JEFFERSON COUNTY DEPARTMENT OF
1400 SIXTH AVENUE, SOUTH P.O. BOX 2648 BIRMINGHAM, ALABAMA 35202 205-933-9110

Michael Fleenor, M.D., M.P.H.
Health Officer

February 4, 2004

Mr. J. I. Palmer, Jr., Regional Administrator
United States Environmental Protection Agency
Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Dear Mr. Palmer:

As Health Officer for Jefferson County, Alabama, I am submitting information why this county should not be designated by the EPA as nonattainment of the 8-hour ozone National Ambient Air Quality Standards (NAAQS) for the period 2001-2003. Our rationale for this request is twofold:

- The Jefferson County area meets the 8-hour NAAQS for ozone.
- The Jefferson County area did not contribute to the violation of the ambient air quality monitor in Shelby County for the 8-hour ozone NAAQS during the period 2001-2003.

You stated in your letter of December 3, 2003, (see Attachment #1) that "...the EPA does not intend to make modifications to your recommended designations and boundaries." However, the Jefferson County Department of Health (JCDH) strongly recommends that the EPA exclude Jefferson County from the designation of nonattainment. Our arguments for you to reconsider this opinion are outlined on the following pages.

We fully support the EPA's position that ozone is a regional, not a local, issue and that attainment and nonattainment designations emphasize regional solutions. In past years we have accepted that approach while Jefferson County was rightfully considered the primary regional source of ozone. We make the case that this focus now must shift to other sources of ozone in other counties and that Jefferson County a priori should not be considered the cause for the violations in the future. In fact, for the 8-hour standard, we should be designated as being in attainment.

Your review of these data and consideration of this request are appreciated. We would be happy to discuss these findings with you at your convenience if that conversation will help inform your final decision. We believe these data make a compelling case for Jefferson County's attainment designation of the 8-hour ozone standard.

Sincerely,

Michael Fleenor, MD

Michael Fleenor, MD, MPH
Health Officer

MF/sb
Attachments (5)
c Beverly Banister, EPA Region 4
Sean Lakeman, EPA Region 4
Kay Prince, EPA Region 4
James Warr, ADEM

The Case for Designation of Jefferson County, Alabama
For Attainment of the 8-Hour Ozone Standard

According to a letter dated December 3, 2003, from you to James Warr, Director of the Alabama Department of Environmental Management, "The Clean Air Act defines a nonattainment area as any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant."

We have performed extensive and updated meteorological analyses, including 2003, to satisfy one of the most important factors which the EPA considers in making designations of attainment or nonattainment. ADEM's analysis submitted July 2003 was for the period 2000-2002 only. Our data (Attachments #3 and #4) illustrate our conclusion that the violation of the 8-hour ozone NAAQS at the Helena monitoring site was not caused by Jefferson County. Attachment #3 is a summary of the EPA's mapping during the critical days of each year, 2001-2003. These days are used in determining the fourth highest 8-hour average peak ozone concentrations. Attachment #4 is a summary of wind directions and speeds during these days.

Since the fourth highest concentration is used to determine the design value (0.087 ppm) at the Helena site, note that only 2001 and 2002 had concentration values equal to or greater than 0.085 ppm (the air quality threshold). That the fourth highest concentration in 2003 was only 0.083 ppm at the Helena site shows that there was not only a safe level of ozone at the site but also no "unclean" air from Jefferson County in 2003 that would violate the ozone NAAQS at this monitor.

For this analysis, it is critical to analyze each fourth highest 8-hour peak concentration for 2001-2003, since the average of these three concentration values determines the design value. Had years 2001 and 2002 shown similar values to that in 2003 (i.e., fourth highest 8-hour peak concentration less than 0.085 ppm), there would have been no violation of the air quality standard at the Helena site. Therefore, this analysis concentrates on these fourth highest concentration values of 2001-2003, even though data for all days are provided.

The following tables are summaries of the 8-hour average peak ozone concentrations in 2001-2003:

2001
8-Hr Average Peak Ozone Values (ppm)

Date	Fairfield	McAdory	Hoover	Pinson	Tarrant	Corner	Providence	Leeds	N B'ham	Helena	
8/3/01	**0.086**	**0.090**	0.082	0.059	0.073	0.075	**0.088**	0.066	0.073	**0.089**	
8/15/01	0.083	0.075	**0.087**	0.073	0.082	**0.085**	0.067	0.070	**0.090**	0.093	Tie
8/23/01	**0.090**	0.078	**0.086**	**0.098**	**0.102**	0.080	0.084	**0.097**	**0.096**	**0.089***	
8/24/01	0.071	0.069	**0.093**	0.064	0.072	0.053	0.061	0.067	0.067	**0.104**	
8/25/01	0.078	0.076	**0.088**	0.071	0.079	0.065	0.077	0.071	**0.087**	**0.097**	

***EPA's Air Quality Subsytem (AQS) identifies 8/23/01as the 5th highest value.**

4th Highest Value

2002
8-Hr Average Peak Ozone Values (ppm)

Date	Fairfield	McAdory	Hoover	Pinson	Tarrant	Corner	Providence	Leeds	N B'ham	Helena
6/12/02	**0.090**	0.081	**0.098**	**0.095**	**0.102**	0.082	0.079	**0.112**	**0.101**	**0.101**
9/10/02	0.076	0.079	**0.096**	0.076	0.073	0.080	**0.087**	0.073	0.077	**0.110**
9/11/02	0.076	0.076	0.073	0.081	0.080	**0.086**	0.083	0.078	0.081	**0.098**
9/12/02	0.080	0.076	**0.085**	0.076	0.083	0.072	0.074	0.070	0.081	**0.090**

