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# West Virginia Department of Environmental Protection

Bob Wise
Governor

Stephanie R. Timmermeyer
Cabinet Secretary

August 31, 2004



Donald S. Welsh
Regional Administrator
U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103

Re: Response to the EPA proposed modifications to the preliminary $PM_{2.5}$ designation recommendations for the State of West Virginia

Dear Mr. Welsh

In a letter to Governor Wise dated June 29, 2004, you advised that EPA intended to modify the State's designation recommendations by adding four counties to the potential $PM_{2.5}$ nonattainment areas (Harrison, Mason, Monongalia and Pleasants). We continue to believe that this unilateral action is unnecessary and ill-advised. EPA has made a radical departure from the approach used in the recent 8-hour ozone designations. The agency seems poised to subject these counties to the whole gamut of nonattainment requirements just because they contain power plants. It is particularly illogical and troubling because these facilities are almost certainly going to be regulated through other programs, including EPA's own Clean Air Interstate Rule (CAIR). EPA continues to place the states in the untenable position of recommending designations in the absence of a final implementation rule. Indeed, EPA has not even issued an implementation proposal. States can have little certainty about the consequences of nonattainment until the implementation rule is finalized.

The WVDEP has reviewed the information provided by EPA as justification for modifying the State's $PM_{2.5}$ recommendations. The WVDEP maintains that its original recommendation establishes the appropriate $PM_{2.5}$ nonattainment areas and boundaries. We consider EPA's modifications unwarranted and inconsistent with previous federal guidance[1]. Said guidance prescribes the MSA/CMSA as the presumptive nonattainment boundary and encourages states to harmonize ozone and $PM_{2.5}$ area recommendations. The WVDEP followed this guidance in recommending whole MSAs as nonattainment for ozone and $PM_{2.5}$ where appropriate. Hence the Charleston MSA, Huntington MSA, Parkersburg MSA, Weirton MSA and Wheeling MSA (all full MSA's) comprising nine counties were recommended as

[1]"Designations for the Fine Particle National Ambient Air Quality Standards," April 1, 2003 memorandum from Jeffrey Holmstead, Assistant Administrator to EPA Regional Administrators

nonattainment areas for both the 8-hour ozone and $PM_{2.5}$ standards. Further, we identified two additional counties as $PM_{2.5}$ nonattainment areas, Berkeley and Marion.

EPA has modified the State of West Virginia's initial non-attainment area for the Charleston, Marion County and Parkersburg areas to include the adjacent counties of Mason, Monongalia, Harrison and Pleasants County, respectively. EPA's proposed modifications are inconsistent with the approach taken under the 8-hour designations. If finalized as is, they will generate unnecessary inconsistencies with the formal 8-hour nonattainment areas and unduly complicate control strategy implementation. EPA disregards the undisputed fact that $PM_{2.5}$ monitors in both Monongalia and Harrison County show attainment with the $PM_{2.5}$ standard. EPA's modification cites that the additional counties contain large emitting facilities that allegedly contribute to the violating areas. The WVDEP observes that large emitters which are adjacent to, or near, the primary $PM_{2.5}$ nonattainment area would be assessed as to their impact in any nonattainment evaluation such as modeling, attainment demonstrations or control strategy development. That analysis would be regional in scope and include the large nearby emitters which would eliminate the need to expand the boundaries to include an adjacent county, or parts thereof, in the initial non-attainment area. The WVDEP possesses the authority to regulate any stationary source within the State that may require emissions control to achieve and maintain the National Ambient Air Quality Standards, regardless of whether the source is located in a nonattainment area. The WVDEP would exercise this authority as needed to achieve attainment in a timely manner.

Regarding the weighted emissions analysis, the WVDEP has serious concerns about the data used to calculate the score. EPA has paired a rural IMPROVE monitor with an urban STN monitor. The principles of collection and analysis for these two monitor types and programs are distinctly different. In areas where there are no STN monitors, data from nearby monitors were used. This is the case for all the West Virginia weighted emission analysis as there was no STN data available state-wide. Therefore, it is impossible to reach valid conclusions about the representativeness of the data in regard to the location of the STN monitor or if it may be influenced by nearby sources, vehicular activities or localized weather patterns. It is unclear, for example, how the STN in Pittsburgh, PA may be representative of the conditions in Fairmont, (Marion County, WV) even though EPA uses the Pittsburgh, PA monitor in their analysis. In addition, there are significant questions concerning the preparation of the IMPROVE data and STN data in order to calculate urban excess as part of the weighted emission score. All IMPROVE data is blank-corrected prior to reporting. It is unknown if EPA blank-corrected the STN data. It is unknown if the organic carbon component was calculated equivalently for both types of monitors or if EPA had taken the known discrepancies into consideration for this the analysis. Also it is unclear if EPA reconciled any of the differences in the IMPROVE and STN analytical techniques and data outputs or considered the impact of these differences on the weighted emission score.

In an effort to further evaluate EPA's position, the WVDEP analyzed certain elevated $PM_{2.5}$ days using back trajectory analyses[2]. These analyses can be found in Attachment-1. Generally, the trajectory analyses indicated that during high $PM_{2.5}$ days, the adjacent counties were not likely contributors. The counties of Monongalia, Harrison and Pleasants do not appear to impact the non-attaining areas on these elevated days. The exception may be Mason County.

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[2]The WVDEP gratefully acknowledges the NOAA Air Resources Laboratory (ARL) for the provision of the HYSPLIT (HYbrid Single-Particle Lagrangian Integrated Trajectory) transport and dispersion model and the READY website (http://www.arl.noaa.gov/ready.html) used in these analyses.

As it is subjected to the meteorological influence of the Ohio River Valley, it appears to be upwind and within the trajectory vector during some of the high days evaluated in our analysis. However, culpability should not be considered conclusive. That entire sub-region of the Ohio River Valley contains many large emitting sources which could just as easily impact the violating monitor. Based upon these considerations, the WVDEP strongly encourages EPA to remove all four additional counties from the potential $PM_{2.5}$ nonattainment areas. While it may be beneficial to perform additional analysis, it is unclear as to the benefit to be gained by including the entire county when, in fact, EPA admits that only the large emitters are of significant interest.

Considering the above, the WVDEP has analyzed the rationale which EPA has presented. We maintain that all four counties should be withdrawn from the final nonattainment designations. If EPA inappropriately acts contrarily to the State's recommendations, then we believe that designation of partial counties is warranted for each case where EPA intends final modification of the state recommendation by adding one or more whole counties to the presumed nonattainment area. That is, if EPA inappropriately insists on modifying the state's recommendation, then we believe that only portions of the additional counties should be added to the presumptive nonattainment areas. EPA has inferred significant contributions from the these counties based primarily upon emissions data. Nevertheless, the dominant emissions originate almost exclusively from very small geographic areas within these counties. Therefore, it is appropriate to designate only portions of those counties which EPA wishes to add. Hence, if EPA adds one or more counties to the state's recommended $PM_{2.5}$ nonattainment areas, then West Virginia proposes that the boundaries of the nonattainment areas in the added nonattainment counties be limited as described in Attachment-2.

If you or your staff have any questions or would like additional information, please feel free to contact me at the address or phone number shown in the letterhead. Alternatively, Director John Benedict (Division of Air Quality) may be reached at (304) 926-3726.

