.130687497	3700.64	65.40	67.26	11/24/2003 14:30	5521:05:00		5520:49:30	74.30399271		
13	75	1090	0.00046	535	14.148	0.000429457	12.16	0.131116954	3712.80	65.62	67.47	12/4/2003 20:22	5766:57:00		5766:41:30	75.94043719		
36	80	1083	0.00127	540	14.057	0.001170686	33.15	0.13228764	3745.95	66.20	68.06	12/10/2003 15:03	5905:38:00		5905:22:30	76.84811861		
23	83	1087	0.00081	543	14.109	0.000746553	21.14	0.133034193	3767.09	66.58	68.43	12/16/2003 14:27	6049:02:00		6048:46:30	77.77553171		
30	86	1081	0.00106	546	14.031	0.000963069	27.27	0.133997262	3794.37	67.06	68.91	12/22/2003 16:12	6194:47:00		6194:31:30	78.7069459		
9	78	1082	0.00032	538	14.044	0.000293488	8.31	0.13429075	3802.68	67.20	69.06	12/29/2003 14:39	6361:14:00		6360:58:30	79.75734031		
39	87	1103	0.00138	547	14.316	0.001275135	36.11	0.135565885	3838.78	67.84	69.70	1/6/2004 15:16	6553:51:00		6553:35:30	80.95585217		
3	79	1093	0.00011	539	14.187	9.86406E-05	2.79	0.135664526	3841.58	67.89	69.75	1/12/2004 11:48	6694:23:00		6694:07:30	81.81921127		
23	80	1089	0.00081	540	14.135	0.000752082	21.30	0.136416608	3862.87	68.27	70.12	1/21/2004 10:39	6909:14:00		6908:58:30	83.12179818		
14	79	1091	0.00049	539	14.161	0.000459481	13.01	0.136876088	3875.88	68.50	70.35	1/27/2004 10:15	7052:50:00		7052:34:30	83.98114868		
18	80	1085	0.00064	540	14.083	0.000586424	16.61	0.137462512	3892.49	68.79	70.65	2/2/2004 15:45	7202:20:00		7202:04:30	84.86656193		
13	81	1091	0.00046	541	14.161	0.000425083	12.04	0.137887595	3904.53	69.00	70.86	2/9/2004 10:38	7365:13:00		7364:57:30	85.82084051		
14	81	1091	0.00049	541	14.161	0.000457782	12.96	0.138345377	3917.49	69.23	71.09	2/16/2004 14:29	7537:04:00		7536:48:30	86.81628112		
10	80	1086	0.00035	540	14.096	0.000326091	9.23	0.138671469	3926.72	69.40	71.25	2/23/2004 14:36	7705:11:00		7704:55:30	87.77917369		
13	80	1091	0.00046	540	14.161	0.00042587	12.06	0.139097339	3938.78	69.61	71.47	3/2/2004 10:50	7893:25:00		7893:09:30	88.84490231		
12	80	1088	0.00042	540	14.122	0.00039203	11.10	0.13948937	3949.88	69.81	71.66	3/8/2004 10:12	8036:47:00		8036:31:30	89.64810836		
15	81	1081	0.00053	541	14.031	0.000485985	13.76	0.139975355	3963.65	70.05	71.90	3/15/2004 11:46	8206:21:00		8206:05:30	90.58890661		
6	80	1097	0.00021	540	14.239	0.000197637	5.60	0.140172991	3969.24	70.15	72.00	3/22/2004 10:09	8372:44:00		8372:28:30	91.50264113		
38	75	1088	0.00134	535	14.122	0.001253031	35.48	0.141426022	4004.72	70.78	72.63	3/30/2004 20:38	8575:13:00		8574:57:30	92.60246577		
9	79	1080	0.00032	539	14.018	0.000292402	8.28	0.141718425	4013.00	70.92	72.78	4/6/2004 14:46	8737:21:00		8737:05:30	93.47379312		
0	76	1086	0	536	14.096	0	0.00	0.141718425	4013.00	70.92	72.78	4/12/2004 15:04	8881:39:00		8881:23:30	94.24250633		
7	80	1088	0.00025	540	14.122	0.000228684	6.48	0.141947109	4019.48	71.04	72.89	4/19/2004 14:34	9049:09:00		9048:53:30	95.12702035		
-6	78	1090	-0.0002	538	14.148	-0.000197105	-5.58	0.141750004	4013.90	70.94	72.79	4/26/2004 11:38	9214:13:00		9213:57:30	95.99071136		
-3	80	1083	-0.0001	540	14.057	-9.75572E-05	-2.76	0.141652446	4011.14	70.89	72.74	5/3/2004 19:18	9389:53:00		9389:37:30	96.90141038		
DECANISTERED 5/3/2004; sample air dried for 10 days																		