2003
8-Hr Average Peak Ozone Values (ppm)

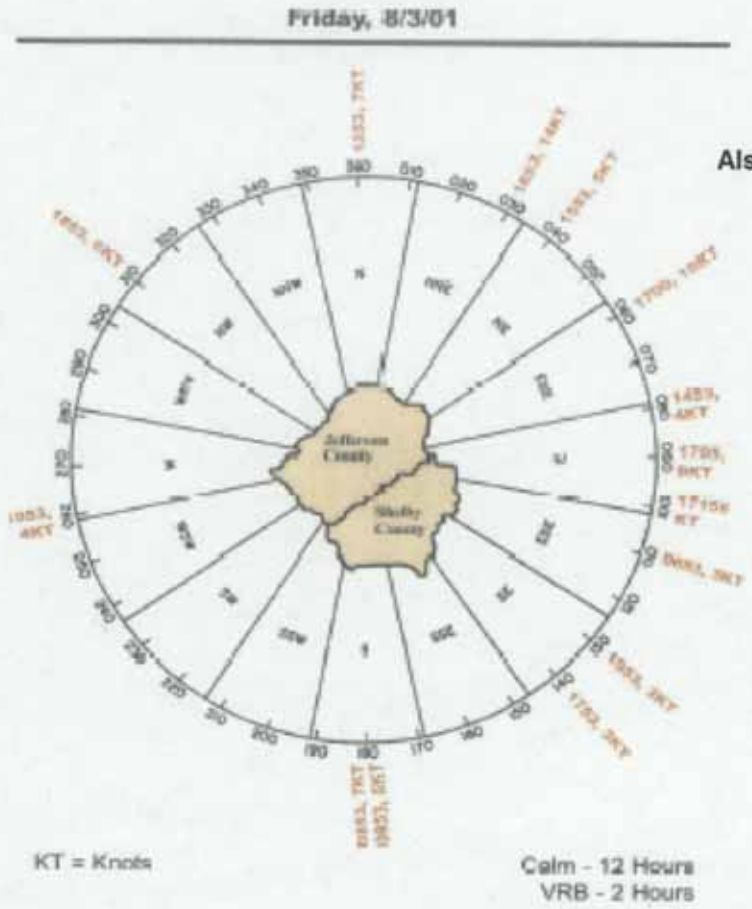
Date	Fairfield	McAdory	Hoover	Pinson	Tarrant	Corner	Providence	Leeds	N B'ham	Helena
4/13/03	0.071	0.077	0.081	0.083	0.075	0.081	0.075	0.083	0.074	**0.085**
5/24/03	0.066	0.073	0.077	0.066	0.064	0.069	0.061	0.066	0.063	**0.083**
6/23/03	**0.096**	0.084	0.080	0.073	**0.086**	0.074	0.067	0.073	0.081	**0.088**
9/9/03	0.066	0.063	0.076	0.058	0.054	0.054	0.057	0.060	0.056	**0.085**

4th Highest Values

Analyses of each of the days (fourth highest 8-hour average peak ozone concentrations) follow. These analyses include graphics from EPA's *AIRNow* program, surface winds at the Birmingham International Airport observing site, and boundary layer trajectories.

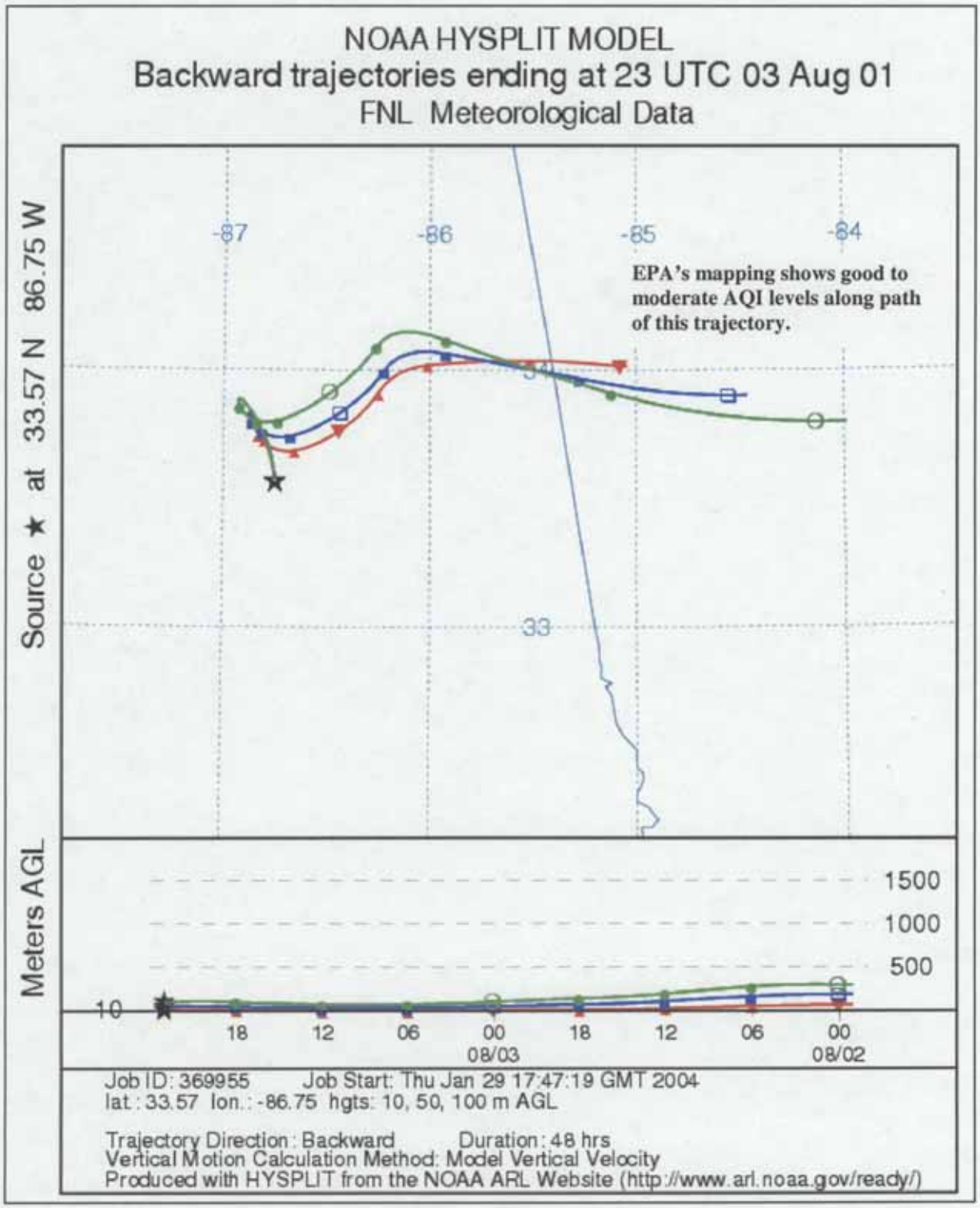
The EPA's AIRNow mapping program shows a relatively small area of ozone values exceeding the 8-hour ozone threshold of 0.08 ppm on August 3, 2001.