Sincerely,

Stephanie R. Timmermeyer
Cabinet Secretary

cc: Ms. Judith M. Katz, Director
Air Protection Division

John Benedict, Director

# ATTACHMENT-1

## Backward Trajectories Supporting the State of West Virginia's $PM_{2.5}$ Recommendations

August 2004

**Attachment-1.01**

**Selected Episodes for the Fairmont Monitor**

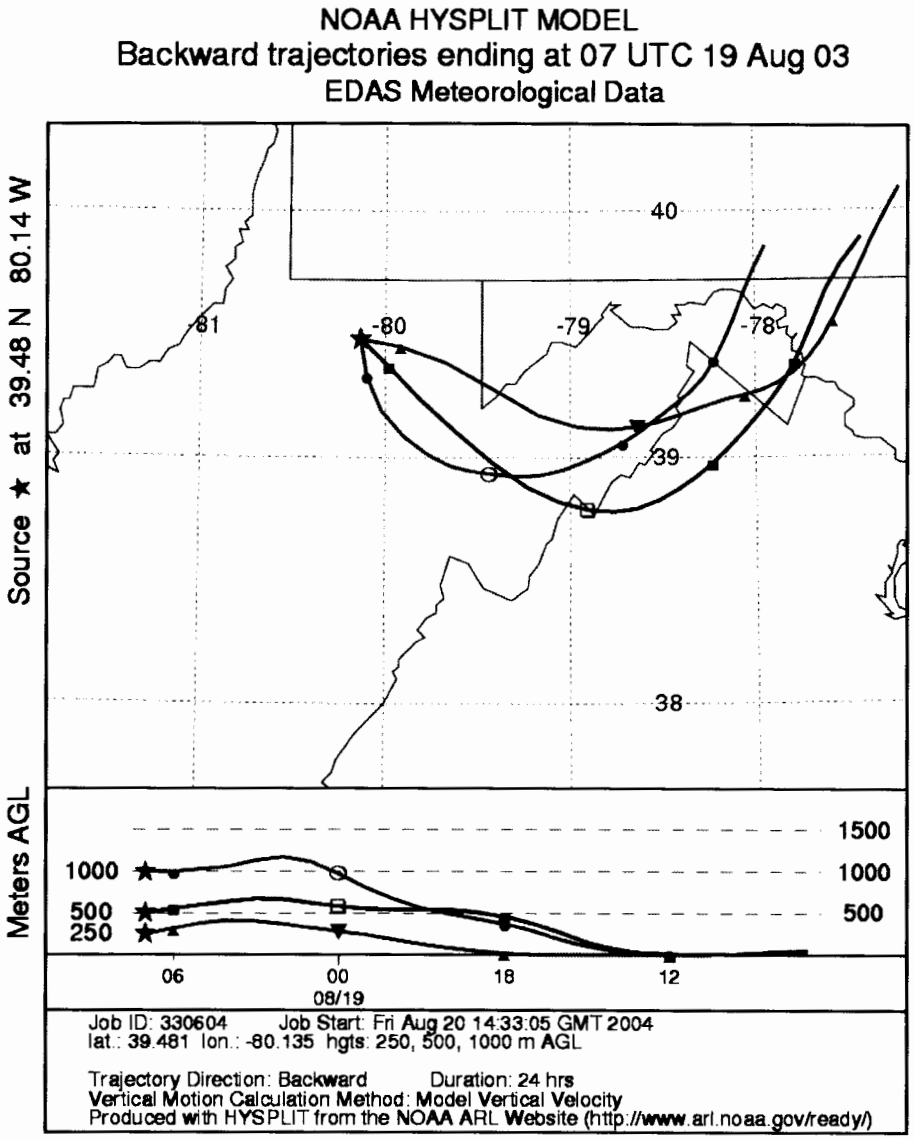



**Figure 1** Fairmont monitor: 35.5 μg/m$^3$
Indicated contribution from the DC/Baltimore Corridor

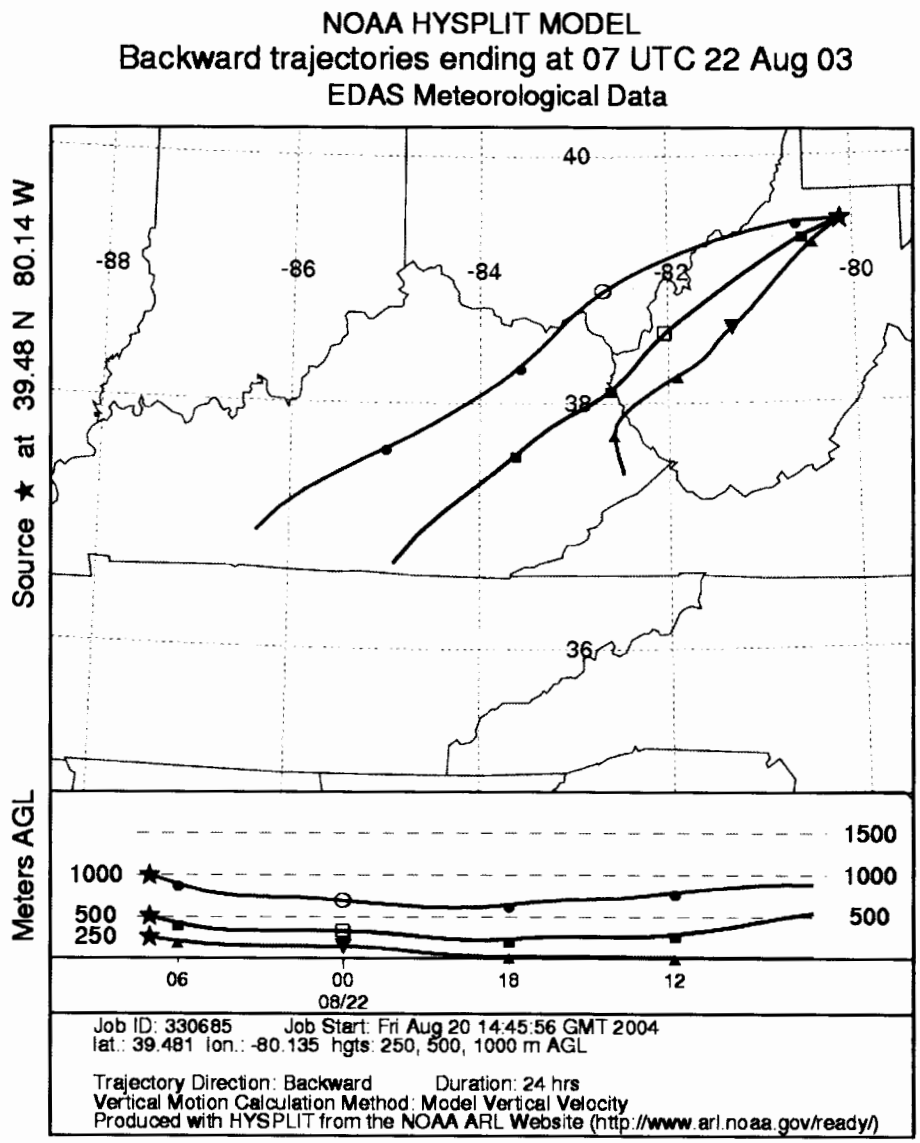



**Figure 2** Fairmont monitor: 33.7 μg/m$^3$
Indicated contribution from the Ohio River Valley

**Attachment-1.02**

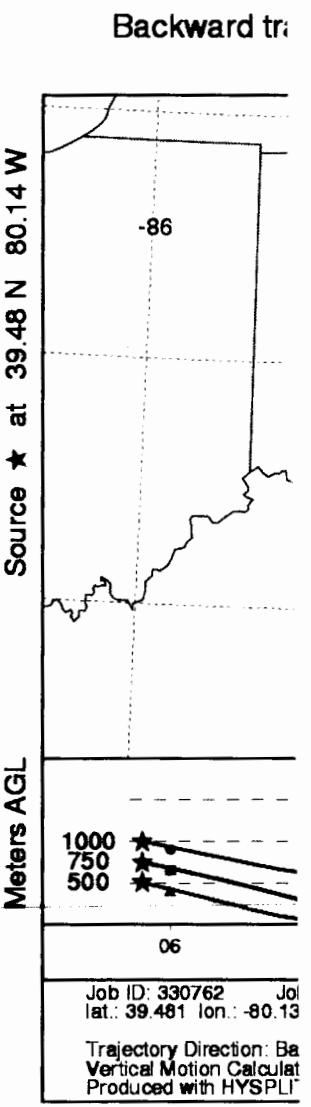



**Figure 3** Fairm
Indicated contri