SAMPLE:	1003.7' to 1004.7' (Rowe coal) in canister MER D																	
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)		
dry sample weight:		3.591	1628.78		wet sample weight:		3.685	1671.36	2.55%		505		off bottom	at surface	in canister	14.2	minutes	
													4/8/2003 19:24	4/8/2003 19:28	4/8/2003 19:38	0.236	hours	
RIG/LAB MEASUREMENTS			CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg					CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.485912658	SQRT (hrs)	
measured cc	measured T (F	measured P	cubic ft	absolute T (F)	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)		
53	80	1101	0.00187	540	14.291	0.001752155	49.62	0.001752155	49.62	0.98	10.91	4/8/2003 19:41	0:17:10		0:03:00	0.534893551		
20	80	1101	0.00071	540	14.291	0.000661191	18.72	0.002413346	68.34	1.34	11.28	4/8/2003 19:42	0:18:10		0:04:00	0.550252467		
34	80	1101	0.0012	540	14.291	0.001124024	31.83	0.00353737	100.17	1.97	11.90	4/8/2003 19:44	0:20:10		0:06:00	0.579750904		
18	80	1101	0.00064	540	14.291	0.000595072	16.85	0.004132442	117.02	2.30	12.23	4/8/2003 19:45	0:21:10		0:07:00	0.593950989		
22	80	1101	0.00078	540	14.291	0.00072731	20.60	0.004859752	137.61	2.71	12.64	4/8/2003 19:46	0:22:40		0:08:30	0.614636297		
30	80	1101	0.00106	540	14.291	0.000991786	28.08	0.005851538	165.70	3.26	13.19	4/8/2003 19:48	0:24:40		0:10:30	0.641179469		
50	80	1101	0.00177	540	14.291	0.001652977	46.81	0.007504515	212.50	4.18	14.11	4/8/2003 19:52	0:28:20		0:14:10	0.687184271		
50	80	1101	0.00177	540	14.291	0.001652977	46.81	0.009157492	259.31	5.10	15.03	4/8/2003 19:56	0:32:15		0:18:05	0.733143915		
58	80	1101	0.00205	540	14.291	0.001917453	54.30	0.011074945	313.61	6.17	16.10	4/8/2003 20:01	0:37:20		0:23:10	0.788810638		
75	80	1101	0.00265	540	14.291	0.002479465	70.21	0.01355441	383.82	7.55	17.48	4/8/2003 20:08	0:44:40		0:30:30	0.86281194		
33	80	1101	0.00117	540	14.291	0.001090965	30.89	0.014645375	414.71	8.16	18.09	4/8/2003 20:11	0:47:30		0:33:20	0.889756521		
33	80	1101	0.00117	540	14.291	0.001090965	30.89	0.01573634	445.60	8.76	18.70	4/8/2003 20:14	0:50:45		0:36:35	0.919691977		
22	80	1101	0.00078	540	14.291	0.00072731	20.60	0.016463649	466.20	9.17	19.10	4/8/2003 20:16	0:52:50		0:38:40	0.938379217		
27	80	1101	0.00095	540	14.291	0.000892607	25.28	0.017356257	491.47	9.67	19.60	4/8/2003 20:19	0:55:50		0:41:40	0.964653075		
28	80	1101	0.00099	540	14.291	0.000925667	26.21	0.018281924	517.68	10.18	20.12	4/8/2003 20:22	0:58:50		0:44:40	0.990230052		
60	80	1101	0.00212	540	14.291	0.001983572	56.17	0.020265496	573.85	11.29	21.22	4/8/2003 20:30	1:06:40		0:52:30	1.054092553		
387	80	1101	0.01367	540	14.291	0.012794041	362.29	0.033059537	936.14	18.41	28.35	4/8/2003 21:17	1:53:00		1:38:50	1.372345923		
148	80	1101	0.00523	540	14.291	0.004892811	138.55	0.037952348	1074.69	21.14	31.07	4/8/2003 21:40	2:16:20		2:02:10	1.507389207		
99	80	1101	0.0035	540	14.291	0.003272894	92.68	0.041225243	1167.36	22.96	32.89	4/8/2003 21:57	2:33:40		2:19:30	1.600347185		
88	80	1101	0.00311	540	14.291	0.002909239	82.38	0.044134482	1249.74	24.58	34.51	4/8/2003 22:15	2:51:20		2:37:10	1.689838914		
91	80	1101	0.00321	540	14.291	0.003008418	85.19	0.0471429	1334.93	26.26	36.19	4/8/2003 22:35	3:11:30		2:57:20	1.786523626		
142	80	1101	0.00501	540	14.291	0.004694454	132.93	0.051837354	1467.86	28.87	38.80	4/8/2003 23:10	3:46:55		3:32:45	1.944722202		
91	80	1101	0.00321	540	14.291	0.003008418	85.19	0.054845772	1553.05	30.55	40.48	4/8/2003 23:34	4:10:00		3:55:50	2.041241452		
191	80	1100	0.00675	540	14.278	0.006308636	178.64	0.061154408	1731.69	34.06	43.99	4/9/2003 0:39	5:15:00		5:00:50	2.291287847		
185	80	1100	0.00653	540	14.278	0.006110459	173.03	0.067264868	1904.72	37.46	47.40	4/9/2003 1:45	6:21:00		6:06:50	2.519920634		
103	80	1100	0.00364	540	14.278	0.00340204	96.33	0.070666907	2001.06	39.36	49.29	4/9/2003 2:24	7:00:00		6:45:50	2.645751311		
142	80	1101	0.00501	540	14.291	0.004694454	132.93	0.075361361	2133.99	41.97	51.91	4/9/2003 3:33	8:09:00		7:54:50	2.854820485		
315	80	1101	0.01112	540	14.291	0.010413754	294.88	0.085775115	2428.87	47.77	57.71	4/9/2003 6:50	11:26:00		11:11:50	3.381321241		
63	80	1100	0.00222	540	14.278	0.002080859	58.92	0.087855975	2487.79	48.93	58.87	4/9/2003 7:14	11:50:00		11:35:50	3.43996124		
340	80	1100	0.01201	540	14.278	0.011230033	318.00	0.099086008	2805.79	55.19	65.12	4/9/2003 11:20	15:56:00		15:41:50	3.991657968		
307	80	1090	0.01084	540	14.148	0.010047877	284.52	0.109133885	3090.32	60.78	70.72	4/9/2003 17:57	22:33:00		22:18:50	4.748684028		
208	80	1089	0.00735	540	14.135	0.006801437	192.59	0.115935322	3282.91	64.57	74.51	4/9/2003 20:55	25:31:00		25:16:50	5.051402446		
461	80	1089	0.01628	540	14.135	0.015074338	426.86	0.13100966	3709.77	72.97	82.90	4/10/2003 8:30	37:06:00		36:51:50	6.090976933		
174	80	1088	0.00614	540	14.122	0.005684439	160.96	0.136694099	3870.73	76.13	86.07	4/10/2003 11:33	40:09:00		39:54:50	6.336402765		
357	80	1083	0.01261	540	14.057	0.011609302	328.74	0.148303401	4199.47	82.60	92.53	4/10/2003 23:32	52:08:00		51:53:50	7.220341636		
264	80	1083	0.00932	540	14.057	0.00858503	243.10	0.156888431	4442.57	87.38	97.32	4/11/2003 8:39	61:15:00		61:00:50	7.826237921		
324	80	1081	0.01144	540	14.031	0.010516716	297.80	0.167405147	4740.37	93.24	103.17	4/11/2003 23:33	76:09:00		75:54:50	8.726396736		
263	80	1083	0.00929	540	14.057	0.008552511	242.18	0.175957659	4982.55	98.00	107.94	4/12/2003 12:28	89:04:00		88:49:50	9.437513797		
344	80	1084	0.01215	540	14.070	0.011196884	317.06	0.187154542	5299.61	104.24	114.17	4/13/2003 13:01	113:37:00		113:22:50	10.65911191		
312	80	1079	0.01102	540	14.005	0.010108471	286.24	0.197263014	5585.85	109.87	119.80	4/14/2003 14:41	139:17:00		139:02:50	11.80183602		
224	80	1074	0.00791	540	13.940	0.007223734	204.55	0.204486748	5790.40	113.89	123.83	4/15/2003 12:05	160:41:00		160:26:50	12.67609298		
269	80	1064	0.0095	540	13.810	0.008594158	243.36	0.213080906	6033.76	118.68	128.61	4/16/2003 16:37	189:13:00		188:58:50	13.75560492		
226	80	1081	0.00798	540	14.031	0.007335734	207.72	0.22041664	6241.48	122.77	132.70	4/17/2003 21:52	218:28:00		218:13:50	14.78061794		
177	80	1069	0.00625	540	13.875	0.005681466	160.88	0.226098106	6402.36	125.93	135.86	4/18/2003 19:32	240:08:00		239:53:50	15.4962361		
234	80	1083	0.00826	540	14.057	0.007609459	215.48	0.233707565	6617.84	130.17	140.10	4/20/2003 17:43	286:19:00		286:04:50	16.92089438		
143	80	1085	0.00505	540	14.083	0.004658812	131.92	0.238366378	6749.76	132.76	142.70	4/21/2003 15:32	308:08:00		307:53:50	17.55372705		
143	80	1082	0.00505	540	14.044	0.004645931	131.56	0.243012308	6881.32	135.35	145.28	4/22/2003 20:04	336:40:00		336:25:50	18.34847859		
123	80	1076	0.00434	540	13.966	0.003973991	112.53	0.246986299	6993.85	137.56	147.50	4/23/2003 21:14	361:50:00		361:35:50	19.02191718		
85	80	1068	0.003	540	13.862	0.002725835	77.19	0.249712134	7071.03	139.08	149.02	4/24/2003 10:56	375:32:00		375:17:50	19.37868245		
164	80	1080	0.00579	540	14.018	0.005318352	150.60	0.255030486	7221.63	142.04	151.98	4/26/2003 12:56	425:32:00		425:17:50	20.62845931		
93	75	1081	0.00328	535	14.031	0.003046899	86.28	0.258077385	7307.91	143.74	153.67	4/28/2003 11:02	471:38:00		471:23:50	21.71712074		
144	80	1081	0.00509	540	14.031	0.004674096	132.36	0.262751481	7440.27	146.35	156.28	4/29/2003 12:16	496:52:00		496:37:50	22.2905062		
99	73	1071	0.0035	533	13.901	0.003225527	91.34	0.265977008	7531.60	148.14	158.07	4/30/2003 12:11	520:47:00		520:32:50	22.82067776		
107	79	1079	0.00378	539	14.005	0.003473119	98.35	0.269450127	7629.95	150.08	160.01	5/1/2003 13:25	546:01:00		545:46:50	23.36699952		
61	80	1084	0.00215	540	14.070	0.001985494	56.22	0.271435621	7686.17	151.18	161.12	5/2/2003 14:30	571:06:00		570:51:50	23.89769863		
114	84	1085	0.00403	544	14.083	0.003686709	104.40	0.27512233	7790.57	153.24	163.17	5/3/2003 11:02	591:38:00		591:23:50	24.323514		
90	81	1067	0.00318	541	13.849	0.002878146	81.50	0.278000477	7872.07	154.84	164.77	5/4/2003 10:37	615:13:00		614:58:50	24.80356157		
120	88	1069	0.00424	548	13.875	0.00379561	107.48	0.281796087	7979.55	156.95	166.89	5/5/2003 14:35	643:11:00		642:56:50	25.36105939		
36	78	1075	0.00127	538	13.953	0.001166358	33.03	0.282962445	8012.57	157.60	167.54	5/6/2003 12:41	665:17:00		665:02:50	25.79308693		
10	70	1080	0.00035	530	14.018	0.000330408	9.36	0.283292853	8021.93	157.79	167.72	5/7/2003 15:54	692:30:00		692:15:50	26.31539473		
207	88	1066	0.00731	548	13.836	0.006529053	184.88	0.289821906	8206.81	161.42	171.36	5/10/2003 15:32	764:08:00		763:53:50	27.64296173		
150	90	1088	0.0053	550	14.122	0.00481128	136.24	0.294633187	8343.05	164.10	174.04	5/12/2003 14:41	811:17:00		811:02:50	28.48303589		
68	80	1079	0.0024	540	14.005	0.002203128	62.39	0.296836315	8405.44	165.33	175.26	5/14/2003 12:11	856:47:00		856:32:50	29.27086151		
80	80	1078	0.00283	540	13.992	0.002589514	73.33	0.299425829	8478.76	166.77	176.70	5/16/2003 12:03	904:39:00		904:24:50	30.07740015		
101	80	1083	0.00357	540	14.057	0.003284424	93.00	0.302710253	8571.77	168.60	178.53	5/19/2003 14:22	978:58:00		978:43:50	31.28844302		
88	80	1091	0.00311	540	14.161	0.002882816	81.63	0.305593069	8653.40	170.21	180.14	5/22/2003 9:33	1046:09:00		1045:54:50	32.34424215		
85	83	1083	0.003	543	14.057	0.002748848	77.84	0.308341917	8731.24	171.74	181.67	5/25/2003 2:13	1110:49:00		1110:34:50	33.32891637		
125	84	1083	0.00441	544	14.057	0.004034993	114.26	0.31237691	8845.50	173.99	183.92	5/30/2003 16:49	1245:25:00		1245:10:50	35.29046141		
82	80	1075	0.0029	540	13.953	0.002646865	74.95	0.315023775	8920.45	175.46	185.39	6/2/2003 16:21	1316:57:00		1316:42:50	36.28980573		
67	82	1084	0.00237	542	14.070	0.002172741	61.52	0.317196516	8981.97	176.67	186.60	6/5/2003 11:38	1384:14:00		1383:59:50	37.20528636		
78	80	1078	0.00275	540	13.992	0.002524776	71.49	0.319721292	9053.46	178.08	188.01	6/9/2003 14:12	1482:48:00		1482:33:50	38.50714219		
82	80	1075	0.0029	540	13.953	0.002646865	74.95	0.322368157	9128.42	179.55	189.48	6/12/2003 13:49	1554:25:00		1554:10:50	39.42609119		
52	81	1085	0.00184	541	14.083	0.001690982	47.88	0.324059139	9176.30	180.49	190.42	6/15/2003 15:01	1627:37:00		1627:22:50	40.34373144		
53	84	1081	0.00187	544	14.031	0.001707678	48.36	0.325766816	9224.65	181.44	191.38	6/18/2003 14:05	1698:41:00		1698:26:50	41.21508623		
41	80	1085	0.00145	540	14.083	0.001335743	37.82	0.32710256	9262.48	182.19	192.12	6/20/2003 14:13	1746:49:00		1746:34:50	41.7949359		
50	83	1079	0.00177	543	14.005	0.001610997	45.62	0.328713557	9308.10	183.08	193.02	6/23/2003 11:29	1816:05:00		1815:50:50	42.61552925		
38	80	1078	0.00134	540	13.992	0.001230019	34.83	0.329943576	9342.93	183.77	193.70	6/25/2003 16:26	1869:02:00		1868:47:50	43.23231816		
32	80	1082	0.00113	540	14.044	0.001039649	29.44	0.330983225	9372.37	184.35	194.28	6/27/2003 15:20	1915:56:00		1915:41:50	43.77137573		
34	80	1088	0.0012	540	14.122	0.001110752	31.45	0.332093977	9403.82	184.97	194.90	6/30/2003 11:18	1983:54:00		1983:39:50	44.54099236		
46	81	1078	0.00162	541	13.992	0.001486218	42.08	0.333580195	9445.90	185.79	195.73	7/3/2003 9:58	2054:34:00		2054:19:50	45.32732803		
38	80	1078	0.00134	540	13.992	0.001230019	34.83	0.334810214	9480.73	186.48	196.41	7/5/2003 20:05	2112:41:00		2112:26:50	45.96393514		
10	81	1081	0.00035	541	14.031	0.00032399	9.17	0.335134204	9489.91	186.66	196.59	7/7/2003 14:09	2154:45:00		2154:30:50	46.41928479		
38	82	1081	0.00134	542	14.031	0.001228891	34.80	0.336363095	9524.71	187.34	197.28	7/11/2003 16:16	2252:52:00		2252:37:50	47.4643726		
45	85	1084	0.00159	545	14.070	0.001451271	41.10	0.337814366	9565.80	188.15	198.09	7/15/2003 14:00	2346:36:00		2346:21:50	48.44171756		
60	80	1079	0.00212	540	14.005	0.001943937	55.05	0.339758303	9620.85	189.24	199.17	7/21/2003 16:36	2493:12:00		2492:57:50	49.9319537		
58	83	1081	0.00205	543	14.031	0.001872221	53.02	0.341630523	9673.86	190.28	200.21	7/28/2003 20:33	2665:09:00		2664:54:50	51.6250908		
43	80	1079	0.00152	540	14.005	0.001393155	39.45	0.343023678	9713.31	191.05	200.99	8/4/2003 13:51	2826:27:00		2826:12:50	53.16436777		
45	81	1086	0.00159	541	14.096	0.001464699	41.48	0.344488377	9754.79	191.87	201.80	8/11/2003 14:06	2994:42:00		2994:27:50	54.7238522		
57	84	1082	0.00201	544	14.044	0.001838258	52.05	0.346326635	9806.84	192.89	202.83	8/18/2003 20:16	3168:52:00		3168:37:50	56.29268751		
55	85	1083	0.00194	545	14.057	0.001772139	50.18	0.348098774	9857.02	193.88	203.81	8/24/2003 22:53	3315:29:00		3315:14:50	57.58023388		
40	82	1086	0.00141	542	14.096	0.001299552	36.80	0.349398326	9893.82	194.61	204.54	9/1/2003 14:57	3499:33:00		3499:18:50	59.15699451		
24	80	1084	0.00085	540	14.070	0.000781178	22.12	0.350179504	9915.94	195.04	204.97	9/8/2003 14:09	3666:45:00		3666:30:50	60.55369518		