Winds this day at the Birmingham International Airport were calm for 12 hours and variable for 2 hours. The remaining hours show considerable variation in wind directions this day (time of exceedance 10 am – 5 pm):

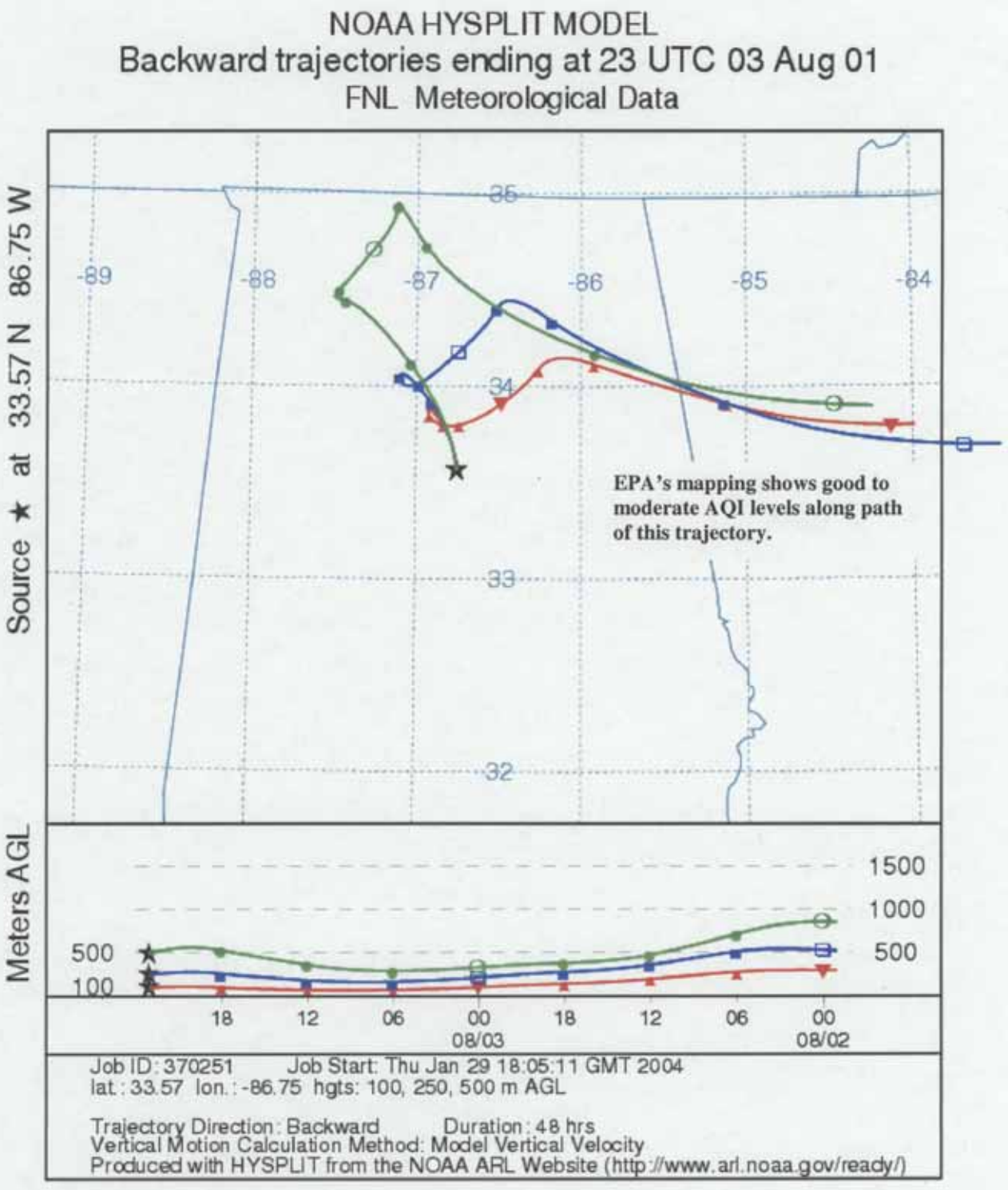


Also see Attachment 4.