**Attachment-1.03**

**Selected Episodes for the Fairmont Monitor**

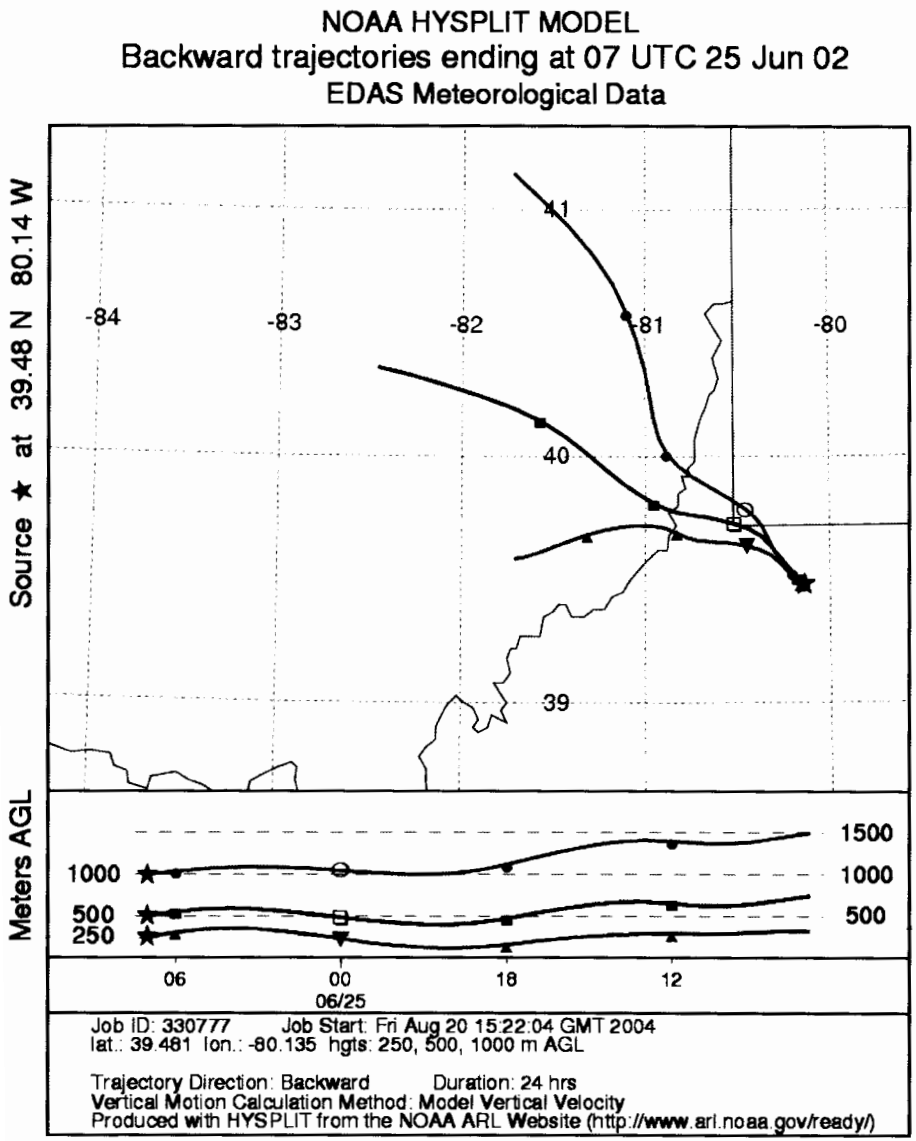



**Figure 5** Fairmont monitor:58.0 μg/m$^3$
Indicated contribution from WV Northern Panhandle & OH

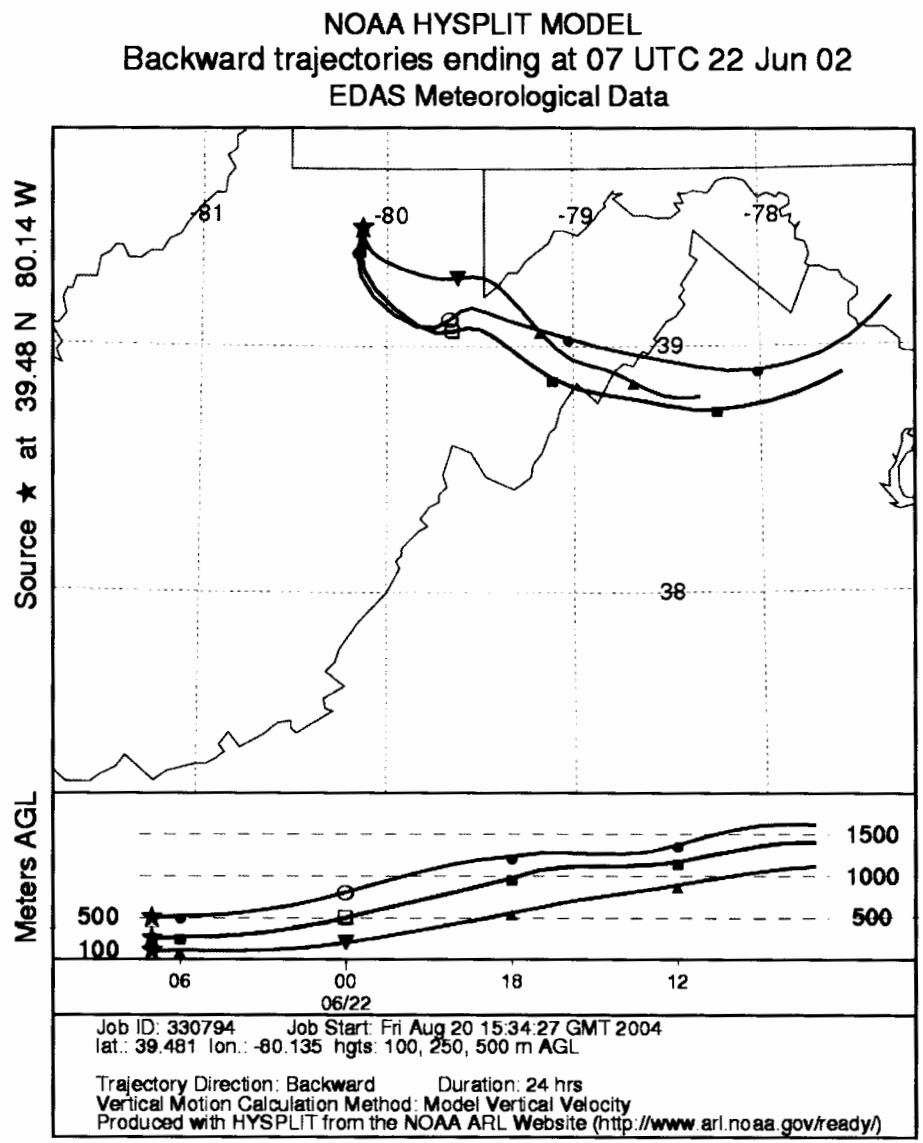



**Figure 6** Fairmont monitor:40.2 μg/m$^3$
Indicated contribution from northern VA

**Attachment-1.04**

**Selected Episodes for the Fairmont Monitor**

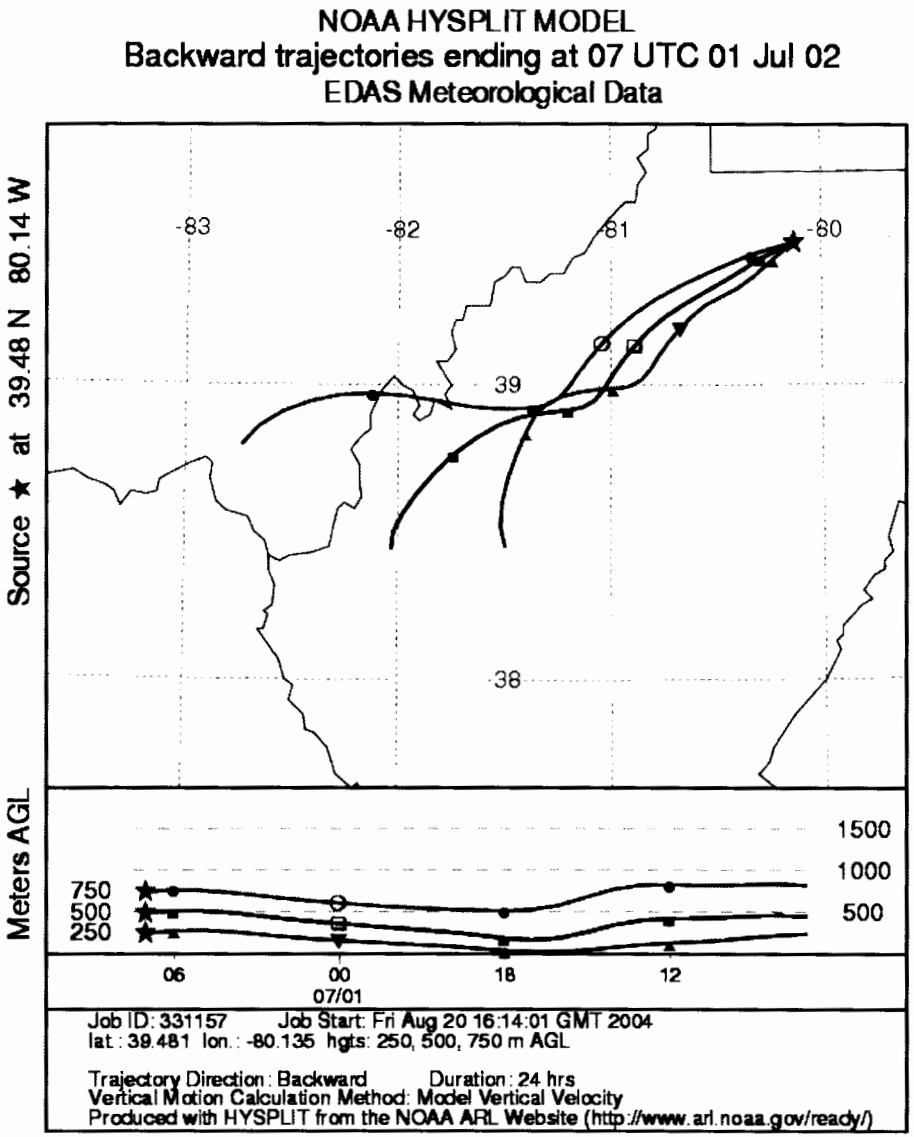



**Figure 7** Fairmont monitor: 47.2 μg/m$^3$
Indicated contribution from Charleston MSA & points west

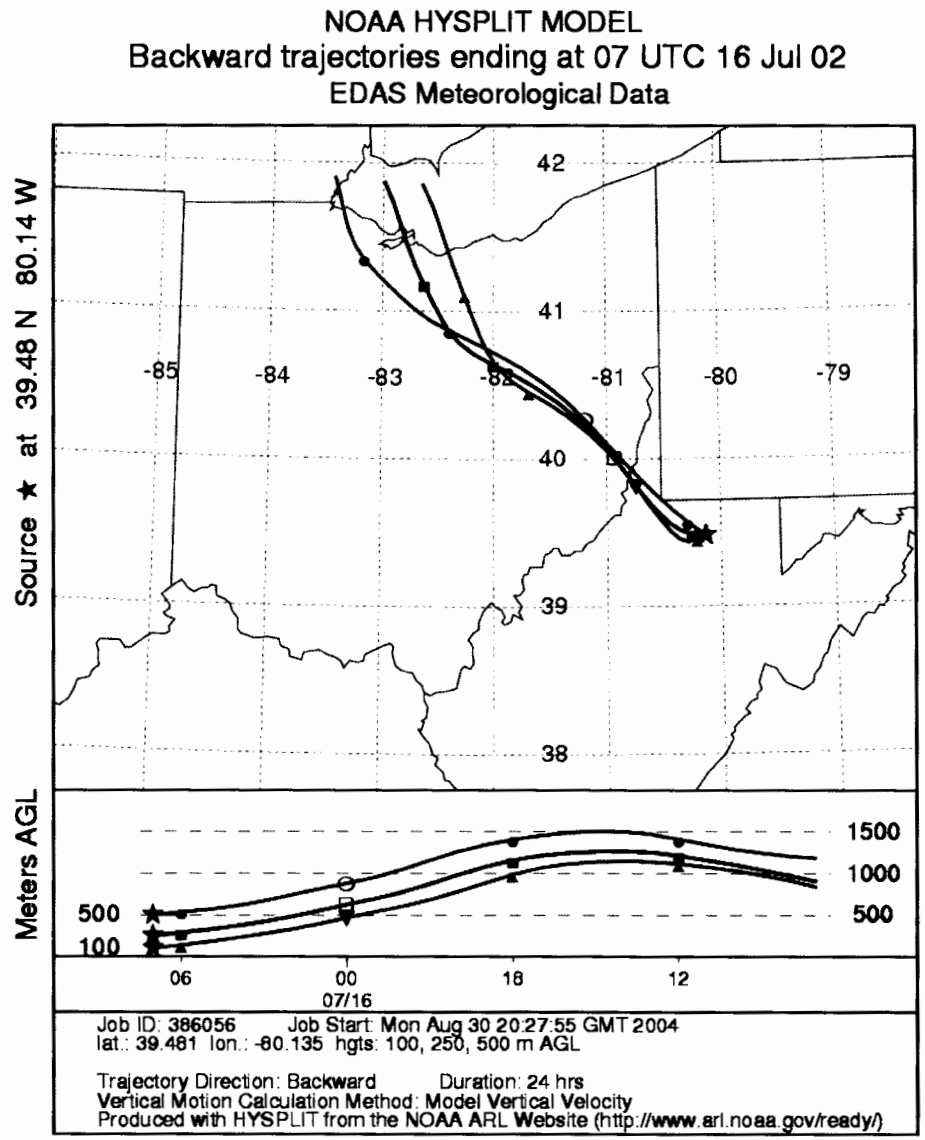



**Figure 8** Fairmont monitor:39.7 μg/m$^3$
Indicated contribution from WV Northern Panhandle & NE OH