42	83	1085	0.00148	543	14.083	0.001360763	38.53	0.351540267	9954.47	195.80	205.73	9/15/2003 15:20	3835:56:00		3835:41:50	61.93491207		
40	85	1084	0.00141	545	14.070	0.001290019	36.53	0.352830285	9991.00	196.52	206.45	9/23/2003 10:55	4023:31:00		4023:16:50	63.43119632		
27	80	1091	0.00095	540	14.161	0.0008845	25.05	0.353714786	10016.05	197.01	206.94	9/26/2003 18:58	4103:34:00		4103:19:50	64.05908731		
43	86	1085	0.00152	546	14.083	0.001385507	39.23	0.355100293	10055.28	197.78	207.71	10/6/2003 12:26	4337:02:00		4336:47:50	65.85615638		
34	84	1084	0.0012	544	14.070	0.001098531	31.11	0.356198824	10086.39	198.39	208.33	10/14/2003 23:21	4539:57:00		4539:42:50	67.37915108		
22	82	1081	0.00078	542	14.031	0.000711463	20.15	0.356910287	10106.54	198.79	208.72	10/20/2003 15:45	4676:21:00		4676:06:50	68.38384312		
16	80	1075	0.00057	540	13.953	0.000516461	14.62	0.357426749	10121.16	199.08	209.01	10/27/2003 15:12	4843:48:00		4843:33:50	69.59741375		
10	81	1080	0.00035	541	14.018	0.00032369	9.17	0.357750439	10130.33	199.26	209.19	11/3/2003 10:18	5006:54:00		5006:39:50	70.75945167		
27	80	1085	0.00095	540	14.083	0.000879636	24.91	0.358630075	10155.23	199.75	209.68	11/10/2003 11:31	5176:07:00		5175:52:50	71.9452338		
52	90	1069	0.00184	550	13.875	0.001638783	46.41	0.360268858	10201.64	200.66	210.59	11/17/2003 16:36	5349:12:00		5348:57:50	73.1382253		
3	83	1086	0.00011	543	14.096	9.72869E-05	2.75	0.360366145	10204.39	200.71	210.65	11/24/2003 14:31	5515:07:00		5514:52:50	74.26383148		
10	75	1090	0.00035	535	14.148	0.000330351	9.35	0.360696496	10213.75	200.90	210.83	12/4/2003 20:23	5760:59:00		5760:44:50	75.90114184		
37	80	1083	0.00131	540	14.057	0.001203205	34.07	0.361899701	10247.82	201.57	211.50	12/10/2003 15:03	5899:39:00		5899:24:50	76.80917914		
13	83	1087	0.00046	543	14.109	0.000421965	11.95	0.362321666	10259.77	201.80	211.74	12/16/2003 14:28	6043:04:00		6042:49:50	77.737164		
25	86	1081	0.00088	546	14.031	0.000802558	22.73	0.363124224	10282.49	202.25	212.18	12/22/2003 16:13	6188:49:00		6188:34:50	78.66903245		
8	78	1082	0.00028	538	14.044	0.000260878	7.39	0.363385102	10289.88	202.40	212.33	12/29/2003 14:40	6355:16:00		6355:01:50	79.71992641		
47	87	1103	0.00166	547	14.316	0.001536701	43.51	0.364921803	10333.40	203.25	213.18	1/6/2004 15:17	6547:53:00		6547:38:50	80.91899241		
-3	79	1093	-0.0001	539	14.187	-9.86406E-05	-2.79	0.364823162	10330.60	203.20	213.13	1/12/2004 11:48	6688:24:00		6688:09:50	81.78263874		
10	80	1089	0.00035	540	14.135	0.000326992	9.26	0.365150154	10339.86	203.38	213.31	1/21/2004 10:40	6903:16:00		6903:01:50	83.08589933		
11	79	1091	0.00039	539	14.161	0.000361021	10.22	0.365511175	10350.08	203.58	213.51	1/27/2004 10:16	7046:52:00		7046:37:50	83.94561732		
11	80	1085	0.00039	540	14.083	0.00035837	10.15	0.365869545	10360.23	203.78	213.71	2/2/2004 15:46	7196:22:00		7196:07:50	84.83140142		
5	81	1091	0.00018	541	14.161	0.000163494	4.63	0.366033039	10364.86	203.87	213.80	2/9/2004 10:38	7359:14:00		7358:59:50	85.78597399		
7	81	1091	0.00025	541	14.161	0.000228891	6.48	0.36626193	10371.34	204.00	213.93	2/16/2004 14:30	7531:06:00		7530:51:50	86.78191056		
5	80	1086	0.00018	540	14.096	0.000163046	4.62	0.366424975	10375.96	204.09	214.02	2/23/2004 14:37	7699:13:00		7698:58:50	87.7451803		
5	80	1091	0.00018	540	14.161	0.000163796	4.64	0.366588772	10380.60	204.18	214.11	3/2/2004 10:51	7887:27:00		7887:12:50	88.81131685		
9	80	1088	0.00032	540	14.122	0.000294023	8.33	0.366882794	10388.92	204.34	214.28	3/8/2004 10:15	8030:51:00		8030:36:50	89.6150099		
10	81	1081	0.00035	541	14.031	0.00032399	9.17	0.367206784	10398.10	204.52	214.46	3/15/2004 11:47	8200:23:00		8200:08:50	90.55596796		
4	80	1097	0.00014	540	14.239	0.000131758	3.73	0.367338542	10401.83	204.60	214.53	3/22/2004 10:09	8366:45:00		8366:30:50	91.46994042		
37	75	1088	0.00131	535	14.122	0.001220057	34.55	0.368558599	10436.38	205.28	215.21	3/30/2004 20:40	8569:16:00		8569:01:50	92.57033362		
3	79	1080	0.00011	539	14.018	9.74674E-05	2.76	0.368656066	10439.14	205.33	215.26	4/6/2004 14:46	8731:22:00		8731:07:50	93.44178223		
-10	76	1086	-0.0004	536	14.096	-0.000328525	-9.30	0.368327541	10429.84	205.15	215.08	4/12/2004 15:05	8875:41:00		8875:26:50	94.21084509		
0	80	1088	0	540	14.122	0	0.00	0.368327541	10429.84	205.15	215.08	4/19/2004 14:35	9043:11:00		9042:56:50	95.0956536		
-9	78	1090	-0.0003	538	14.148	-0.000295658	-8.37	0.368031883	10421.46	204.98	214.92	4/26/2004 11:38	9208:14:00		9207:59:50	95.95954009		
DECANISTERED 4/26/2004; sample air dried for 35 days																		