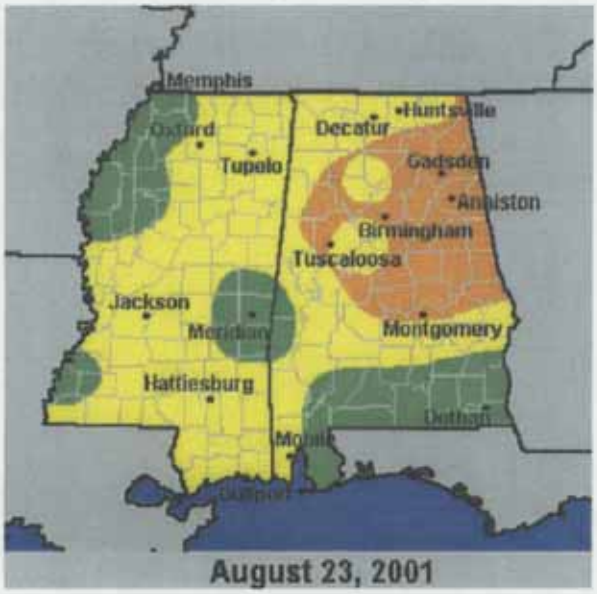
BOUNDARY LAYER TRAJECTORIES ILLUSTRATING THE MOVEMENT OF AIR PARCELS ALOFT AT 10, 50, AND 100 METERS.



BOUNDARY LAYER TRAJECTORIES ILLUSTRATING THE MOVEMENT OF AIR PARCELS ALOFT AT 100, 250, AND 500 METERS



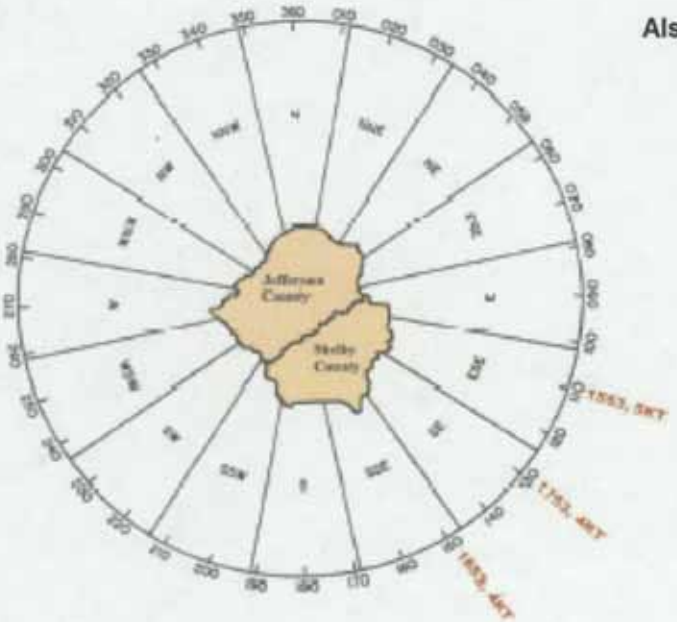
The EPA's AIRNow mapping shows a larger area of ozone values exceeding the 8-hour ozone threshold of 0.08 ppm on August 23, 2001, the day which duplicated August 3 for the fourth highest value.



The winds this day, however, show a prevalence of stagnant air over the area, with 16 hours calm and 5 hours variable (time of exceedance 9 am – 4 pm). Weak afternoon winds (4 pm – 6 pm) were from the southeast.