**Attachment-1.05**

**Selected Episodes for the Parkersburg (Vienna) Monitor**

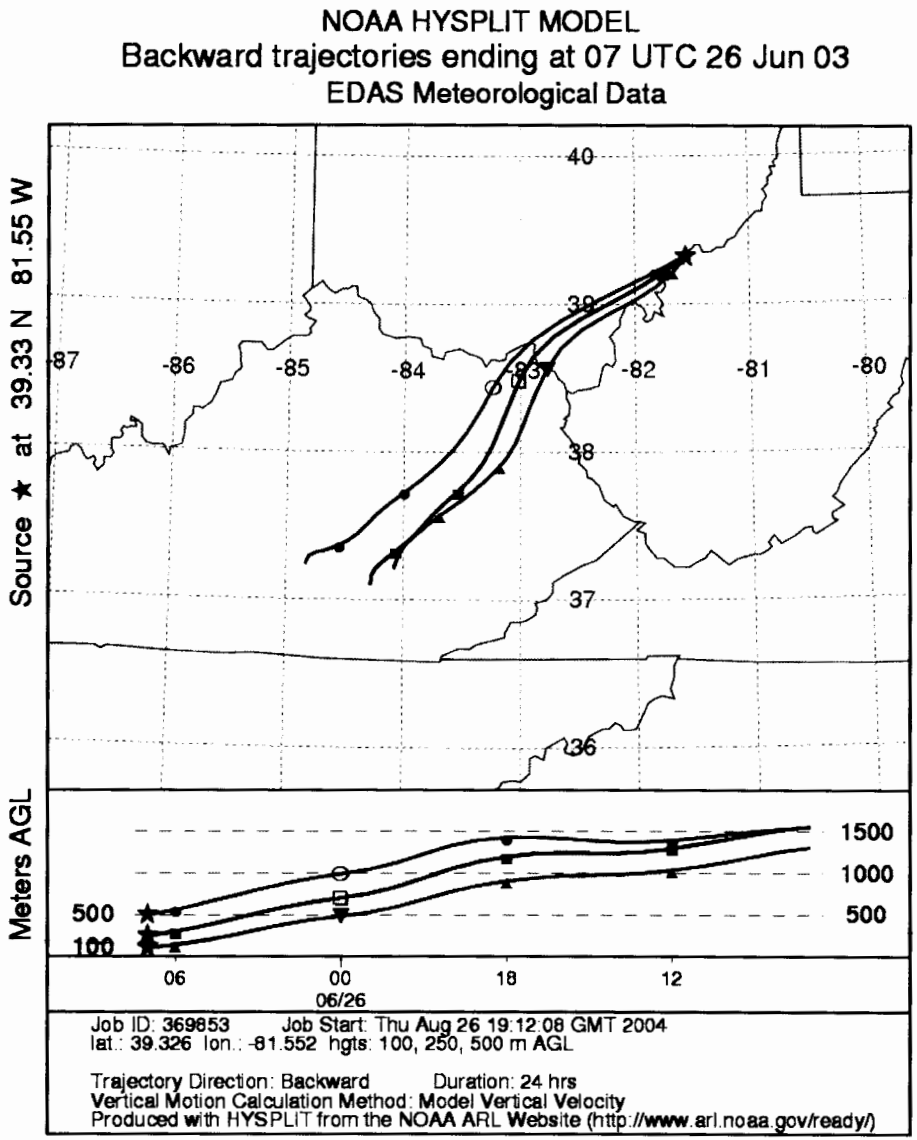



**Figure 9** Parkersburg (Vienna) monitor: 41.9 μg/m$^3$
Contributions from southern OH & east central KY

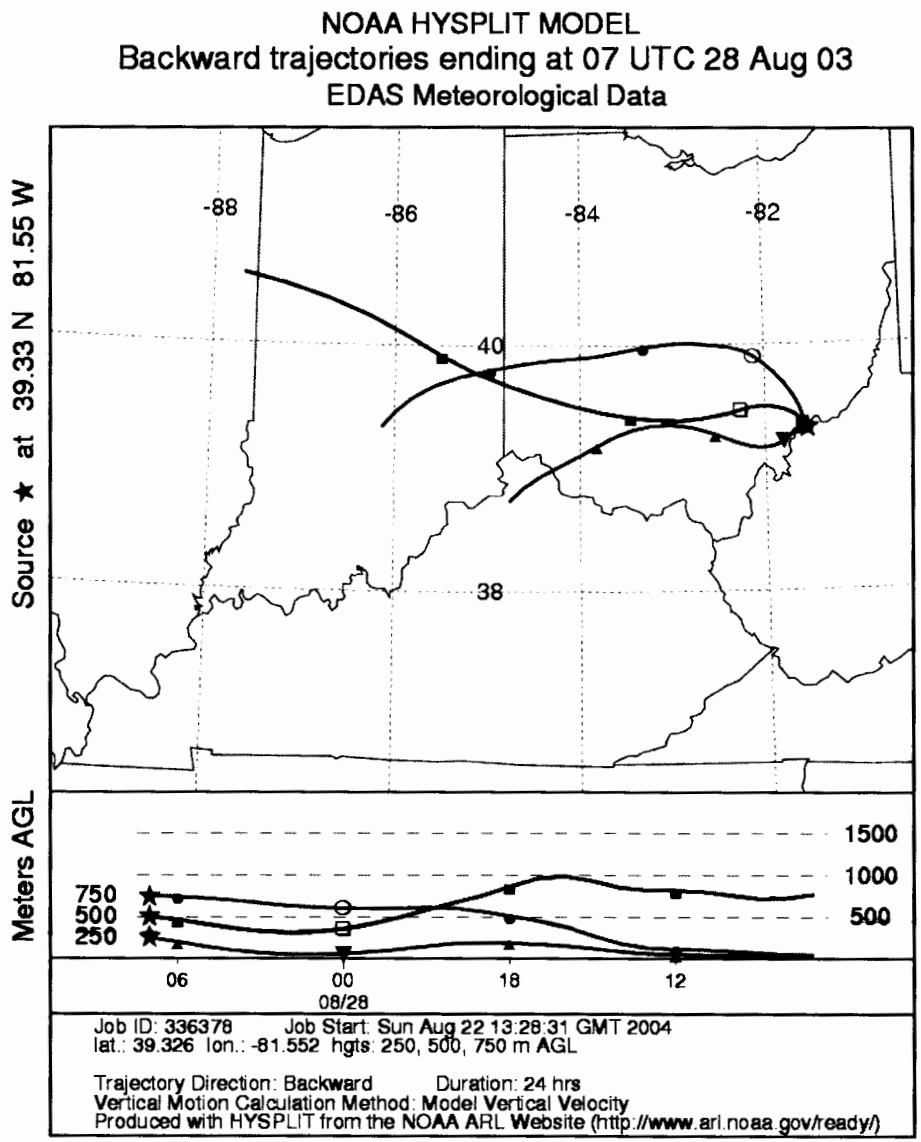



**Figure 10** Parkersburg (Vienna) monitor: 32.8 μg/m$^3$
Contributions from southern OH

**Attachment-1.06**

**Selected Episodes for the Parkersburg (Vienna) Monitor**

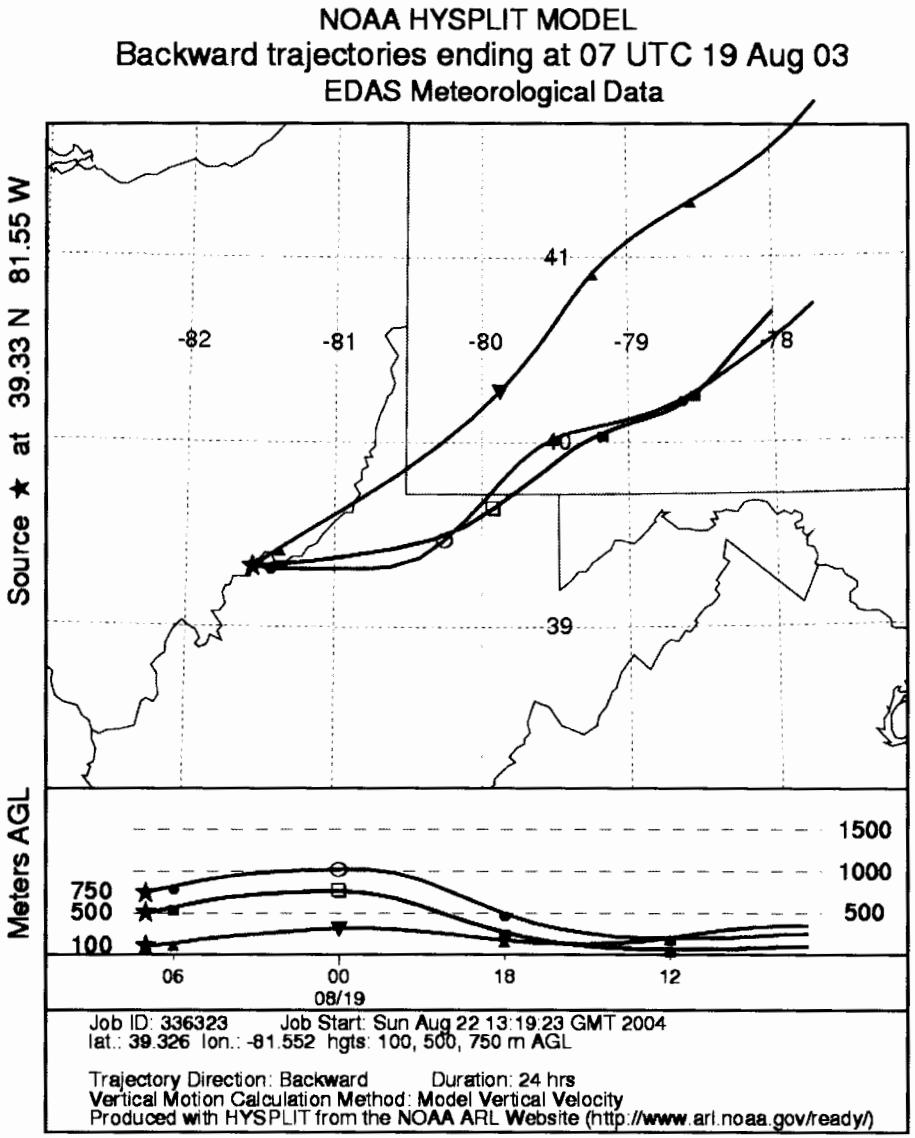



**Figure 11** Parkersburg (Vienna) monitor: 32.0 μg/m$^3$
Contributions from WV northern panhandle & SW PA

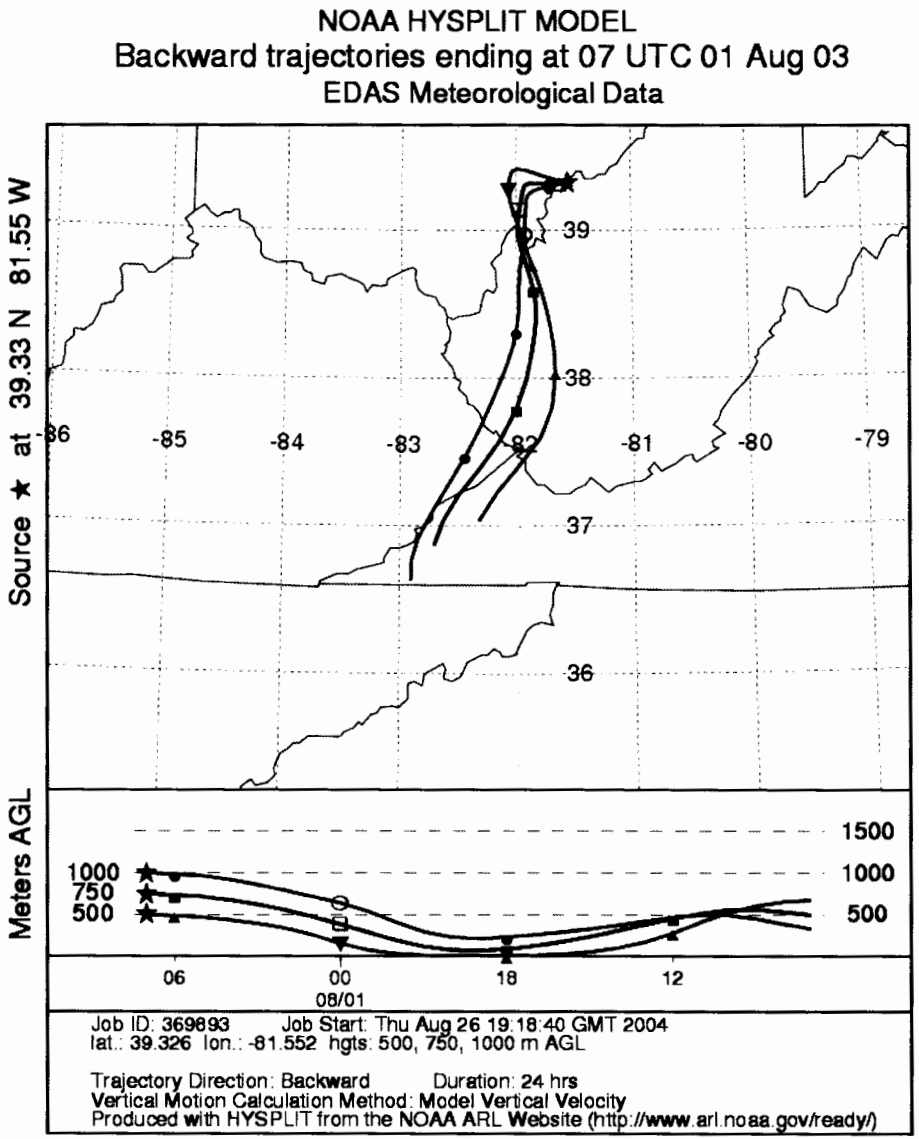



**Figure 12** Parkersburg (Vienna) monitor: 31.8 μg/m$^3$
Contributions from Charleston MSA & Ohio River Valley