SAMPLE:	1053.7' to 1054.7' (Riverton coal) in canister MER F																	
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)		
dry sample weight:		3.950	1791.47		wet sample weight:		4.040	1832.44	2.24%		350		off bottom	at surface	in canister	13.0	minutes	
													4/8/2003 22:51	4/8/2003 22:56	4/8/2003 23:04	0.217	hours	
RIG/LAB MEASUREMENTS			CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg (					CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.465772954	SQRT (hrs)	
measured cc	measured T (F	measured P	cubic ft	absolute T (F	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)		
108	80	1101	0.00381	540	14.291	0.00357043	101.10	0.00357043	101.10	1.81	8.07	4/8/2003 23:12	0:21:05	0:16:05	0:08:04	0.592780642		
33	80	1101	0.00117	540	14.291	0.001090965	30.89	0.004661395	132.00	2.36	8.62	4/8/2003 23:14	0:23:26	0:18:26	0:10:25	0.624944442		
20	80	1101	0.00071	540	14.291	0.000661191	18.72	0.005322585	150.72	2.70	8.95	4/8/2003 23:16	0:25:00	0:20:00	0:11:59	0.645497224		
48	80	1100	0.0017	540	14.278	0.001585416	44.89	0.006908002	195.61	3.50	9.76	4/8/2003 23:20	0:29:55	0:24:55	0:16:54	0.706124006		
27	80	1100	0.00095	540	14.278	0.000891797	25.25	0.007799799	220.86	3.95	10.21	4/8/2003 23:24	0:33:15	0:28:15	0:20:14	0.744423715		
35	80	1100	0.00124	540	14.278	0.001156033	32.74	0.008955832	253.60	4.54	10.79	4/8/2003 23:28	0:37:15	0:32:15	0:24:14	0.787929777		
35	80	1100	0.00124	540	14.278	0.001156033	32.74	0.010111864	286.34	5.12	11.38	4/8/2003 23:32	0:41:45	0:36:45	0:28:44	0.83416625		
32	80	1100	0.00113	540	14.278	0.001056944	29.93	0.011168809	316.26	5.66	11.91	4/8/2003 23:35	0:44:45	0:39:45	0:31:44	0.863616427		
18	80	1100	0.00064	540	14.278	0.000594531	16.84	0.01176334	333.10	5.96	12.22	4/8/2003 23:38	0:47:00	0:42:00	0:33:59	0.885061203		
18	80	1100	0.00064	540	14.278	0.000594531	16.84	0.012357871	349.93	6.26	12.52	4/8/2003 23:44	0:53:37	0:48:37	0:40:36	0.945310061		
17	80	1100	0.0006	540	14.278	0.000561502	15.90	0.012919373	365.83	6.54	12.80	4/8/2003 23:44	0:53:30	0:48:30	0:40:29	0.944281032		
20	80	1100	0.00071	540	14.278	0.00066059	18.71	0.013579963	384.54	6.88	13.14	4/8/2003 23:47	0:56:47	0:51:47	0:43:46	0.97282521		
84	80	1100	0.00297	540	14.278	0.002774479	78.56	0.016354442	463.10	8.28	14.54	4/9/2003 0:02	1:11:45	1:06:45	0:58:44	1.093541647		
159	80	1100	0.00562	540	14.278	0.005251692	148.71	0.021606134	611.82	10.94	17.20	4/9/2003 0:41	1:50:00	1:45:00	1:36:59	1.354006401		
166	80	1100	0.00586	540	14.278	0.005482899	155.26	0.027089033	767.07	13.72	19.98	4/9/2003 1:33	2:42:00	2:37:00	2:28:59	1.643167673		
144	80	1101	0.00509	540	14.291	0.004760573	134.80	0.031849606	901.88	16.13	22.39	4/9/2003 2:25	3:34:00	3:29:00	3:20:59	1.888562063		
137	80	1101	0.00484	540	14.291	0.004529157	128.25	0.036378762	1030.13	18.42	24.68	4/9/2003 3:25	4:34:00	4:29:00	4:20:59	2.136976057		
257	80	1100	0.00908	540	14.278	0.008488584	240.37	0.044867347	1270.50	22.72	28.98	4/9/2003 6:52	8:01:00	7:56:00	7:47:59	2.83137187		
50	80	1100	0.00177	540	14.278	0.001651476	46.76	0.046518822	1317.26	23.56	29.82	4/9/2003 7:16	8:25:00	8:20:00	8:11:59	2.901149198		
233	80	1100	0.00823	540	14.278	0.007695876	217.92	0.054214698	1535.18	27.45	33.71	4/9/2003 11:26	12:35:00	12:30:00	12:21:59	3.547299442		
190	80	1090	0.00671	540	14.148	0.006218556	176.09	0.060433254	1711.27	30.60	36.86	4/9/2003 17:59	19:08:00	19:03:00	18:54:59	4.374166587		
117	80	1089	0.00413	540	14.135	0.003825808	108.33	0.064259062	1819.61	32.54	38.80	4/9/2003 20:53	22:02:00	21:57:00	21:48:59	4.69396776		
278	80	1089	0.00982	540	14.135	0.009090382	257.41	0.073349444	2077.02	37.14	43.40	4/10/2003 8:38	33:47:00	33:42:00	33:33:59	5.812343188		
97	80	1088	0.00343	540	14.122	0.003168911	89.73	0.076518355	2166.75	38.75	45.01	4/10/2003 11:32	36:41:00	36:36:00	36:27:59	6.056676757		
225	80	1083	0.00795	540	14.057	0.007316787	207.19	0.083835142	2373.94	42.45	48.71	4/10/2003 23:38	48:47:00	48:42:00	48:33:59	6.984506664		
151	80	1083	0.00533	540	14.057	0.004910377	139.05	0.088745519	2512.98	44.94	51.20	4/11/2003 8:38	57:47:00	57:42:00	57:33:59	7.601534933		
210	80	1081	0.00742	540	14.031	0.00681639	193.02	0.095561909	2706.00	48.39	54.65	4/11/2003 23:33	72:42:00	72:37:00	72:28:59	8.526429499	estimate	
156	80	1083	0.00551	540	14.057	0.005072972	143.65	0.100634882	2849.65	50.96	57.22	4/12/2003 12:26	85:35:00	85:30:00	85:21:59	9.251126058		
204	80	1084	0.0072	540	14.070	0.006640012	188.02	0.107274894	3037.68	54.32	60.58	4/13/2003 13:04	110:13:00	110:08:00	109:59:59	10.49841258		
191	80	1079	0.00675	540	14.005	0.006188199	175.23	0.113463093	3212.90	57.46	63.72	4/14/2003 14:48	135:57:00	135:52:00	135:43:59	11.65975986		
144	80	1074	0.00509	540	13.940	0.004643829	131.50	0.118106922	3344.40	59.81	66.07	4/15/2003 12:08	157:17:00	157:12:00	157:03:59	12.54126522		
161	80	1064	0.00569	540	13.810	0.005143716	145.65	0.123250638	3490.06	62.41	68.67	4/16/2003 16:39	185:48:00	185:43:00	185:34:59	13.63084737		
132	80	1081	0.00466	540	14.031	0.004284588	121.33	0.127535226	3611.38	64.58	70.84	4/17/2003 21:53	215:02:00	214:57:00	214:48:59	14.66401491		
105	80	1070	0.00371	540	13.888	0.003373514	95.53	0.13090874	3706.91	66.29	72.55	4/18/2003 19:33	236:42:00	236:37:00	236:28:59	15.38505769		
137	80	1083	0.00484	540	14.057	0.00445511	126.15	0.13536385	3833.06	68.55	74.81	4/20/2003 17:45	282:54:00	282:49:00	282:40:59	16.81963139		
77	80	1085	0.00272	540	14.083	0.002508591	71.04	0.137872442	3904.10	69.82	76.08	4/21/2003 15:33	304:42:00	304:37:00	304:28:59	17.45565811		
83	80	1082	0.00293	540	14.044	0.002696589	76.36	0.140569031	3980.46	71.18	77.44	4/22/2003 20:06	333:15:00	333:10:00	333:01:59	18.25513626		
110	80	1068	0.00388	540	13.862	0.003527552	99.89	0.144096583	4080.35	72.97	79.23	4/24/2003 10:58	372:07:00	372:02:00	371:53:59	19.29032573		
111	80	1080	0.00392	540	14.018	0.003599616	101.93	0.147696199	4182.27	74.79	81.05	4/26/2003 12:59	422:08:00	422:03:00	421:54:59	20.54588361		
61	75	1081	0.00215	535	14.031	0.001998504	56.59	0.149694702	4238.87	75.80	82.06	4/28/2003 11:03	468:12:00	468:07:00	467:58:59	21.63792966		
86	80	1081	0.00304	540	14.031	0.002791474	79.05	0.152486176	4317.91	77.22	83.48	4/29/2003 12:17	493:26:00	493:21:00	493:12:59	22.21335934		
66	73	1071	0.00233	533	13.901	0.002150351	60.89	0.154636528	4378.80	78.31	84.57	4/30/2003 12:12	517:21:00	517:16:00	517:07:59	22.74532919		
61	79	1079	0.00215	539	14.005	0.001980002	56.07	0.15661653	4434.87	79.31	85.57	5/1/2003 13:25	542:34:00	542:29:00	542:20:59	23.29306048		
34	80	1084	0.0012	540	14.070	0.001106669	31.34	0.157723199	4466.21	79.87	86.13	5/2/2003 14:31	567:40:00	567:35:00	567:26:59	23.82575637		
66	84	1085	0.00233	544	14.083	0.002134411	60.44	0.159857609	4526.65	80.95	87.21	5/3/2003 11:03	588:12:00	588:07:00	587:58:59	24.25283489		
52	81	1067	0.00184	541	13.849	0.001662929	47.09	0.161520538	4573.74	81.79	88.05	5/4/2003 10:38	611:47:00	611:42:00	611:33:59	24.73425425		
69	88	1069	0.00244	548	13.875	0.002182476	61.80	0.163703014	4635.54	82.90	89.16	5/5/2003 14:36	639:45:00	639:40:00	639:31:59	25.29327974		
23	78	1075	0.00081	538	13.953	0.000745173	21.10	0.164448187	4656.64	83.28	89.53	5/6/2003 12:42	661:51:00	661:46:00	661:37:59	25.72644554		
8	70	1080	0.00028	530	14.018	0.000264327	7.48	0.164712514	4664.12	83.41	89.67	5/7/2003 15:57	689:06:00	689:01:00	688:52:59	26.25071428	estimate	
131	88	1066	0.00463	548	13.836	0.004131913	117.00	0.168844427	4781.12	85.50	91.76	5/10/2003 15:34	760:43:00	760:38:00	760:29:59	27.58109256		
94	90	1088	0.00332	550	14.122	0.003015069	85.38	0.171859496	4866.50	87.03	93.29	5/12/2003 14:41	807:50:00	807:45:00	807:36:59	28.422409		
40	80	1079	0.00141	540	14.005	0.001295958	36.70	0.173155454	4903.20	87.68	93.94	5/14/2003 12:12	853:21:00	853:16:00	853:07:59	29.212155		
44	80	1078	0.00155	540	13.992	0.001424232	40.33	0.174579686	4943.53	88.41	94.66	5/16/2003 12:05	901:14:00	901:09:00	901:00:59	30.02054852	estimate	
69	80	1083	0.00244	540	14.057	0.002243815	63.54	0.176823501	5007.07	89.54	95.80	5/19/2003 14:23	975:32:00	975:27:00	975:18:59	31.23352899		
59	80	1091	0.00208	540	14.161	0.001932797	54.73	0.178756298	5061.80	90.52	96.78	5/22/2003 9:34	1042:43:00	1042:38:00	1042:29:59	32.29112365		
58	83	1083	0.00205	543	14.057	0.001875685	53.11	0.180631983	5114.91	91.47	97.73	5/25/2003 2:14	1107:23:00	1107:18:00	1107:09:59	33.27736969		
90	84	1083	0.00318	544	14.057	0.002905195	82.27	0.183537178	5197.17	92.94	99.20	5/30/2003 16:49	1241:58:00	1241:53:00	1241:44:59	35.24154745		
54	80	1075	0.00191	540	13.953	0.001743057	49.36	0.185280235	5246.53	93.82	100.08	6/2/2003 16:22	1313:31:00	1313:26:00	1313:17:59	36.24247048		
40	82	1084	0.00141	542	14.070	0.001297159	36.73	0.186577394	5283.26	94.48	100.74	6/5/2003 11:39	1380:48:00	1380:43:00	1380:34:59	37.15911732		
55	80	1078	0.00194	540	13.992	0.001780291	50.41	0.188357684	5333.68	95.38	101.64	6/9/2003 14:12	1479:21:00	1479:16:00	1479:07:59	38.46231922		
56	80	1075	0.00198	540	13.953	0.001807615	51.19	0.190165299	5384.86	96.30	102.56	6/12/2003 13:49	1550:58:00	1550:53:00	1550:44:59	39.38231414		
33	81	1085	0.00117	541	14.083	0.001073123	30.39	0.191238423	5415.25	96.84	103.10	6/15/2003 15:02	1624:11:00	1624:06:00	1623:57:59	40.30115797		
43	84	1081	0.00152	544	14.031	0.001385474	39.23	0.192623897	5454.48	97.54	103.80	6/18/2003 14:05	1695:14:00	1695:09:00	1695:00:59	41.17321136		
30	80	1085	0.00106	540	14.083	0.000977373	27.68	0.19360127	5482.16	98.04	104.30	6/20/2003 14:14	1743:23:00	1743:18:00	1743:09:59	41.75384214		
29	83	1079	0.00102	543	14.005	0.000934378	26.46	0.194535649	5508.62	98.51	104.77	6/23/2003 11:30	1812:39:00	1812:34:00	1812:25:59	42.57522754		
33	80	1078	0.00117	540	13.992	0.001068174	30.25	0.195603823	5538.86	99.05	105.31	6/25/2003 16:27	1865:36:00	1865:31:00	1865:22:59	43.19259196		
23	80	1082	0.00081	540	14.044	0.000747248	21.16	0.196351071	5560.02	99.43	105.69	6/27/2003 15:21	1912:30:00	1912:25:00	1912:16:59	43.73213921		
6	80	1088	0.00021	540	14.122	0.000196015	5.55	0.196547086	5565.57	99.53	105.79	6/30/2003 11:19	1980:28:00	1980:23:00	1980:14:59	44.50243439		
10	81	1078	0.00035	541	13.992	0.000323091	9.15	0.196870177	5574.72	99.69	105.95	7/3/2003 9:59	2051:08:00	2051:03:00	2050:54:59	45.28943953		
31	80	1078	0.00109	540	13.992	0.001003437	28.41	0.197873613	5603.14	100.20	106.46	7/5/2003 20:05	2109:14:00	2109:09:00	2109:00:59	45.92639038		
11	81	1081	0.00039	541	14.031	0.000356389	10.09	0.198230002	5613.23	100.38	106.64	7/7/2003 14:10	2151:19:00	2151:14:00	2151:05:59	46.38228829		
33	82	1081	0.00117	542	14.031	0.001067194	30.22	0.199297197	5643.45	100.92	107.18	7/11/2003 16:18	2249:27:00	2249:22:00	2249:13:59	47.42836704		
37	85	1084	0.00131	545	14.070	0.001193267	33.79	0.200490464	5677.24	101.53	107.79	7/15/2003 14:01	2343:10:00	2343:05:00	2342:56:59	48.40626681		
30	80	1079	0.00106	540	14.005	0.000971968	27.52	0.201462432	5704.76	102.02	108.28	7/21/2003 16:37	2489:46:00	2489:41:00	2489:32:59	49.89756173		
49	83	1081	0.00173	543	14.031	0.001581704	44.79	0.203044136	5749.55	102.82	109.08	7/28/2003 20:34	2661:43:00	2661:38:00	2661:29:59	51.59182752		
40	80	1079	0.00141	540	14.005	0.001295958	36.70	0.204340094	5786.25	103.48	109.74	8/4/2003 13:52	2823:01:00	2822:56:00	2822:47:59	53.13206816		
41	81	1086	0.00145	541	14.096	0.001334503	37.79	0.205674597	5824.03	104.15	110.41	8/11/2003 14:07	2991:16:00	2991:11:00	2991:02:59	54.69247358		
50	84	1082	0.00177	544	14.044	0.001612507	45.66	0.207287104	5869.69	104.97	111.23	8/18/2003 20:18	3165:27:00	3165:22:00	3165:13:59	56.26233198		
66	85	1083	0.00233	545	14.057	0.002126567	60.22	0.209413671	5929.91	106.05	112.30	8/24/2003 22:54	3312:03:00	3311:58:00	3311:49:59	57.55041268		
31	82	1086	0.00109	542	14.096	0.001007153	28.52	0.210420824	5958.43	106.56	112.81	9/1/2003 14:58	3496:07:00	3496:02:00	3495:53:59	59.12796857		
23	80	1084	0.00081	540	14.070	0.000748629	21.20	0.211169453	5979.63	106.93	113.19	9/8/2003 14:10	3663:19:00	3663:14:00	3663:05:59	60.52533905		
35	83	1085	0.00124	543	14.083	0.001133969	32.11	0.212303422	6011.74	107.51	113.77	9/15/2003 15:20	3832:29:00	3832:24:00	3832:15:59	61.90705399		
34	85	1084	0.0012	545	14.070	0.001096516	31.05	0.213399938	6042.79	108.06	114.32	9/23/2003 10:55	4020:04:00	4019:59:00	4019:50:59	63.40399567		
22	80	1091	0.00078	540	14.161	0.000720704	20.41	0.214120642	6063.20	108.43	114.69	9/26/2003 18:59	4100:08:00	4100:03:00	4099:54:59	64.03228352		
38	86	1085	0.00134	546	14.083	0.001224402	34.67	0.215345043	6097.87	109.05	115.31	10/6/2003 12:28	4333:37:00	4333:32:00	4333:23:59	65.8302109		
29	85	1084	0.00102	545	14.070	0.000935263	26.48	0.216280307	6124.35	109.52	115.78	10/14/2003 23:22	4536:31:00	4536:26:00	4536:17:59	67.35366855		
20	82	1081	0.00071	542	14.031	0.000646785	18.31	0.216927091	6142.67	109.85	116.11	10/20/2003 15:46	4672:55:00	4672:50:00	4672:41:59	68.35873512		
18	80	1075	0.00064	540	13.953	0.000581019	16.45	0.21750811	6159.12	110.14	116.40	10/27/2003 15:13	4840:22:00	4840:17:00	4840:08:59	69.57274371		
10	81	1080	0.00035	541	14.018	0.00032369	9.17	0.217831801	6168.29	110.31	116.57	11/3/2003 10:19	5003:28:00	5003:23:00	5003:14:59	70.73518691		
26	80	1085	0.00092	540	14.083	0.000847057	23.99	0.218678857	6192.27	110.74	117.00	11/10/2003 11:23	5172:32:00	5172:27:00	5172:18:59	71.92032629		
45	90	1069	0.00159	550	13.875	0.001418178	40.16	0.220097035	6232.43	111.46	117.71	11/17/2003 16:37	5345:46:00	5345:41:00	5345:32:59	73.11474999		
1	83	1086	3.5E-05	543	14.096	3.2429E-05	0.92	0.220129464	6233.35	111.47	117.73	11/24/2003 14:32	5511:41:00	5511:36:00	5511:27:59	74.2407121		