Thursday 8/23/01

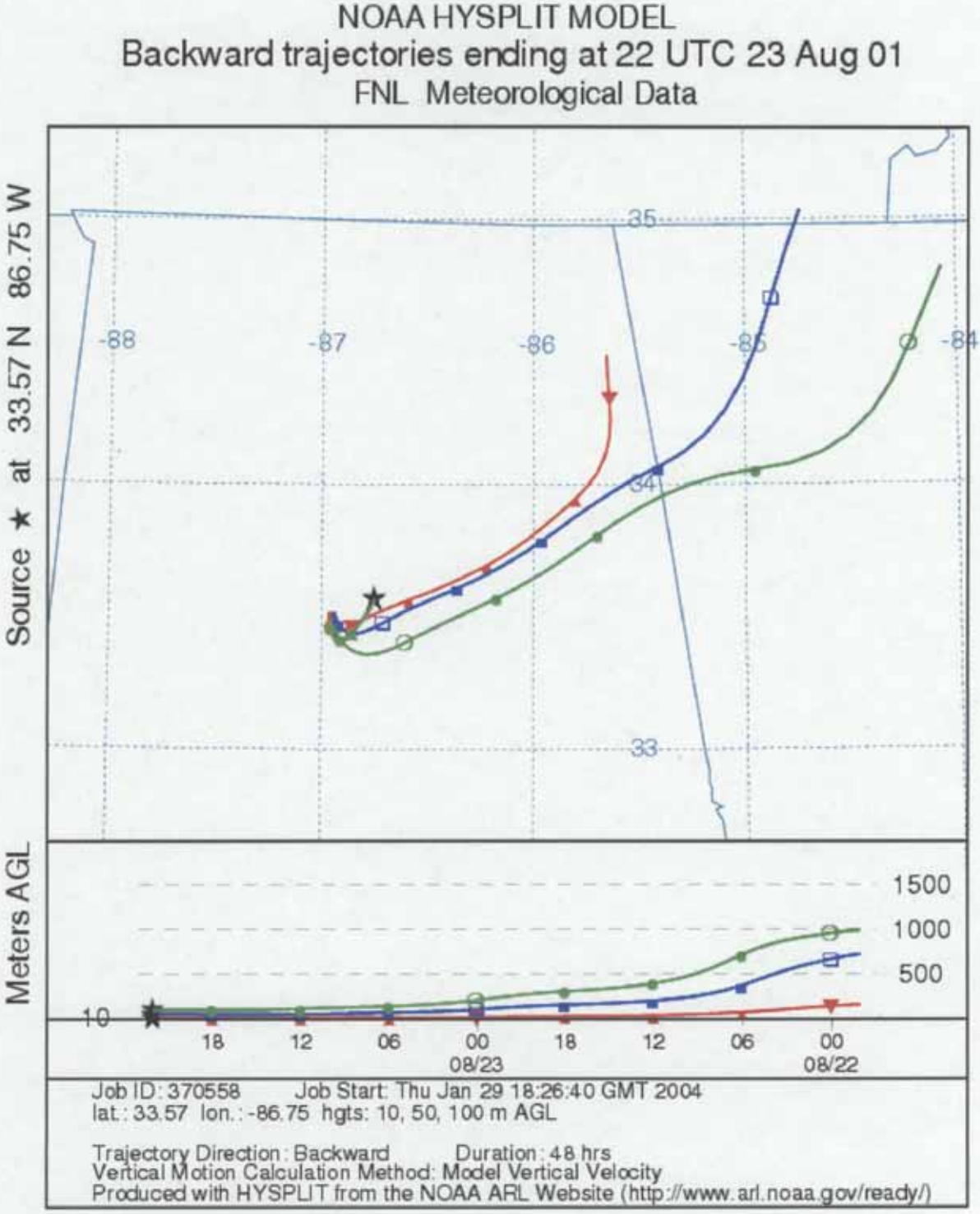
Also see Attachment 4.