**Attachment-1.07**

**Selected Episodes for the Parkersburg (Vienna) Monitor**

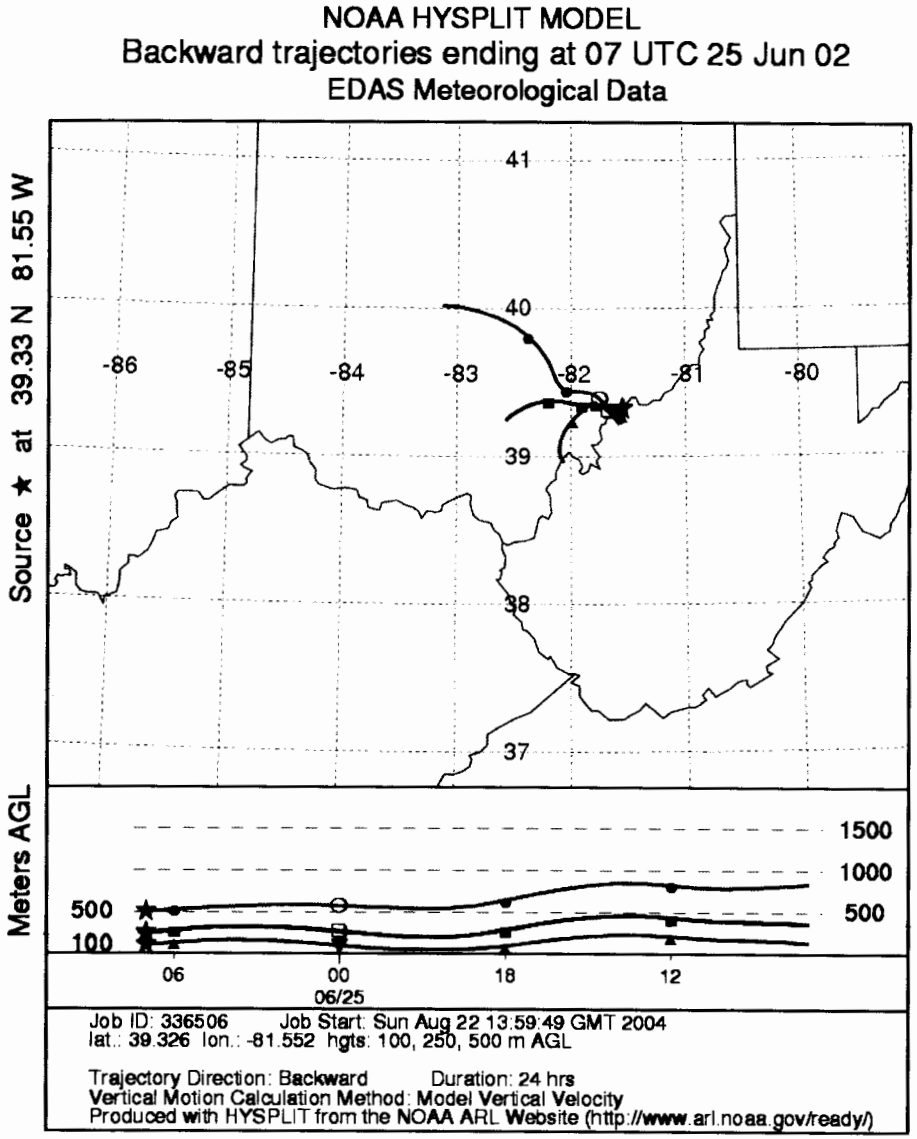



**Figure 13** Parkersburg (Vienna) monitor: 59.8 μg/m$^3$
Contributions from southeastern Ohio

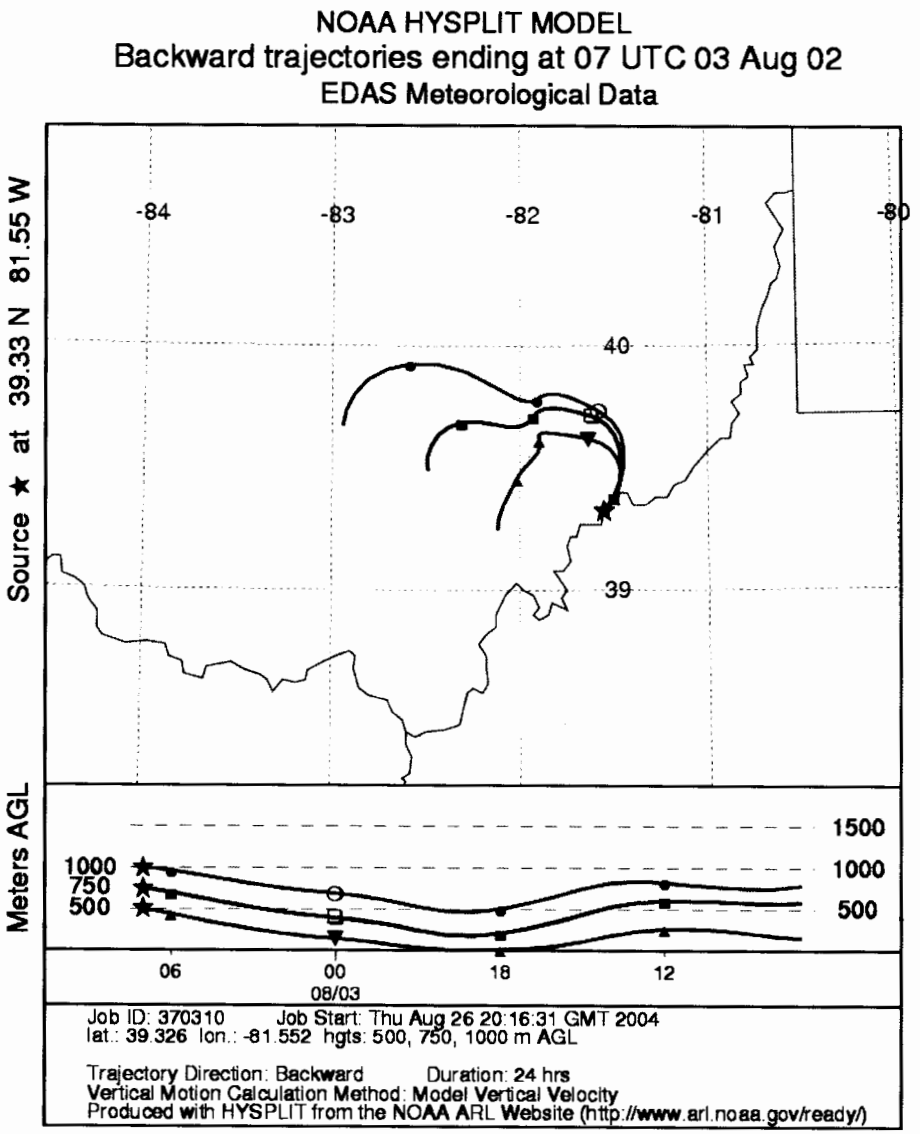



**Figure 14** Parkersburg (Vienna) monitor: 43.6 μg/m$^3$
Contributions from eastern Ohio

**Attachment-1.08**

**Selected Episodes for the Parkersburg (Vienna) Monitor**

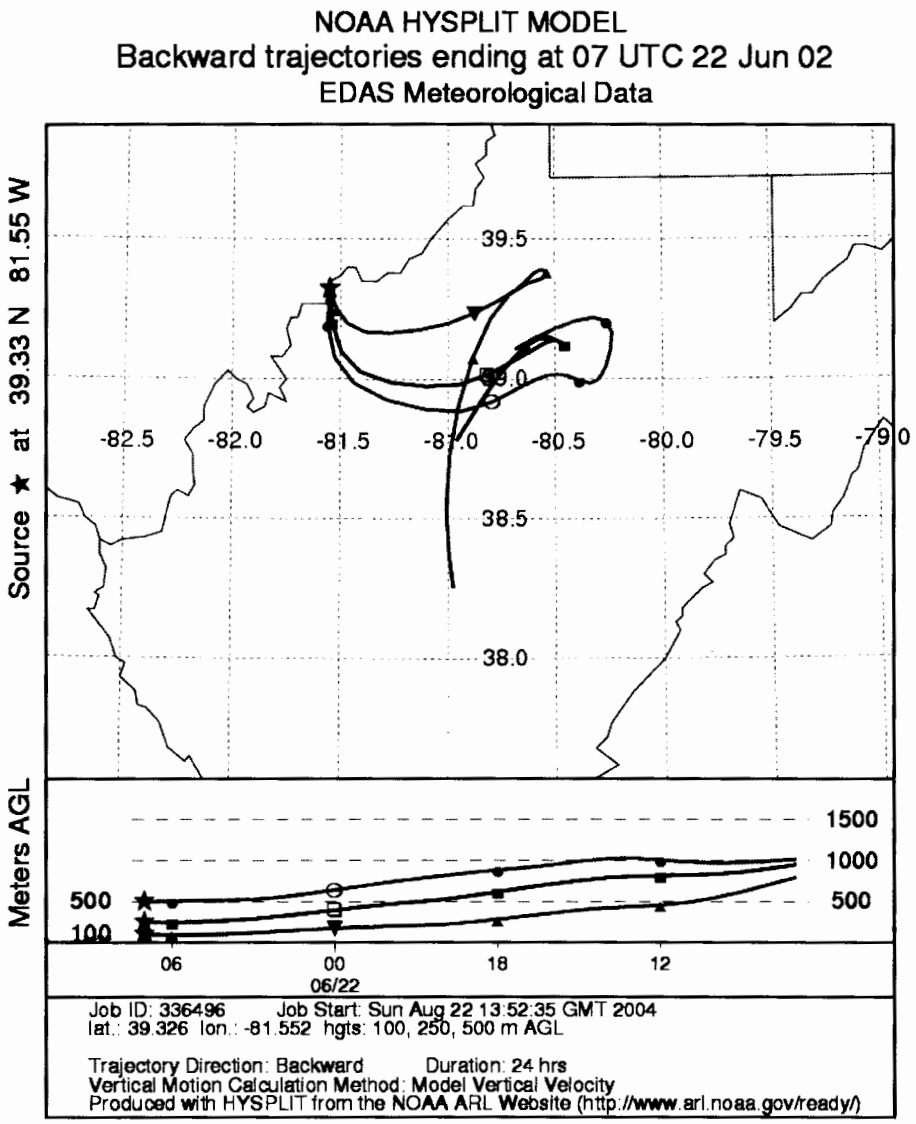



**Figure 15** Parkersburg (Vienna) monitor: 37.0 μg/m$^3$
Contributions from central West Virginia

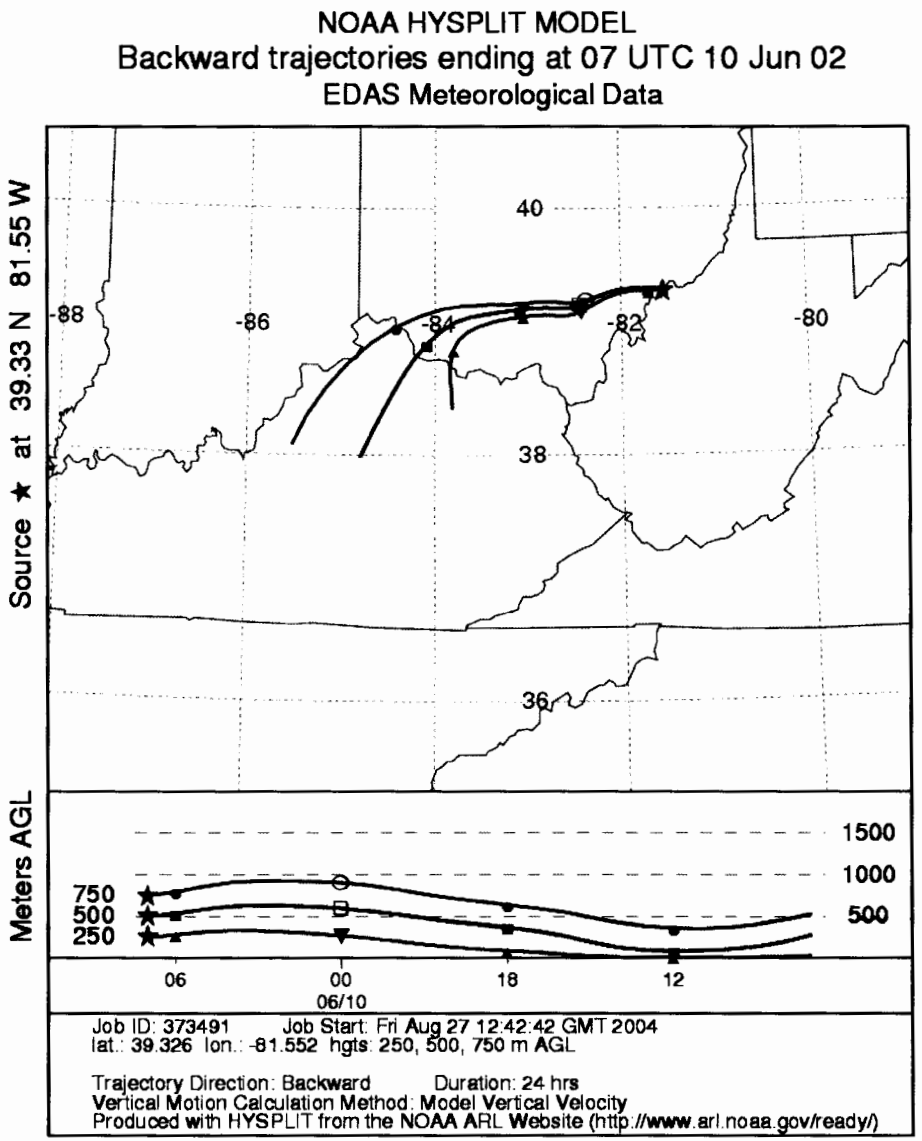



**Figure 16** Parkersburg (Vienna) monitor: 35.6 μg/m$^3$
Contributions from southern Ohio & northern Kentucky