7	75	1090	0.00025	535	14.148	0.000231246	6.55	0.22036071	6239.90	111.59	117.85	12/4/2003 20:24	5757:33:00	5757:28:00	5757:19:59	75.87852134		
32	75	1083	0.00113	535	14.057	0.001050335	29.74	0.221411045	6269.64	112.12	118.38	12/10/2003 14:04	5895:13:00	5895:08:00	5894:59:59	76.78031432		
13	83	1087	0.00046	543	14.109	0.000421965	11.95	0.22183301	6281.59	112.33	118.59	12/16/2003 14:29	6039:38:00	6039:33:00	6039:24:59	77.7150779		
22	86	1081	0.00078	546	14.031	0.000706251	20.00	0.222539261	6301.59	112.69	118.95	12/22/2003 16:13	6185:22:00	6185:17:00	6185:08:59	78.64710209		
0	78	1082	0	538	14.044	0	0.00	0.222539261	6301.59	112.69	118.95	12/29/2003 14:41	6351:50:00	6351:45:00	6351:36:59	79.69838978		
30	87	1103	0.00106	547	14.316	0.000980873	27.78	0.223520134	6329.36	113.19	119.45	1/6/2004 15:17	6544:26:00	6544:21:00	6544:12:59	80.89767199		
0	79	1093	0	539	14.187	0	0.00	0.223520134	6329.36	113.19	119.45	1/12/2004 11:49	6684:58:00	6684:53:00	6684:44:59	81.76164545		
15	80	1089	0.00053	540	14.135	0.000490488	13.89	0.224010622	6343.25	113.44	119.70	1/21/2004 10:40	6899:49:00	6899:44:00	6899:35:59	83.06513508		
7	79	1091	0.00025	539	14.161	0.00022974	6.51	0.224240362	6349.76	113.55	119.81	1/27/2004 10:16	7043:25:00	7043:20:00	7043:11:59	83.92506578		
13	80	1085	0.00046	540	14.083	0.000423528	11.99	0.224663891	6361.75	113.77	120.03	2/2/2004 15:46	7192:55:00	7192:50:00	7192:41:59	84.81106453		
6	81	1091	0.00021	541	14.161	0.000196192	5.56	0.224860083	6367.30	113.87	120.13	2/9/2004 10:39	7355:48:00	7355:43:00	7355:34:59	85.76596061		
8	81	1091	0.00028	541	14.161	0.00026159	7.41	0.225121673	6374.71	114.00	120.26	2/16/2004 14:30	7527:39:00	7527:34:00	7527:25:59	86.76203087		
10	80	1086	0.00035	540	14.096	0.000326091	9.23	0.225447764	6383.95	114.16	120.42	2/23/2004 14:38	7695:47:00	7695:42:00	7695:33:59	87.7256139		
7	80	1091	0.00025	540	14.161	0.000229315	6.49	0.225677079	6390.44	114.28	120.54	3/2/2004 10:51	7884:00:00	7883:55:00	7883:46:59	88.79189152		
9	80	1088	0.00032	540	14.122	0.000294023	8.33	0.225971101	6398.76	114.43	120.69	3/8/2004 10:15	8027:24:00	8027:19:00	8027:10:59	89.59575883		
10	81	1081	0.00035	541	14.031	0.00032399	9.17	0.226295092	6407.94	114.59	120.85	3/15/2004 11:47	8196:56:00	8196:51:00	8196:42:59	90.53691696		
4	80	1097	0.00014	540	14.239	0.000131758	3.73	0.226426849	6411.67	114.66	120.92	3/22/2004 10:10	8363:19:00	8363:14:00	8363:05:59	91.45117094		
-20	75	1088	-0.0007	535	14.122	-0.00065949	-18.67	0.225767359	6393.00	114.33	120.59	3/30/2004 20:41	8565:50:00	8565:45:00	8565:36:59	92.5517873		
3	79	1080	0.00011	539	14.018	9.74674E-05	2.76	0.225864826	6395.76	114.38	120.64	4/6/2004 14:49	8727:58:00	8727:53:00	8727:44:59	93.42358731		
-5	76	1086	-0.0002	536	14.096	-0.000164262	-4.65	0.225700564	6391.10	114.29	120.55	4/12/2004 15:06	8872:15:00	8872:10:00	8872:01:59	94.19262179		
DECANISTERED 4/12/2004; sample air dried for 35 days																		