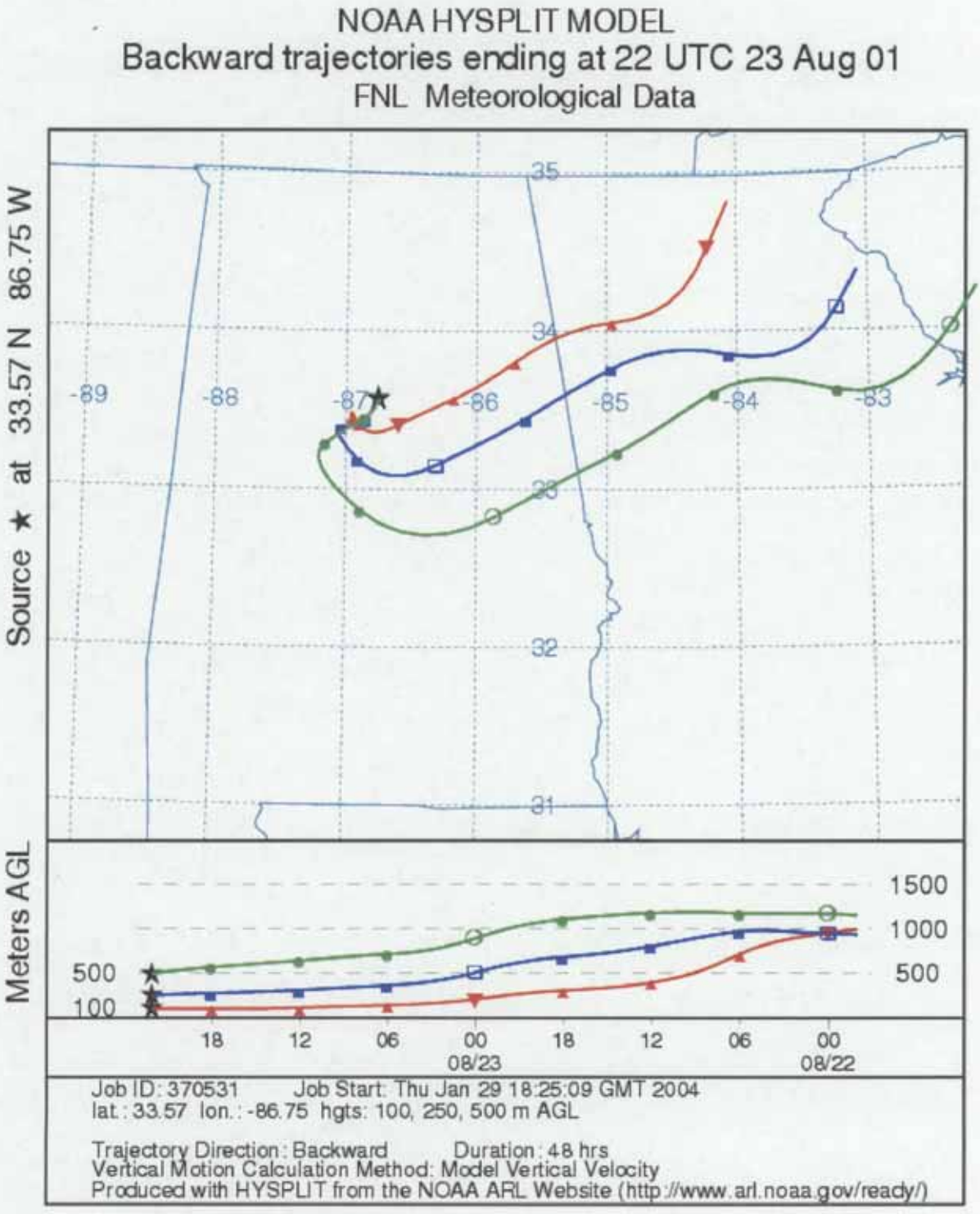
KT – Knots

Calm - 16 Hours
VRB - 5 Hours

BOUNDARY LAYER TRAJECTORIES ILLUSTRATING THE MOVEMENT OF AIR PARCELS ALOFT AT 10, 50, AND 100 METERS.

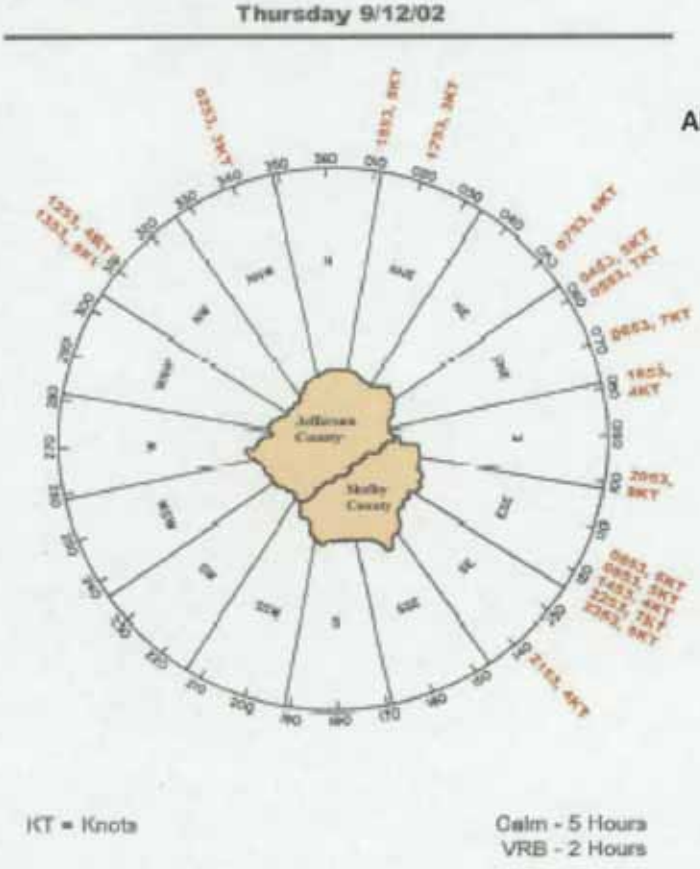


BOUNDARY LAYER TRAJECTORIES ILLUSTRATING THE MOVEMENT OF AIR PARCELS ALOFT AT 100, 250, AND 500 METERS



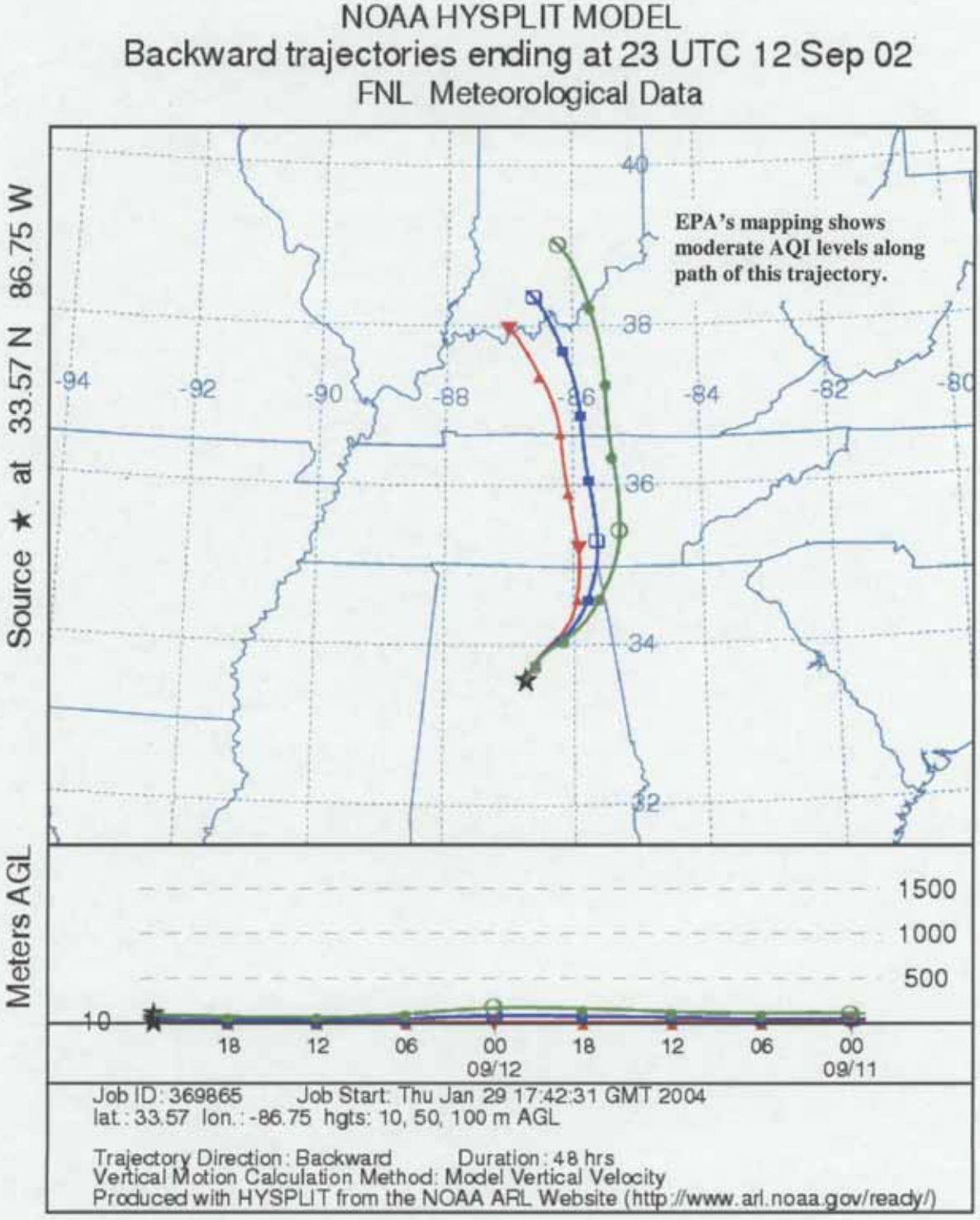
The EPA's AIRNow mapping shows a very small area of ozone values exceeding the 8-hour ozone threshold of 0.08 ppm on September 12, 2002. The Hoover site reached 0.085 ppm, and the Helena site recorded 0.090 ppm, the only monitors at or above the threshold for exceedance.