**Attachment-1.09**

**Selected Episodes for the South Charleston (SCA) Monitor**

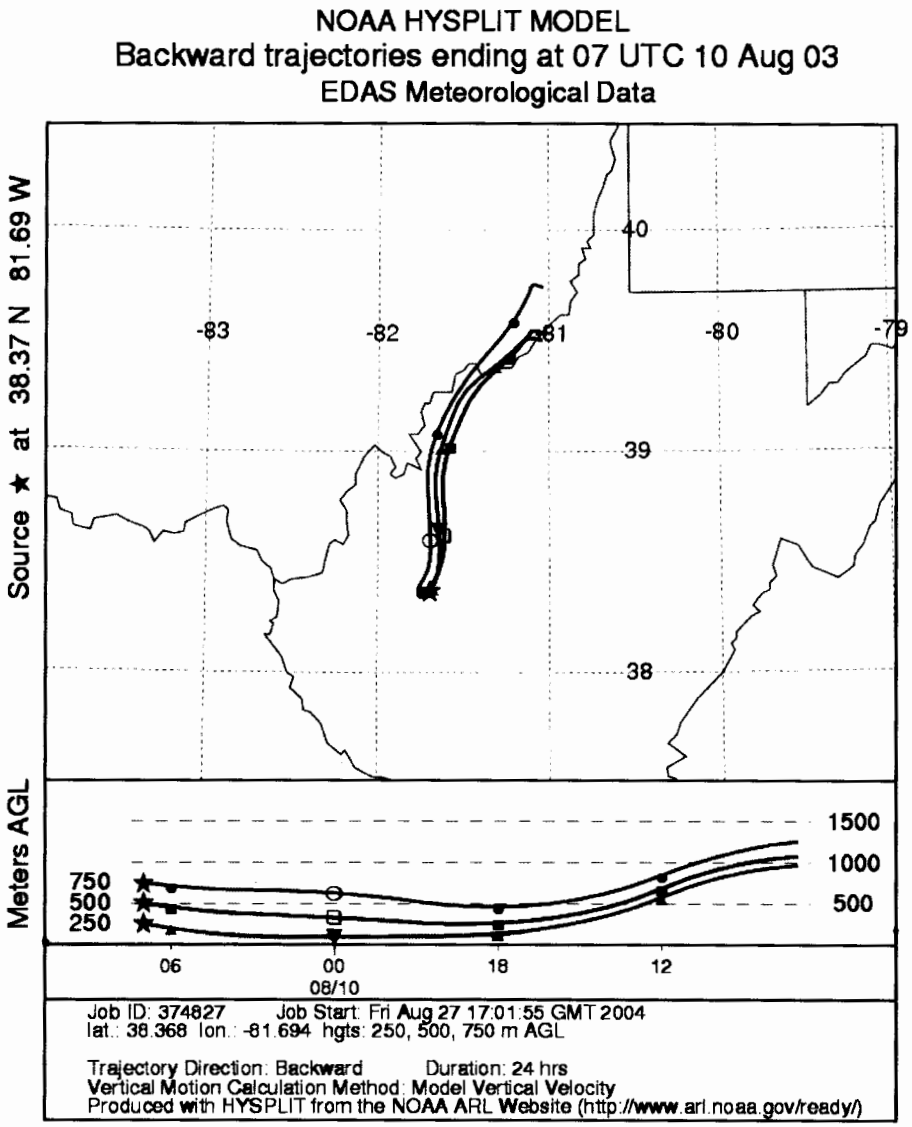



**Figure 17** South Charleston monitor: 39.1 μg/m$^3$
Contributions from Ohio River: West Virginia & Ohio

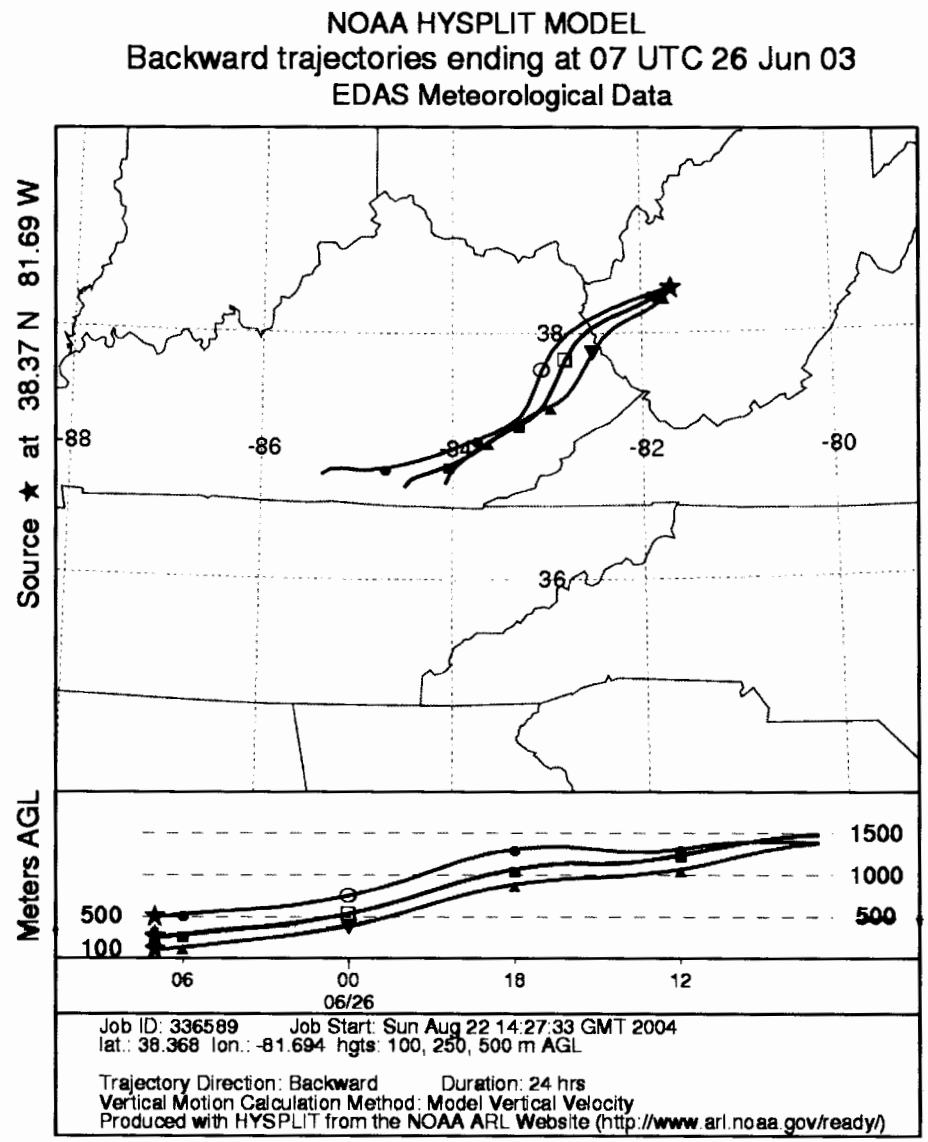



**Figure 18** South Charleston monitor: 45.7 μg/m$^3$
Contributions from SW West Virginia & eastern Kentucky

**Attachment-1.10**

**Selected Episodes for the South Charleston (SCA) Monitor**

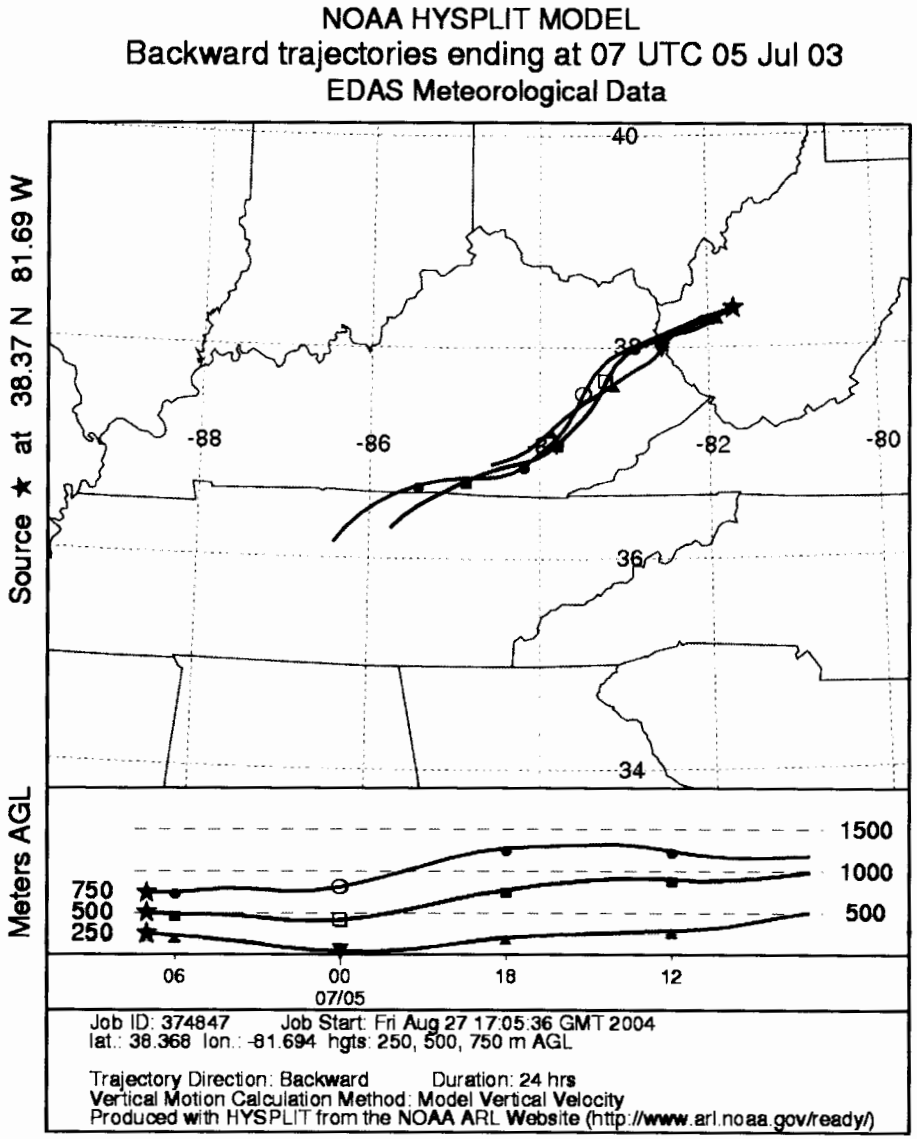



**Figure 19** South Charleston monitor: 36.3 μg/m$^3$
Contributions from SW West Virginia & eastern Kentucky

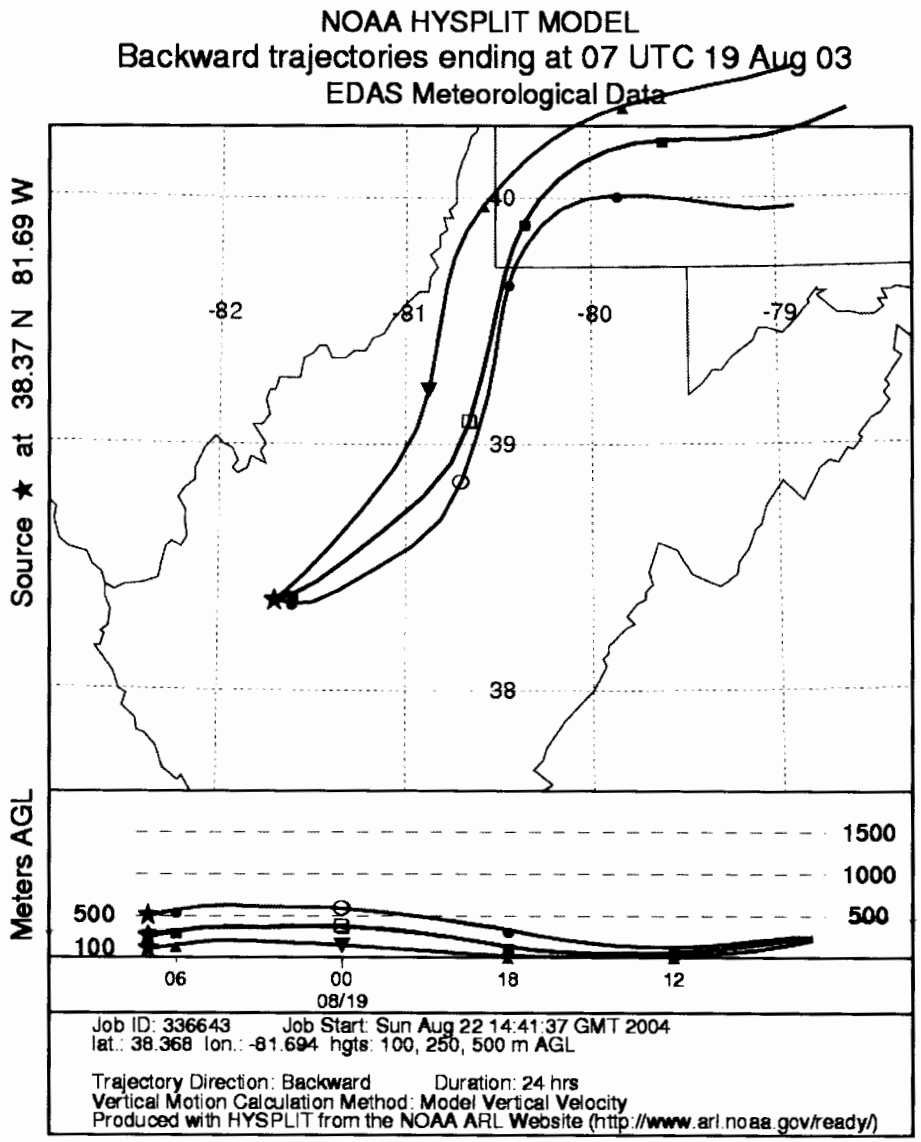