SAMPLE:	1054.7' to 1055.7' (Riverton coal) in canister 5																
		lbs.	grams				lbs.	grams	moisture %		est. lost gas (cc) =		TIME 0F:			elapsed time (off bottom to canistering)	
dry sample weight:		4.084	1852.37		wet sample weight:		4.143	1879.08	1.42%		410		off bottom	at surface	in canister	15.0	minutes
													4/8/2003 22:51	4/8/2003 22:56	4/8/2003 23:06	0.250	hours
RIG/LAB MEASUREMENTS			CONVERSION OF RIG/LAB MEASUREMENTS TO STP (@60 deg (					CUMULATIVE VOLUMES (@		SCF/TON	SCF/TON		TIME SINCE			0.500000000	SQRT (hrs)
measured cc	measured T (F	measured P	cubic ft	absolute T (F	psia	cubic ft (@STP)	cc (@STP)	cubic ft	cc	without lost gas	with lost gas	TIME OF MEASU	off bottom	at surface	in canister	SQRT hrs. (since off bottom)	
100	78	1101	0.00353	538	14.291	0.003318243	93.96	0.003318243	93.96	1.63	8.72	4/8/2003 23:13	0:22:15	0:17:15	0:07:15	0.608960864	
25	78	1101	0.00088	538	14.291	0.000829561	23.49	0.004147804	117.45	2.03	9.12	4/8/2003 23:15	0:24:15	0:19:15	0:09:15	0.635741037	
19	78	1101	0.00067	538	14.291	0.000630466	17.85	0.004778271	135.31	2.34	9.43	4/8/2003 23:16	0:25:50	0:20:50	0:10:50	0.656167323	
58	78	1100	0.00205	538	14.278	0.001922833	54.45	0.006701104	189.75	3.28	10.37	4/8/2003 23:22	0:31:30	0:26:30	0:16:30	0.724568837	
49	79	1100	0.00173	539	14.278	0.001621449	45.91	0.008322552	235.67	4.08	11.17	4/8/2003 23:27	0:36:15	0:31:15	0:21:15	0.777281588	
41	79	1100	0.00145	539	14.278	0.001356722	38.42	0.009679275	274.09	4.74	11.83	4/8/2003 23:31	0:40:45	0:35:45	0:25:45	0.824115688	
42	79	1100	0.00148	539	14.278	0.001389813	39.35	0.011069088	313.44	5.42	12.51	4/8/2003 23:37	0:46:00	0:41:00	0:31:00	0.875595036	
25	79	1100	0.00088	539	14.278	0.00082727	23.43	0.011896358	336.87	5.83	12.92	4/8/2003 23:40	0:49:20	0:44:20	0:34:20	0.906764701	
22	80	1100	0.00078	540	14.278	0.000726649	20.58	0.012623007	357.44	6.18	13.27	4/8/2003 23:43	0:52:07	0:47:07	0:37:07	0.931993085	
23	80	1100	0.00081	540	14.278	0.000759679	21.51	0.013382686	378.95	6.55	13.65	4/8/2003 23:46	0:55:00	0:50:00	0:40:00	0.957427108	
19	80	1100	0.00067	540	14.278	0.000627561	17.77	0.014010246	396.72	6.86	13.95	4/8/2003 23:49	0:58:00	0:53:00	0:43:00	0.98319208	
101	80	1100	0.00357	540	14.278	0.003335981	94.46	0.017346227	491.19	8.50	15.59	4/9/2003 0:05	1:14:00	1:09:00	0:59:00	1.110555417	
193	80	1100	0.00682	540	14.278	0.006374695	180.51	0.023720922	671.70	11.62	18.71	4/9/2003 0:43	1:52:00	1:47:00	1:37:00	1.366260102	
175	80	1100	0.00618	540	14.278	0.005780164	163.68	0.029501087	835.37	14.45	21.54	4/9/2003 1:28	2:37:00	2:32:00	2:22:00	1.617611408	
179	80	1101	0.00632	540	14.291	0.005917657	167.57	0.035418744	1002.94	17.35	24.44	4/9/2003 2:30	3:39:00	3:34:00	3:24:00	1.910497317	
149	80	1101	0.00526	540	14.291	0.004925871	139.48	0.040344615	1142.43	19.76	26.85	4/9/2003 3:37	4:46:00	4:41:00	4:31:00	2.183269719	
280	80	1100	0.00989	540	14.278	0.009248263	261.88	0.049592878	1404.31	24.29	31.38	4/9/2003 6:55	8:04:00	7:59:00	7:49:00	2.840187787	
43	80	1100	0.00152	540	14.278	0.001420269	40.22	0.051013146	1444.53	24.98	32.07	4/9/2003 7:17	8:26:00	8:21:00	8:11:00	2.904020202	
200	80	1100	0.00706	540	14.278	0.006605902	187.06	0.057619048	1631.58	28.22	35.31	4/9/2003 11:29	12:38:00	12:33:00	12:23:00	3.55434007	
252	80	1090	0.0089	540	14.148	0.008247769	233.55	0.065866817	1865.13	32.26	39.35	4/9/2003 18:05	19:14:00	19:09:00	18:59:00	4.385582439	
149	80	1089	0.00526	540	14.135	0.004872183	137.96	0.070739	2003.10	34.64	41.73	4/9/2003 20:52	22:01:00	21:56:00	21:46:00	4.692192096	
357	80	1089	0.01261	540	14.135	0.01167362	330.56	0.08241262	2333.66	40.36	47.45	4/10/2003 8:34	33:43:00	33:38:00	33:28:00	5.806605434	
118	80	1088	0.00417	540	14.122	0.003854964	109.16	0.086267584	2442.82	42.25	49.34	4/10/2003 11:30	36:39:00	36:34:00	36:24:00	6.053924347	
259	80	1083	0.00915	540	14.057	0.008422435	238.50	0.094690019	2681.31	46.37	53.46	4/10/2003 23:34	48:43:00	48:38:00	48:28:00	6.979732564	
181	80	1083	0.00639	540	14.057	0.005885949	166.67	0.100575968	2847.98	49.26	56.35	4/11/2003 8:36	57:45:00	57:40:00	57:30:00	7.599342077	
226	80	1081	0.00798	540	14.031	0.007335734	207.72	0.107911702	3055.71	52.85	59.94	4/11/2003 23:29	72:38:00	72:33:00	72:23:00	8.522519189	
168	80	1083	0.00593	540	14.057	0.005463201	154.70	0.113374903	3210.41	55.52	62.62	4/12/2003 12:25	85:34:00	85:29:00	85:19:00	9.250225222	
237	80	1084	0.00837	540	14.070	0.007714132	218.44	0.121089036	3428.85	59.30	66.39	4/13/2003 13:06	110:15:00	110:10:00	110:00:00	10.5	
180	80	1079	0.00636	540	14.005	0.00583181	165.14	0.126920846	3593.98	62.16	69.25	4/14/2003 14:48	135:57:00	135:52:00	135:42:00	11.65975986	
142	80	1074	0.00501	540	13.940	0.004579331	129.67	0.131500177	3723.66	64.40	71.49	4/15/2003 12:11	157:20:00	157:15:00	157:05:00	12.54325848	
174	80	1064	0.00614	540	13.810	0.005559047	157.41	0.137059224	3881.07	67.12	74.21	4/16/2003 16:41	185:50:00	185:45:00	185:35:00	13.63207003	
141	80	1081	0.00498	540	14.031	0.004576719	129.60	0.141635943	4010.67	69.37	76.46	4/17/2003 21:54	215:03:00	214:58:00	214:48:00	14.66458319	
110	80	1070	0.00388	540	13.888	0.003534158	100.08	0.145170101	4110.74	71.10	78.19	4/18/2003 19:35	236:44:00	236:39:00	236:29:00	15.38614095	
155	80	1083	0.00547	540	14.057	0.005040453	142.73	0.150210554	4253.47	73.56	80.66	4/20/2003 17:47	282:56:00	282:51:00	282:41:00	16.82062226	
80	80	1085	0.00283	540	14.083	0.002606329	73.80	0.152816883	4327.28	74.84	81.93	4/21/2003 15:34	304:43:00	304:38:00	304:28:00	17.4561355	
84	80	1082	0.00297	540	14.044	0.002729078	77.28	0.155545961	4404.55	76.18	83.27	4/22/2003 20:08	333:17:00	333:12:00	333:02:00	18.25604923	
119	80	1068	0.0042	540	13.862	0.00381617	108.06	0.15936213	4512.62	78.05	85.14	4/24/2003 10:59	372:08:00	372:03:00	371:53:00	19.29075772	
113	80	1080	0.00399	540	14.018	0.003664474	103.77	0.163026604	4616.38	79.84	86.93	4/26/2003 13:01	422:10:00	422:05:00	421:55:00	20.54669479	
60	75	1081	0.00212	535	14.031	0.001965741	55.66	0.164992346	4672.05	80.80	87.89	4/28/2003 11:04	468:13:00	468:08:00	467:58:00	21.63831478	
81	80	1081	0.00286	540	14.031	0.002629179	74.45	0.167621525	4746.50	82.09	89.18	4/29/2003 12:18	493:27:00	493:22:00	493:12:00	22.21373449	
55	73	1071	0.00194	533	13.901	0.001791959	50.74	0.169413484	4797.24	82.97	90.06	4/30/2003 12:13	517:22:00	517:17:00	517:07:00	22.74569556	
62	79	1079	0.00219	539	14.005	0.002012461	56.99	0.171425946	4854.22	83.95	91.05	5/1/2003 13:27	542:36:00	542:31:00	542:21:00	23.29377599	
35	80	1084	0.00124	540	14.070	0.001139218	32.26	0.172565163	4886.48	84.51	91.60	5/2/2003 14:31	567:40:00	567:35:00	567:25:00	23.82575637	
64	84	1085	0.00226	544	14.083	0.002069732	58.61	0.174634895	4945.09	85.53	92.62	5/3/2003 11:04	588:13:00	588:08:00	587:58:00	24.25317849	
51	81	1067	0.0018	541	13.849	0.00163095	46.18	0.176265845	4991.27	86.32	93.42	5/4/2003 10:39	611:48:00	611:43:00	611:33:00	24.73459116	
68	88	1069	0.0024	548	13.875	0.002150846	60.90	0.17841669	5052.18	87.38	94.47	5/5/2003 14:37	639:46:00	639:41:00	639:31:00	25.29360921	
20	78	1075	0.00071	538	13.953	0.000647977	18.35	0.179064667	5070.53	87.70	94.79	5/6/2003 12:43	661:52:00	661:47:00	661:37:00	25.72676946	
8	70	1080	0.00028	530	14.018	0.000264327	7.48	0.179328994	5078.01	87.83	94.92	5/7/2003 15:57	689:06:00	689:01:00	688:51:00	26.25071428	
126	88	1066	0.00445	548	13.836	0.003974206	112.54	0.1833032	5190.55	89.77	96.86	5/10/2003 15:34	760:43:00	760:38:00	760:28:00	27.58109256	
81	90	1088	0.00286	550	14.122	0.002598091	73.57	0.185901291	5264.12	91.04	98.13	5/12/2003 14:43	807:52:00	807:47:00	807:37:00	28.42299539	
38	80	1079	0.00134	540	14.005	0.00123116	34.86	0.187132451	5298.98	91.65	98.74	5/14/2003 12:13	853:22:00	853:17:00	853:07:00	29.21244027	
49	80	1078	0.00173	540	13.992	0.001586077	44.91	0.188718529	5343.89	92.42	99.51	5/16/2003 12:06	901:15:00	901:10:00	901:00:00	30.0208261	
59	80	1083	0.00208	540	14.057	0.001918624	54.33	0.190637153	5398.22	93.36	100.45	5/19/2003 14:23	975:32:00	975:27:00	975:17:00	31.23352899	
56	80	1091	0.00198	540	14.161	0.001834519	51.95	0.192471672	5450.17	94.26	101.35	5/22/2003 9:35	1042:44:00	1042:39:00	1042:29:00	32.29138172	
51	83	1083	0.0018	543	14.057	0.001649309	46.70	0.194120981	5496.87	95.07	102.16	5/25/2003 2:14	1107:23:00	1107:18:00	1107:08:00	33.27736969	
78	84	1083	0.00275	544	14.057	0.002517836	71.30	0.196638816	5568.17	96.30	103.39	5/30/2003 16:54	1242:03:00	1241:58:00	1241:48:00	35.24272975	
56	80	1075	0.00198	540	13.953	0.001807615	51.19	0.198446431	5619.36	97.19	104.28	6/2/2003 16:23	1313:32:00	1313:27:00	1313:17:00	36.24270041	
34	82	1084	0.0012	542	14.070	0.001102585	31.22	0.199549016	5650.58	97.73	104.82	6/5/2003 11:40	1380:49:00	1380:44:00	1380:34:00	37.15934158	
55	80	1078	0.00194	540	13.992	0.001780291	50.41	0.201329307	5700.99	98.60	105.69	6/9/2003 14:13	1479:22:00	1479:17:00	1479:07:00	38.46253588	
45	80	1075	0.00159	540	13.953	0.001452548	41.13	0.202781855	5742.12	99.31	106.40	6/12/2003 13:50	1550:59:00	1550:54:00	1550:44:00	39.38252574	
39	81	1085	0.00138	541	14.083	0.001268237	35.91	0.204050091	5778.03	99.93	107.02	6/15/2003 15:03	1624:12:00	1624:07:00	1623:57:00	40.30136474	
38	84	1081	0.00134	544	14.031	0.001224373	34.67	0.205274464	5812.70	100.53	107.62	6/18/2003 14:06	1695:15:00	1695:10:00	1695:00:00	41.17341375	
22	80	1085	0.00078	540	14.083	0.00071674	20.30	0.205991204	5833.00	100.88	107.97	6/20/2003 14:15	1743:24:00	1743:19:00	1743:09:00	41.75404172	
30	83	1079	0.00106	543	14.005	0.000966598	27.37	0.206957803	5860.37	101.36	108.45	6/23/2003 11:30	1812:39:00	1812:34:00	1812:24:00	42.57522754	
28	80	1078	0.00099	540	13.992	0.00090633	25.66	0.207864132	5886.03	101.80	108.89	6/25/2003 16:27	1865:36:00	1865:31:00	1865:21:00	43.19259196	
18	80	1082	0.00064	540	14.044	0.000584802	16.56	0.208448935	5902.59	102.09	109.18	6/27/2003 15:21	1912:30:00	1912:25:00	1912:15:00	43.73213921	
19	80	1088	0.00067	540	14.122	0.000620715	17.58	0.20906965	5920.17	102.39	109.48	6/30/2003 11:20	1980:29:00	1980:24:00	1980:14:00	44.50262165	
32	81	1078	0.00113	541	13.992	0.001033891	29.28	0.21010354	5949.45	102.90	109.99	7/3/2003 9:59	2051:08:00	2051:03:00	2050:53:00	45.28943953	
28	80	1078	0.00099	540	13.992	0.00090633	25.66	0.21100987	5975.11	103.34	110.43	7/5/2003 20:06	2109:15:00	2109:10:00	2109:00:00	45.92657183	
12	81	1081	0.00042	541	14.031	0.000388788	11.01	0.211398658	5986.12	103.53	110.62	7/7/2003 14:12	2151:21:00	2151:16:00	2151:06:00	46.38264762	
31	79	1081	0.00109	539	14.031	0.001008096	28.55	0.212406754	6014.67	104.02	111.12	7/11/2003 16:18	2249:27:00	2249:22:00	2249:12:00	47.42836704	
27	80	1084	0.00095	540	14.070	0.000878825	24.89	0.213285579	6039.55	104.46	111.55	7/15/2003 14:02	2343:11:00	2343:06:00	2342:56:00	48.40643897	
39	78	1079	0.00138	538	14.005	0.001268256	35.91	0.214553835	6075.47	105.08	112.17	7/21/2003 16:37	2489:46:00	2489:41:00	2489:31:00	49.89756173	
39	80	1081	0.00138	540	14.031	0.001265901	35.85	0.215819736	6111.31	105.70	112.79	7/28/2003 20:35	2661:44:00	2661:39:00	2661:29:00	51.59198904	
33	79	1079	0.00117	539	14.005	0.001071149	30.33	0.216890885	6141.64	106.22	113.31	8/4/2003 13:52	2823:01:00	2822:56:00	2822:46:00	53.13206816	
32	78	1086	0.00113	538	14.096	0.001047371	29.66	0.217938257	6171.30	106.73	113.82	8/11/2003 14:07	2991:16:00	2991:11:00	2991:01:00	54.69247358	
36	79	1082	0.00127	539	14.044	0.001171775	33.18	0.219110032	6204.48	107.31	114.40	8/18/2003 20:18	3165:27:00	3165:22:00	3165:12:00	56.26233198	
29	80	1083	0.00102	540	14.057	0.000943053	26.70	0.220053084	6231.19	107.77	114.86	8/24/2003 22:55	3312:04:00	3311:59:00	3311:49:00	57.55055748	
24	81	1086	0.00085	541	14.096	0.000781173	22.12	0.220834257	6253.31	108.15	115.24	9/1/2003 14:58	3496:07:00	3496:02:00	3495:52:00	59.12796857	
23	83	1084	0.00081	543	14.070	0.000744493	21.08	0.22157875	6274.39	108.52	115.61	9/8/2003 14:10	3663:19:00	3663:14:00	3663:04:00	60.52533905	
25	80	1085	0.00088	540	14.083	0.000814478	23.06	0.222393227	6297.45	108.92	116.01	9/15/2003 15:21	3832:30:00	3832:25:00	3832:15:00	61.9071886	
32	80	1084	0.00113	540	14.070	0.001041571	29.49	0.223434798	6326.95	109.43	116.52	9/23/2003 10:56	4020:05:00	4020:00:00	4019:50:00	63.4041271	
8	80	1091	0.00028	540	14.161	0.000262074	7.42	0.223696872	6334.37	109.55	116.64	9/26/2003 18:59	4100:08:00	4100:03:00	4099:53:00	64.03228352	
30	83	1085	0.00106	543	14.083	0.000971973	27.52	0.224668845	6361.89	110.03	117.12	10/6/2003 12:28	4333:37:00	4333:32:00	4333:22:00	65.8302109	
25	81	1084	0.00088	541	14.070	0.000812223	23.00	0.225481068	6384.89	110.43	117.52	10/14/2003 23:24	4536:33:00	4536:28:00	4536:18:00	67.353916	
20	82	1081	0.00071	542	14.031	0.000646785	18.31	0.226127853	6403.20	110.74	117.84	10/20/2003 15:46	4672:55:00	4672:50:00	4672:40:00	68.35873512	
13	82	1075	0.00046	542	13.953	0.000418076	11.84	0.226545929	6415.04	110.95	118.04	10/27/2003 15:13	4840:22:00	4840:17:00	4840:07:00	69.57274371	
11	80	1080	0.00039	540	14.018	0.000356719	10.10	0.226902648	6425.14	111.12	118.21	11/3/2003 10:19	5003:28:00	5003:23:00	5003:13:00	70.73518691	
18	81	1085	0.00064	541	14.083	0.00058534	16.57	0.227487988	6441.72	111.41	118.50	11/10/2003 11:34	5172:43:00	5172:38:00	5172:28:00	71.92160083	
27	83	1069	0.00095	543	13.875	0.000861876	24.41	0.228349864	6466.12	111.83	118.92	11/17/2003 16:38	5345:47:00	5345:42:00	5345:32:00	73.11486397	
7	81	1086	0.00025	541	14.096	0.000227842	6.45	0.228577706	6472.58	111.94	119.04	11/24/2003 14:32	5511:41:00	5511:36:00	5511:26:00	74.2407121	
18	84	1090	0.00064	544	14.148	0.000584795	16.56	0.229162501	6489.13	112.23	119.32	12/4/2003 20:26	5757:35:00	5757:30:00	5757:20:00	75.87874098	