The winds on September 12 show considerable variability over the area, with 5 hours calm and 2 hours variable. Predominant winds ranged from the northeast to the southeast, especially during the hours of the 8-hour exceedance (10 am – 5 pm).

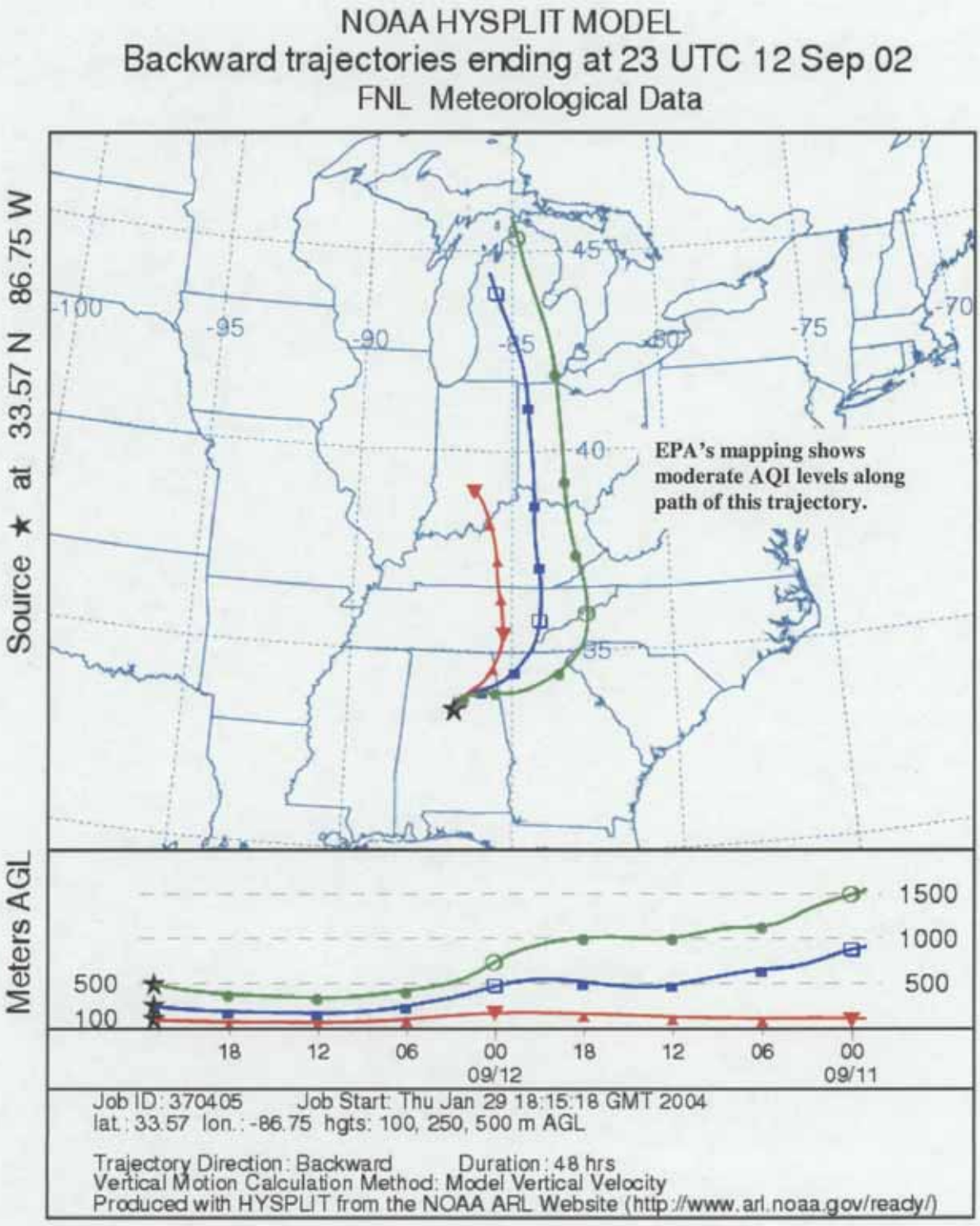


Also see Attachment 4.