**Figure 20** South Charleston monitor: 34.6 μg/m$^3$
Contributions from north central West Virginia & SW Pennsylvania

**Attachment-1.11**

**Selected Episodes for the South Charleston (SCA) Monitor**

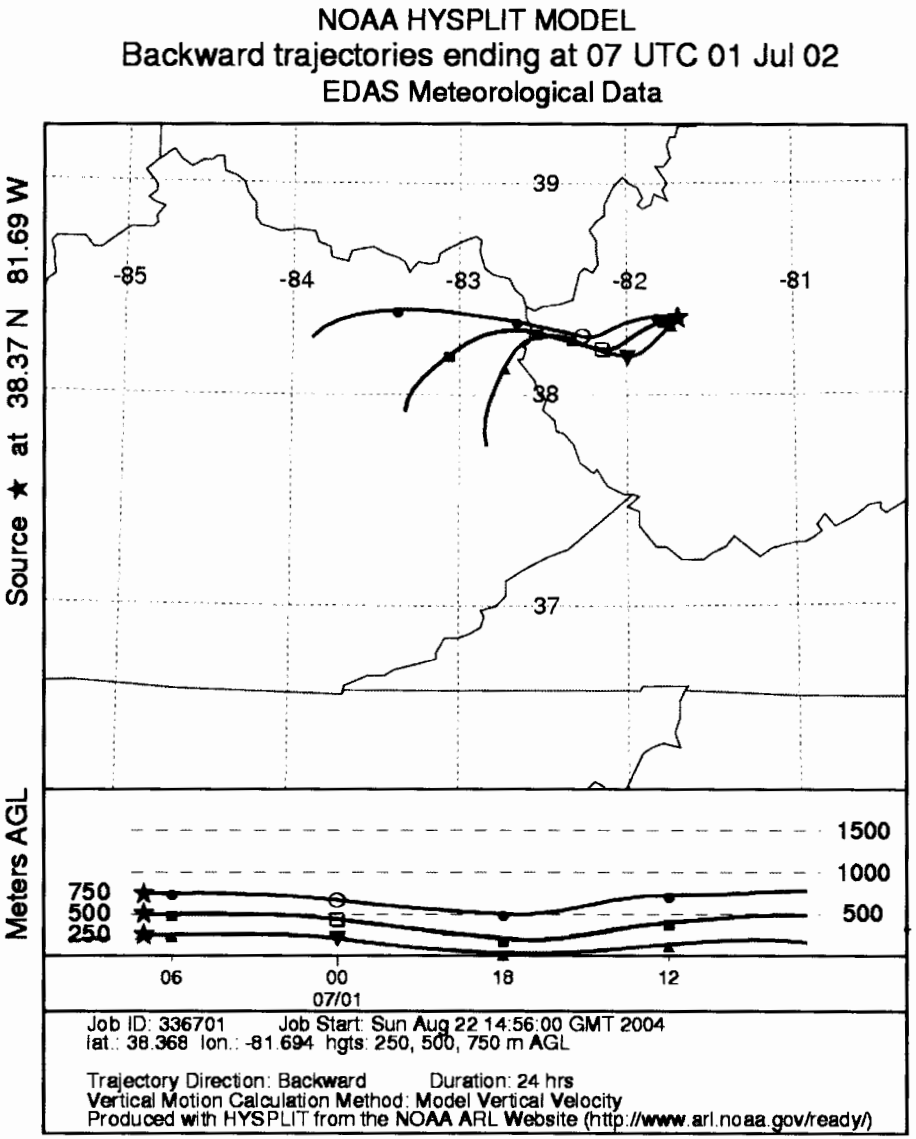



**Figure 21** South Charleston monitor: 49.9 μg/m$^3$
Contributions from western West Virginia &eastern Kentucy

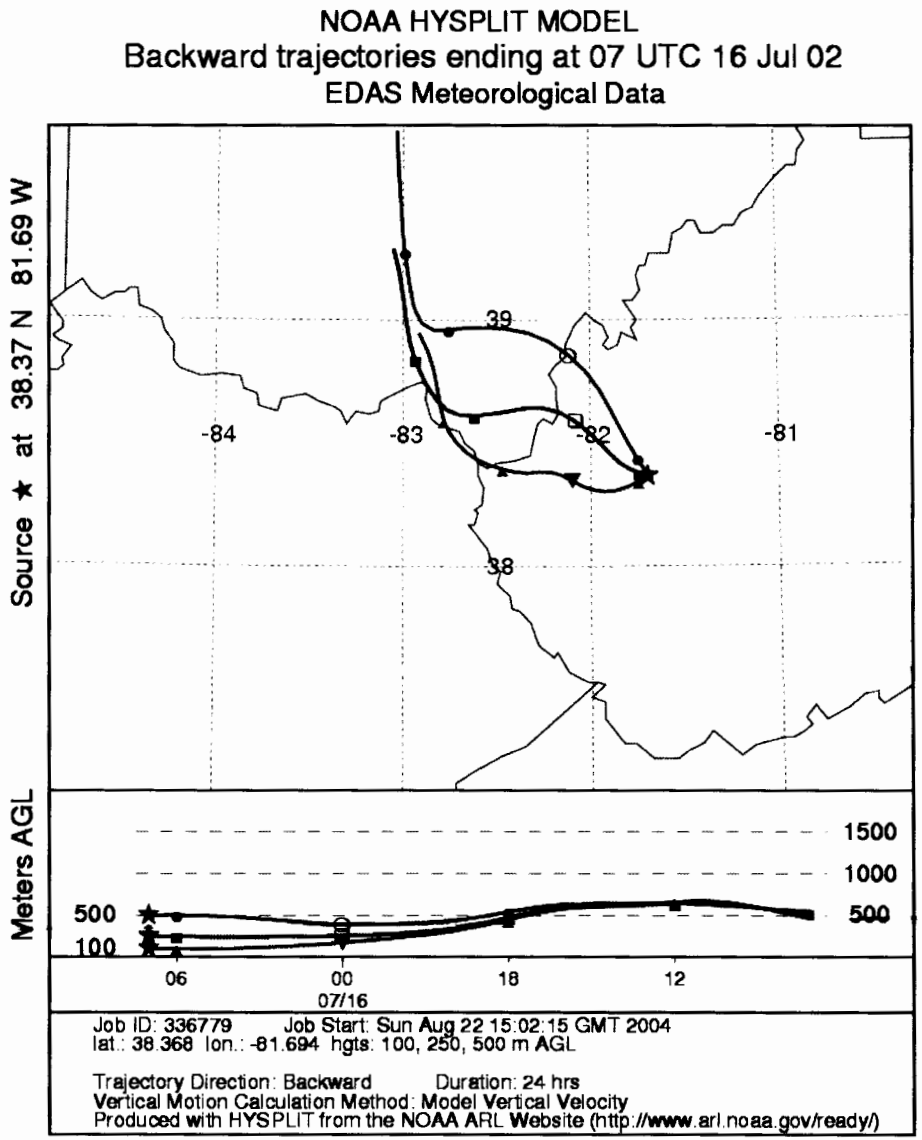



**Figure 22** South Charleston monitor: 41.9 μg/m$^3$
Contributions from KY, OH & WV, possibly Mason County WV

**Attachment-1.12**

**Selected Episodes for the South Charleston (SCA) Monitor**

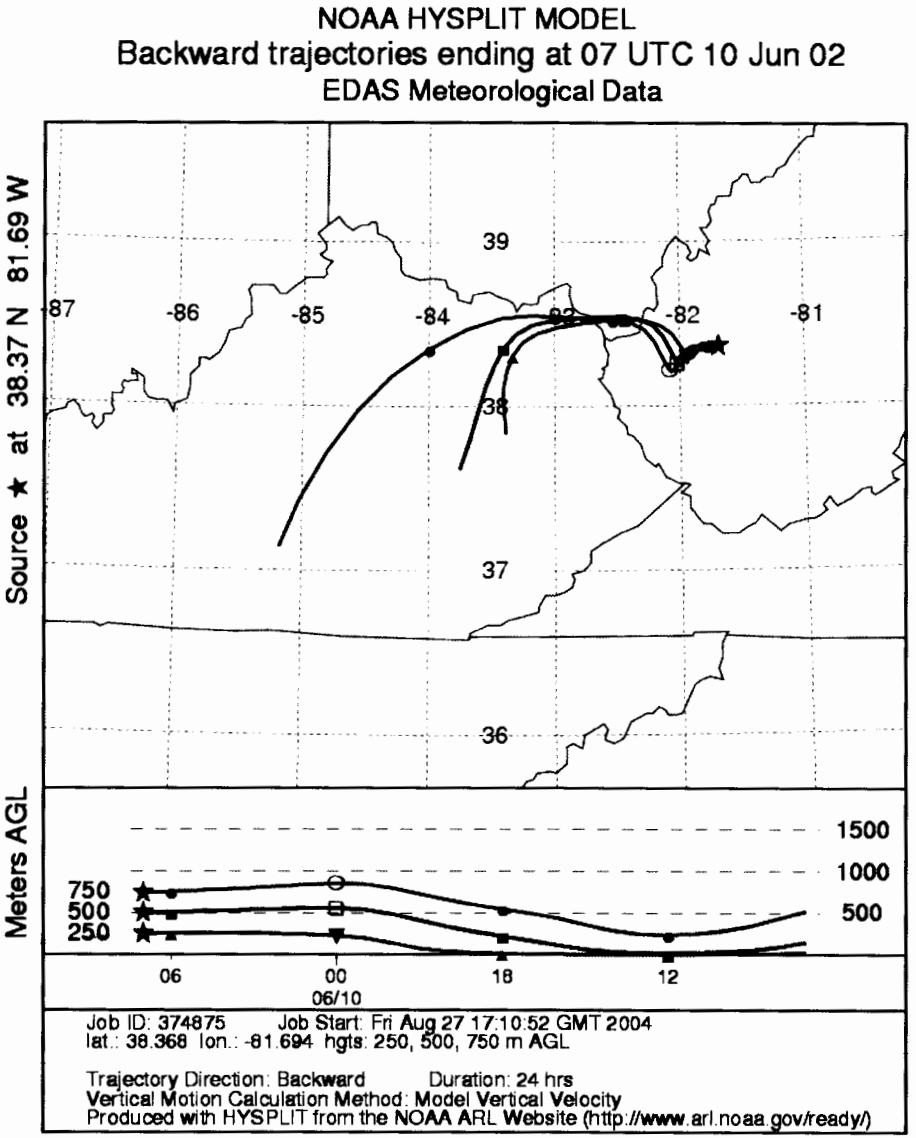



**Figure 23** South Charleston monitor: 38.6 μg/m$^3$
Contributions from KY, OH & WV~Huntington-Ashland-Ironton; possible Mason County WV