15	83	1083	0.00053	543	14.057	0.000485091	13.74	0.229647591	6502.87	112.47	119.56	12/10/2003 15:05	5896:14:00	5896:09:00	5895:59:00	76.78693465		
18	88	1087	0.00064	548	14.109	0.000578928	16.39	0.23022652	6519.26	112.75	119.84	12/16/2003 14:30	6039:39:00	6039:34:00	6039:24:00	77.71518513		
17	85	1081	0.0006	545	14.031	0.000546741	15.48	0.23077326	6534.75	113.02	120.11	12/22/2003 16:14	6185:23:00	6185:18:00	6185:08:00	78.64720805		
13	83	1082	0.00046	543	14.044	0.000420024	11.89	0.231193284	6546.64	113.23	120.32	12/29/2003 14:41	6351:50:00	6351:45:00	6351:35:00	79.69838978		
3	86	1103	0.00011	546	14.316	9.82669E-05	2.78	0.231291551	6549.42	113.27	120.36	1/6/2004 15:19	6544:28:00	6544:23:00	6544:13:00	80.89787801		
8	81	1093	0.00028	541	14.187	0.000262069	7.42	0.23155362	6556.84	113.40	120.49	1/12/2004 11:49	6684:58:00	6684:53:00	6684:43:00	81.76164545		
13	80	1089	0.00046	540	14.135	0.00042509	12.04	0.23197871	6568.88	113.61	120.70	1/21/2004 10:41	6899:50:00	6899:45:00	6899:35:00	83.06523541		
5	80	1091	0.00018	540	14.161	0.000163796	4.64	0.232142506	6573.52	113.69	120.78	1/27/2004 10:17	7043:26:00	7043:21:00	7043:11:00	83.92516508		
12	80	1085	0.00042	540	14.083	0.000390949	11.07	0.232533456	6584.59	113.88	120.97	2/2/2004 15:47	7192:56:00	7192:51:00	7192:41:00	84.81116279		
10	84	1091	0.00035	544	14.161	0.000325184	9.21	0.23285864	6593.80	114.04	121.13	2/9/2004 10:40	7355:49:00	7355:44:00	7355:34:00	85.76605778		
3	80	1091	0.00011	540	14.161	9.82778E-05	2.78	0.232956917	6596.58	114.09	121.18	2/16/2004 14:31	7527:40:00	7527:35:00	7527:25:00	86.76212691		
8	80	1086	0.00028	540	14.096	0.000260873	7.39	0.233217791	6603.97	114.22	121.31	2/23/2004 14:39	7695:48:00	7695:43:00	7695:33:00	87.72570889		
5	80	1091	0.00018	540	14.161	0.000163796	4.64	0.233381587	6608.61	114.30	121.39	3/2/2004 10:52	7884:01:00	7883:56:00	7883:46:00	88.79198537		
10	80	1088	0.00035	540	14.122	0.000326692	9.25	0.233708279	6617.86	114.46	121.55	3/8/2004 10:16	8027:25:00	8027:20:00	8027:10:00	89.59585184		
10	80	1081	0.00035	540	14.031	0.00032459	9.19	0.234032869	6627.05	114.62	121.71	3/15/2004 11:49	8196:58:00	8196:53:00	8196:43:00	90.53710105		
-1	81	1097	-4E-05	541	14.239	-3.28785E-05	-0.93	0.23399999	6626.12	114.60	121.69	3/22/2004 10:11	8363:20:00	8363:15:00	8363:05:00	91.45126207		
5	81	1088	0.00018	541	14.122	0.000163044	4.62	0.234163034	6630.73	114.68	121.77	3/30/2004 20:42	8565:51:00	8565:46:00	8565:36:00	92.55187734		
16	83	1080	0.00057	543	14.018	0.000515997	14.61	0.234679031	6645.35	114.93	122.02	4/6/2004 14:49	8727:58:00	8727:53:00	8727:43:00	93.42358731		
-3	81	1086	-0.0001	541	14.096	-9.76466E-05	-2.77	0.234581385	6642.58	114.88	121.98	4/12/2004 15:06	8872:15:00	8872:10:00	8872:00:00	94.19262179		
7	81	1088	0.00025	541	14.122	0.000228262	6.46	0.234809646	6649.04	115.00	122.09	4/19/2004 14:36	9039:45:00	9039:40:00	9039:30:00	95.07759989		
3	80	1090	0.00011	540	14.148	9.81877E-05	2.78	0.234907834	6651.82	115.04	122.14	4/26/2004 11:39	9204:48:00	9204:43:00	9204:33:00	95.94164893		
7	80	1083	0.00025	540	14.057	0.000227633	6.45	0.235135467	6658.27	115.16	122.25	5/3/2004 19:59	9381:08:00	9381:03:00	9380:53:00	96.85625087		
12	80	1081	0.00042	540	14.031	0.000389508	11.03	0.235524975	6669.30	115.35	122.44	5/10/2004 14:06	9543:15:00	9543:10:00	9543:00:00	97.68955932		
9	80	1082	0.00032	540	14.044	0.000292401	8.28	0.235817377	6677.58	115.49	122.58	5/17/2004 9:49	9706:58:00	9706:53:00	9706:43:00	98.52393956		
14	80	1075	0.00049	540	13.953	0.000451904	12.80	0.23626928	6690.38	115.71	122.80	5/24/2004 10:36	9875:45:00	9875:40:00	9875:30:00	99.37680816		
13	80	1077	0.00046	540	13.979	0.000420406	11.90	0.236689686	6702.28	115.92	123.01	6/1/2004 10:58	10068:07:00	10068:02:00	10067:52:00	100.3400053		
14	82	1076	0.00049	542	13.966	0.000450655	12.76	0.237140341	6715.04	116.14	123.23	6/7/2004 10:40	10211:49:00	10211:44:00	10211:34:00	101.0535337		
12	83	1078	0.00042	543	13.992	0.000386281	10.94	0.237526622	6725.98	116.33	123.42	6/14/2004 10:54	10380:03:00	10379:58:00	10379:48:00	101.8825304		
4	81	1082	0.00014	541	14.044	0.000129716	3.67	0.237656338	6729.65	116.39	123.48	6/23/2004 16:31	10601:40:00	10601:35:00	10601:25:00	102.9643951		
6	81	1083	0.00021	541	14.057	0.000194754	5.51	0.237851092	6735.17	116.49	123.58	7/1/2004 11:58	10789:07:00	10789:02:00	10788:52:00	103.8706728		
-8	73	1081	-0.0003	533	14.031	-0.000263082	-7.45	0.237588009	6727.72	116.36	123.45	7/7/2004 10:37	10931:46:00	10931:41:00	10931:31:00	104.5550891		
14	81	1082	0.00049	541	14.044	0.000454006	12.86	0.238042015	6740.57	116.58	123.67	7/13/2004 14:24	11079:33:00	11079:28:00	11079:18:00	105.2594414		
8	81	1080	0.00028	541	14.018	0.000258952	7.33	0.238300967	6747.91	116.71	123.80	7/19/2004 11:25	11220:34:00	11220:29:00	11220:19:00	105.9271762		
-5	80	1091	-0.0002	540	14.161	-0.000163796	-4.64	0.238137171	6743.27	116.63	123.72	7/26/2004 10:27	11387:36:00	11387:31:00	11387:21:00	106.7126984		
15	82	1079	0.00053	542	14.005	0.000484191	13.71	0.238621362	6756.98	116.86	123.95	8/2/2004 14:47	11559:56:00	11559:51:00	11559:41:00	107.5171304		
1	81	1086	3.5E-05	541	14.096	3.25489E-05	0.92	0.238653911	6757.90	116.88	123.97	8/9/2004 14:06	11727:15:00	11727:10:00	11727:00:00	108.2924282		
-2	80	1088	-7E-05	540	14.122	-6.53384E-05	-1.85	0.238588572	6756.05	116.85	123.94	8/16/2004 11:09	11892:18:00	11892:13:00	11892:03:00	109.0518225		
14	81	1076	0.00049	541	13.966	0.000451488	12.78	0.23904006	6768.84	117.07	124.16	8/23/2004 14:15	12063:24:00	12063:19:00	12063:09:00	109.8335104		
-2	77	1087	-7E-05	537	14.109	-6.5643E-05	-1.86	0.238974417	6766.98	117.04	124.13	8/30/2004 16:50	12233:59:00	12233:54:00	12233:44:00	110.6073385		
3	80	1088	0.00011	540	14.122	9.80076E-05	2.78	0.239072425	6769.75	117.08	124.18	9/7/2004 16:02	12425:11:00	12425:06:00	12424:56:00	111.4683064		
15	81	1073	0.00053	541	13.927	0.000482388	13.66	0.239554813	6783.41	117.32	124.41	9/14/2004 18:43	12595:52:00	12595:47:00	12595:37:00	112.2313088		
-2	81	1083	-7E-05	541	14.057	-6.49179E-05	-1.84	0.239489895	6781.57	117.29	124.38	9/21/2004 16:49	12761:58:00	12761:53:00	12761:43:00	112.9688748		
-5	79	1089	-0.0002	539	14.135	-0.000163799	-4.64	0.239326096	6776.93	117.21	124.30	9/28/2004 21:09	12934:18:00	12934:13:00	12934:03:00	113.729064		
10	81	1085	0.00035	541	14.083	0.000325189	9.21	0.239651285	6786.14	117.37	124.46	10/8/2004 10:15	13163:24:00	13163:19:00	13163:09:00	114.7318613		
5	80	1079	0.00018	540	14.005	0.000161995	4.59	0.23981328	6790.73	117.45	124.54	10/19/2004 14:17	13431:26:00	13431:21:00	13431:11:00	115.8940608		
5	81	1086	0.00018	541	14.096	0.000162744	4.61	0.239976024	6795.34	117.53	124.62	10/27/2004 14:07	13623:16:00	13623:11:00	13623:01:00	116.7187503		
0	80	1095	0	540	14.213	0	0.00	0.239976024	6795.34	117.53	124.62	11/12/2004 16:31	14009:40:00	14009:35:00	14009:25:00	118.3624377		
10	79	1080	0.00035	539	14.018	0.000324891	9.20	0.240300915	6804.54	117.69	124.78	11/24/2004 11:01	14292:10:00	14292:05:00	14291:55:00	119.5498501		
7	80	1081	0.00025	540	14.031	0.000227213	6.43	0.240528128	6810.97	117.80	124.89	12/3/2004 16:00	14513:09:00	14513:04:00	14512:54:00	120.4705358		
-14	79	1104	-0.0005	539	14.329	-0.000464956	-13.17	0.240063173	6797.81	117.57	124.66	12/14/2004 12:53	14774:02:00	14773:57:00	14773:47:00	121.5484814		
8	80	1100	0.00028	540	14.278	0.000264236	7.48	0.240327409	6805.29	117.70	124.79	12/23/2004 12:04	14989:13:00	14989:08:00	14988:58:00	122.4304565		
14	81	1085	0.00049	541	14.083	0.000455264	12.89	0.240782673	6818.18	117.92	125.01	12/31/2004 17:59	15187:08:00	15187:03:00	15186:53:00	123.2360878		
6	80	1081	0.00021	540	14.031	0.000194754	5.51	0.240977427	6823.70	118.02	125.11	1/10/2005 14:01	15423:10:00	15423:05:00	15422:55:00	124.1900425		
11	80	1078	0.00039	540	13.992	0.000356058	10.08	0.241333485	6833.78	118.19	125.28	1/20/2005 15:05	15664:14:00	15664:09:00	15663:59:00	125.1568349		
-8	80	1094	-0.0003	540	14.200	-0.000262795	-7.44	0.24107069	6826.34	118.06	125.15	1/27/2005 16:15	15833:24:00	15833:19:00	15833:09:00	125.8308388		
2	80	1093	7.1E-05	540	14.187	6.56386E-05	1.86	0.241136329	6828.19	118.09	125.19	2/3/2005 15:22	16000:31:00	16000:26:00	16000:16:00	126.4931487		
2	80	1093	7.1E-05	540	14.187	6.56386E-05	1.86	0.241201968	6830.05	118.13	125.22	2/10/2005 14:56	16168:05:00	16168:00:00	16167:50:00	127.1537783		
DECANISTERED 2/10/2005; sample air dried for 30 days																		