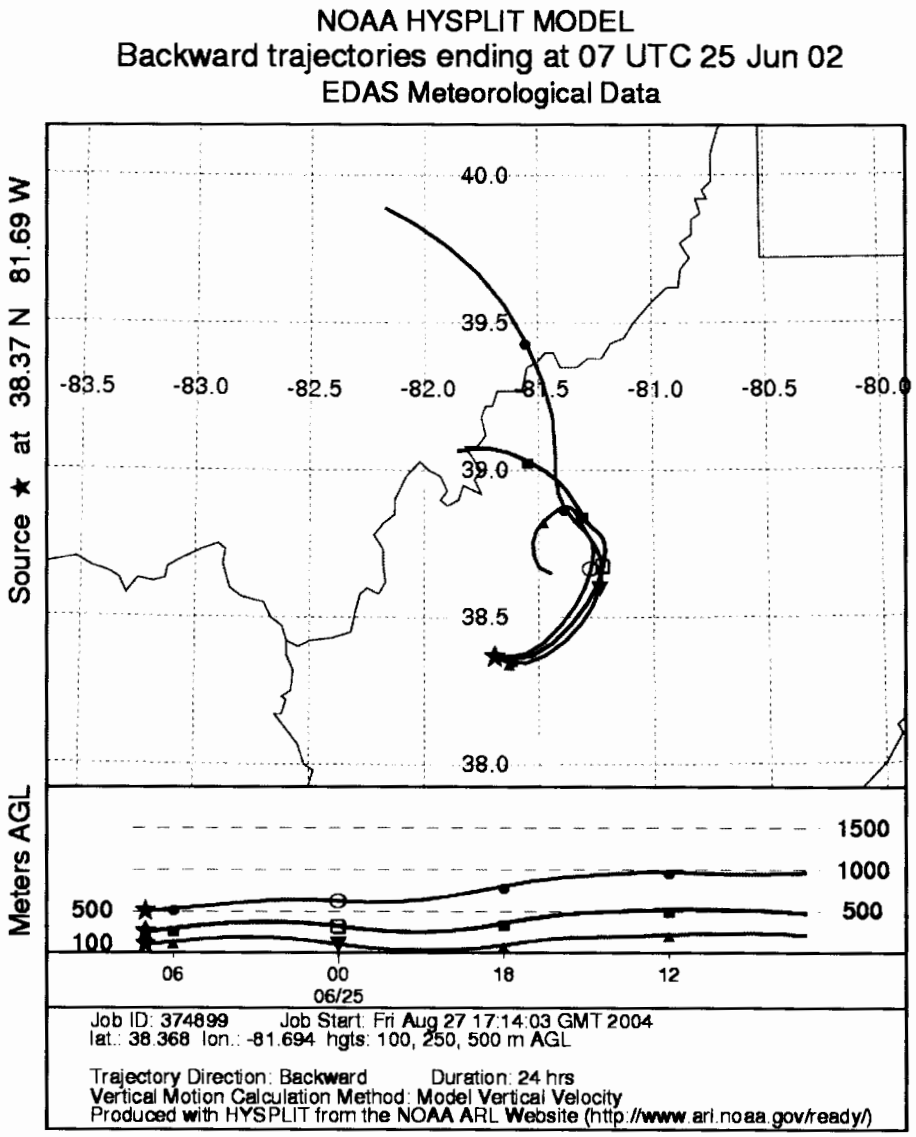



**Figure 24** South Charleston monitor: 37.8 μg/m$^3$
Contributions from west central West Virginia & eastern Ohio

# ATTACHMENT-2

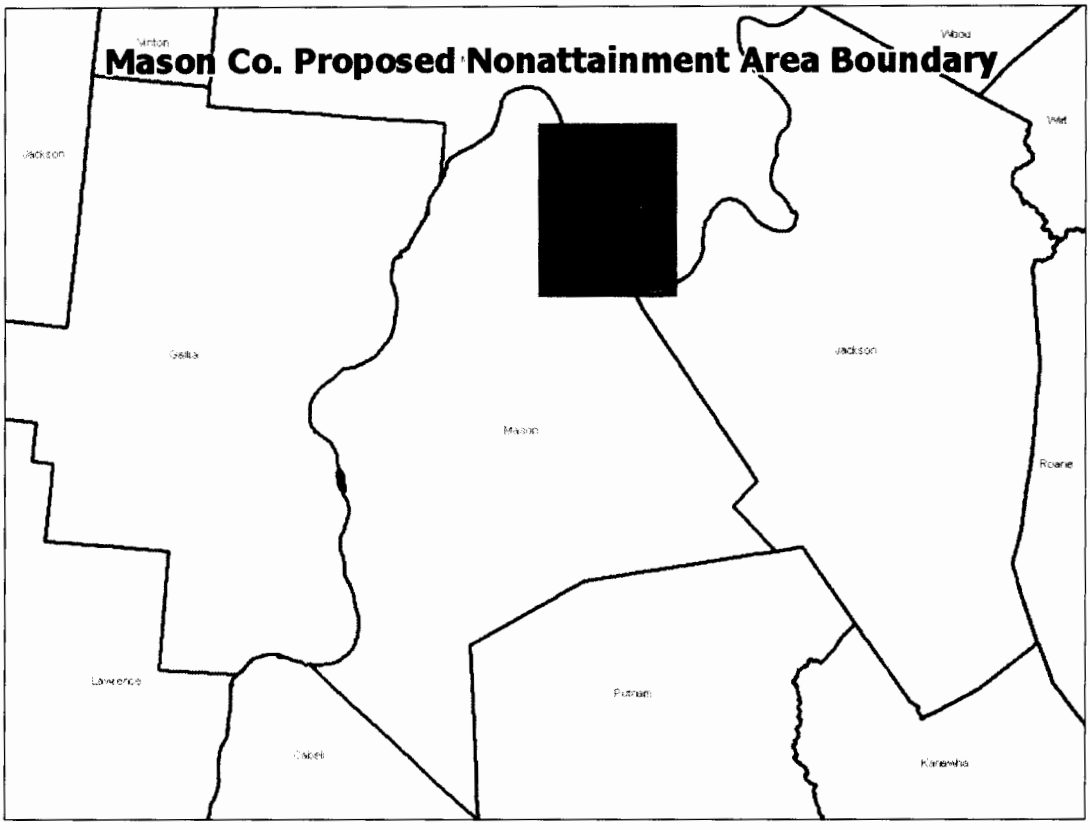
## Alternative Nonattainment Boundaries for Counties which EPA Proposes to Add to the State of West Virginia's $PM_{2.5}$ Recommendations

August 2004

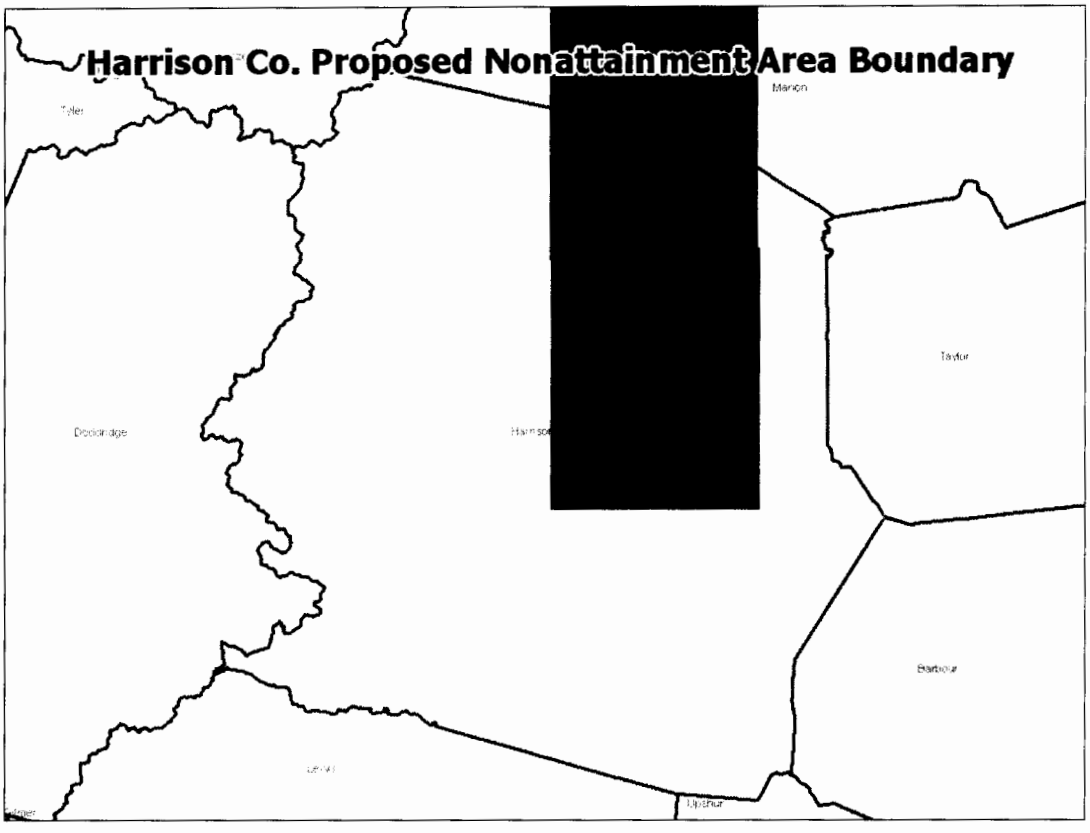
## Attachment-2.01
## Alternate $PM_{2.5}$ Nonattainment Boundaries

| Area: | County | Portion | Description : All descriptive coordinates are referenced to Universal Transverse Mercator (UTM) North American Datum (NAD) 1983, Zone 17 Easting/Northing specified in Kilometers |
|---|---|---|---|
| **Charleston** | Kanawha | WHOLE | na |
| | Putnam | WHOLE | na |
| | Mason (if added by EPA) | Part | Northern boundary: the Ohio River;<br>Eastern boundary: 420.192 E, 4313.453 N<br>to 419.740 E, 4313.290 N;<br>Southern boundary: 419.740 E, 4313.290 N<br>to 419.390 E, 4313.822 N<br>to 417.938 E, 4315.266 N;<br>Western Boundary: 417.938 E, 4315.266 N<br>to 418.255 E, 4316.261 N |
| **Huntington** | Cabell | WHOLE | na |
| | Wayne | WHOLE | na |
| **Fairmont** | Marion | WHOLE | na |
| | Harrison (if added by EPA) | Part | Northern boundary: West Fork River;<br>Eastern boundary: West Fork River;<br>Southern boundary: 558.413 E, 4359.494 N<br>to 557.091 E, 4359.260 N;<br>Western Boundary: 557.091 E, 4359.260 N<br>to 557.056 E, 4359.642 N |
| | Monongalia (if added by EPA) | Part | Northern boundary: West Virginia-Pennsylvania state line;<br>Eastern boundary: Monongalia River;<br>Southern boundary: Monongalia River;<br>Western Boundary: 591.425 E, 4395.826 N<br>to 591.456 E, 4395.938 N<br>to 591.937 E, 4396.357 N<br>to 592.626 E, 4397.323 N |
| **Martinsburg** | Berkeley | WHOLE | na |
| **Parkersburg** | Wood | WHOLE | na |
| | Pleasants (if added by EPA) | Part | Northern boundary: Ohio River;<br>Eastern boundary: 475.017 E, 4357.993 N<br>to 475.130 E, 4357.707 N;<br>Southern boundary: 475.130 E, 4357.707 N<br>to 474.236 E, 4356.887 N;<br>Western Boundary: 474.236 E, 4356.887 N<br>to 473.998 E, 4357.606 N |
| **Weirton** | Brooke | WHOLE | |
| | Hancock | WHOLE | |
| **Wheeling** | Marshall | WHOLE | |
| | Ohio | WHOLE | |

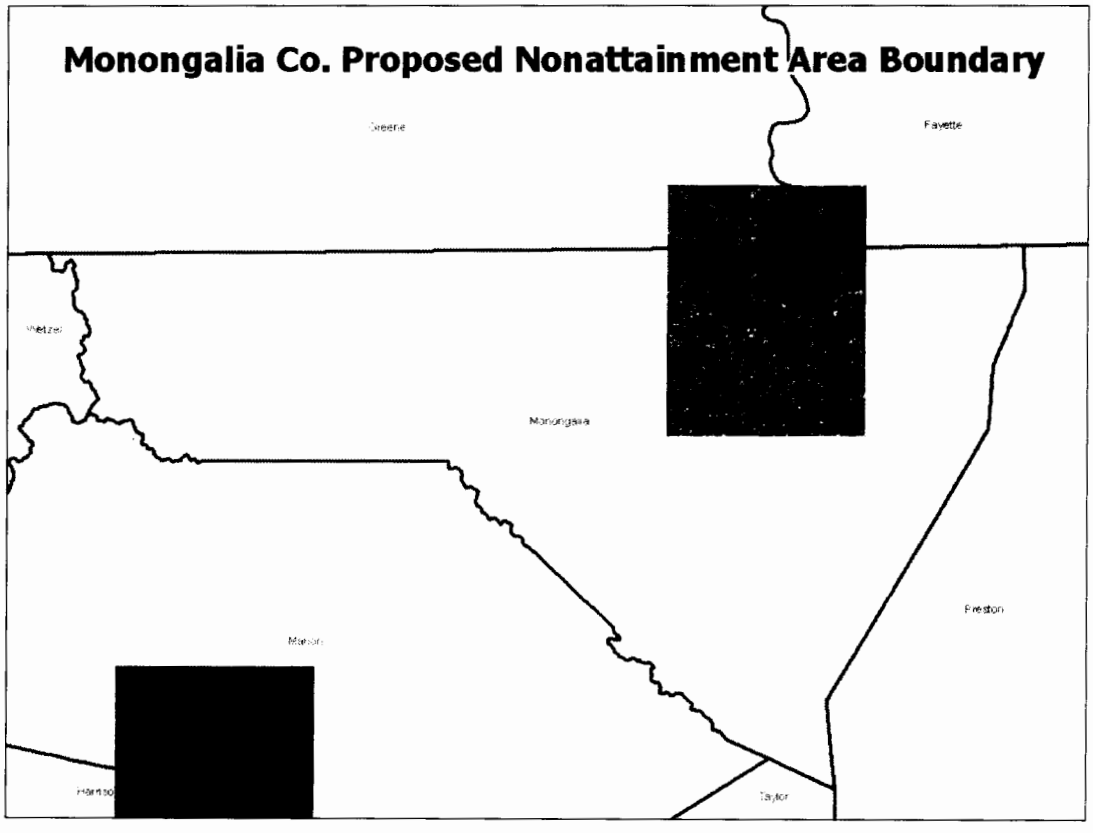
Attachment 2.02




Attachment 2.03




Attachment 2.04




Attachment 2.05