LUMAN'S LABORATORIES

P.O. Box 326 • Chetopa, KS 67336
(620) 236-7874

ANALYTICAL AND PHYSICAL TESTING

September 9, 2005

Layne Energy, Inc.
1900 Shawnee Mission Parkway
Mission Woods, KS 66205

Attn: Brent Nattrass

Please find listed below analysis on the following sample.

Lab ID. 90511 Sample ID. Layne-Christensen #13-28 Beurskens Well; SW SW 28-T.31S.-R.16E., Montgomery Country, Mineral Coal 772.0'-773.0'.

	As Received	Moisture Free	MAF
Moisture	1.12%		
Ash	13.27%	13.42%	
Volatile Matter	35.73%	36.14%	
Fixed Carbon	49.88%	50.44%	
BTU/lb	12,943	13,090	15,119
Sulfur	4.66%	4.71%	

Respectfully,

Carrol Luman

CGL:pdl
c: K. David Newell

APPENDIX 1

LUMAN'S LABORATORIES

P.O. Box 326 • Chetopa, KS 67336
(620) 236-7874

ANALYTICAL AND PHYSICAL TESTING

September 9, 2005

Layne Energy, Inc.
1900 Shawnee Mission Parkway
Mission Woods, KS 66205

Attn: Brent Nattrass

Please find listed below analysis on the following sample.

Lab ID. 90512 Sample ID. Layne-Christensen #13-28 Beurskens Well; SW SW 28-T.31S.-R.16E., Montgomery Country. Tebo Coal 838.3'-839.1'.

	As Received	Moisture Free	MAF
Moisture	1.29%		
Ash	23.52%	23.83%	
Volatile Matter	33.76%	34.20%	
Fixed Carbon	41.43%	41.97%	
BTU/lb	11,350	11,498	15,095
Sulfur	2.90%	2.94%	

Respectfully,

Carrol Luman

CGL:pdl
c: K. David Newell

APPENDIX I

LUMAN'S LABORATORIES

P.O. Box 326 • Chetopa, KS 67336
(620) 236-7874

ANALYTICAL AND PHYSICAL TESTING

September 9, 2005

Layne Energy, Inc.
1900 Shawnee Mission Parkway
Mission Woods, KS 66205

Attn: Brent Nattrass

Please find listed below analysis on the following sample.

Lab ID. 90513 Sample ID. Layne-Christensen #13-28 Beurskens Well;
SW SW 28-T.31S.-R.16E., Montgomery Country Weir-Pittsburg Coal 847.0'-848.0'.

	As Received	Moisture Free	MAF
Moisture	1.34%		
Ash	7.44%	7.54%	
Volatile Matter	39.07%	39.60%	
Fixed Carbon	52.15%	52.86%	
BTU/lb	14,016	14,206	15,364
Sulfur	3.31%	3.35%	

Respectfully,

Carrol Luman

CGL:pdl
c: K. David Newell

APPENDIX 1

LUMAN'S LABORATORIES

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1900 Shawnee Mission Parkway
Mission Woods, KS 66205

Attn: Brent Nattrass

Please find listed below analysis on the following sample.

Lab ID. 90514 Sample ID. Layne-Christensen #13-28 Beurskens Well; SW SW 28-T.31S.-R.16E., Montgomery Country. Weir-Pittsburg Coal 848.0'-849.0'.

	As Received	Moisture Free	MAF
Moisture	2.05%		
Ash	9.81%	10.01%	
Volatile Matter	36.34%	37.10%	
Fixed Carbon	51.80%	52.89%	
BTU/lb	13,297	13,575	15,086
Sulfur	4.36%	4.45%	

Respectfully,

Carrol Luman

CGL:pdl
c: K. David Newell

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Mission Woods, KS 66205

Attn: Brent Nattrass

Please find listed below analysis on the following sample.

Lab ID. 90601 Sample ID. Layne-Christensen #13-28 Beurskens Well; SW SW 28-T.31S.-R.16E., Montgomery Country. Dry Wood Coal 888.2'-889.2'.

	As Received	Moisture Free	MAF
Moisture	1.47%		
Ash	22.83%	23.17%	
Volatile Matter	34.75%	35.26%	
Fixed Carbon	40.95%	41.57%	
BTU/lb	11,160	11,326	14,741
Sulfur	9.25%	9.38%	

Respectfully,

Carrol Luman

CGL:pdl
c: K. David Newell

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1900 Shawnee Mission Parkway
Mission Woods, KS 66205

Attn: Brent Nattrass

Please find listed below analysis on the following sample.

Lab ID. 90602 Sample ID. Layne-Christensen #13-28 Beurskens Well;
SW SW 28-T.31S.-R.16E., Montgomery Country. Rowe Coal 1003.7'-1004.7'.

	As Received	Moisture Free	MAF
Moisture	1.67%		
Ash	18.14%	18.45%	
Volatile Matter	35.53%	36.14%	
Fixed Carbon	44.66%	45.41%	
BTU/lb	12,015	12,219	14,983
Sulfur	3.95%	4.01%	

Respectfully,

Carrol Luman

CGL:pdl
c: K. David Newell

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Mission Woods, KS 66205

Attn: Brent Nattrass

Please find listed below analysis on the following sample.

Lab ID. 90603 Sample ID. Layne-Christensen #13-28 Beurskens Well;
SW SW 28-T.31S.-R.16E., Montgomery Country. Riverton Coal 1053.7'-1054.7'.

	As Received	Moisture Free	MAF
Moisture	3.04%		
Ash	18.95%	19.55%	
Volatile Matter	29.51%	30.44%	
Fixed Carbon	48.50%	50.01%	
BTU/lb	11,231	11,583	14,398
Sulfur	8.35%	8.62%	

Respectfully,

Carrol Luman

CGL:pdl
c: K. David Newell

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Layne Energy, Inc.
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Mission Woods, KS 66205

Attn: Brent Nattrass

Please find listed below analysis on the following sample.

Lab ID. 90604 Sample ID. Layne-Christensen #13-28 Beurskens Well; SW SW 28-T.31S.-R.16E., Montgomery Country. Riverton Coal 1054.7'-1055.7'.

	As Received	Moisture Free	MAF
Moisture	1.46%		
Ash	14.87%	15.09%	
Volatile Matter	32.74%	33.23%	
Fixed Carbon	50.93%	51.68%	
BTU/lb	12,712	12,900	15,192
Sulfur	7.20%	7.31%	

Respectfully,

Carrol Luman

Carrol Luman

CGL:pdl
c: K. David Newell

APPENDIX