BOUNDARY LAYER TRAJECTORIES ILLUSTRATING THE MOVEMENT OF AIR PARCELS ALOFT AT 10, 50, AND 100 METERS.



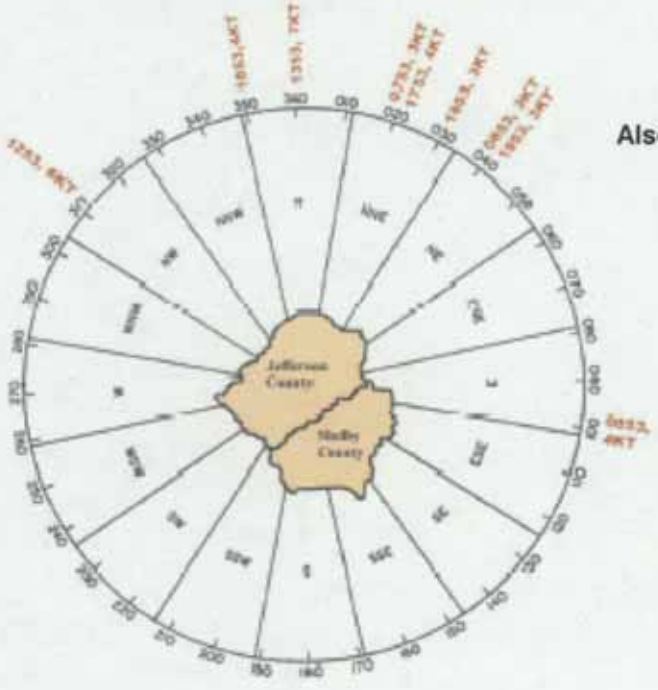
BOUNDARY LAYER TRAJECTORIES ILLUSTRATING THE MOVEMENT OF AIR PARCELS ALOFT AT 100, 250, AND 500 METERS



The EPA's AIRNow mapping shows no areas exceeding the 8-hour ozone threshold of 0.08 ppm on May 24, 2003.

The winds on May 24, 2003, were, therefore, of no concern with respect to air quality levels remaining less than the threshold of exceedance of the 8-hour standard. 11 hours were calm, and 4 hours were variable. The peak 8-hour value was only 0.083 ppm at Helena (9 am – 4 pm).

Saturday 5/24/03



Also see Attachment 4.

KT = Knots

Calm - 11 Hours
VRB - 4 Hours

What these meteorological graphics show plainly is that air quality in Jefferson County was not responsible for the 8-hour ozone violation at the Helena monitoring site in Shelby County. The design value at that site, 0.087 ppm, is the average of the 8-hour peak ozone concentrations:

- 0.089 ppm August 3 or August 23, 2001
- 0.090 ppm September 12, 2002
- 0.083 ppm May 24, 2003

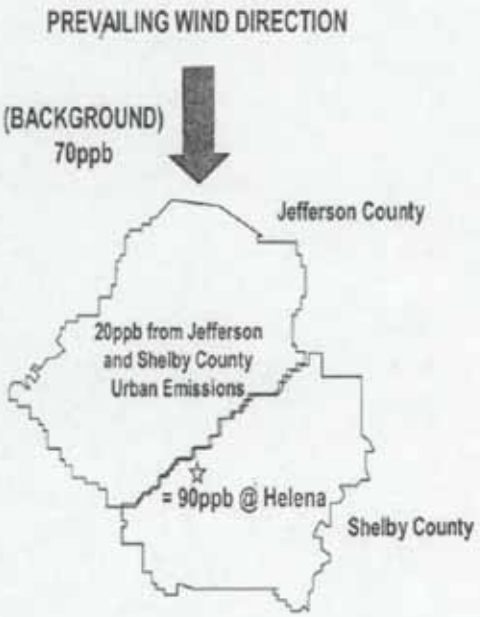
These graphics also support the meteorological phenomenon of surface air stagnation during these critical days, i.e., occurrences of high pressure, higher temperatures, full sunlight (instead of cloudy days), and light and variable winds. Air stagnation is opposed to the meteorology of advection, "the process of transport of an atmospheric property solely by the [horizontal] mass motion (velocity field) of the atmosphere" (*Glossary of Meteorology*, American Meteorological Society). Clearly, advection of an "unclean" air mass in Jefferson County was not responsible for the violation of the 8-hour ozone NAAQS at the Helena monitor.

All nine ozone monitors in Jefferson County were strategically placed throughout Jefferson County over several years to sample air quality at locations reflecting urban and rural conditions. That all of these nine monitors showed compliance with the 8-hour ozone NAAQS over the three-year period should be sufficient demonstration to the EPA that air quality is not a problem with respect to ozone in Jefferson County.

Briefly I will elaborate on the second "bullet" of ADEM's letter of January 21, 2004 (Attachment #2). JCDH does not support all of this argument. There is a public perception and, perhaps, an EPA perception that most of Shelby County's air pollution drifts south from Jefferson County (*The Birmingham News* – recent articles especially on December 5 and 10, 2003, January 10 and 15, 2004 [Attachment #5]). This perception exists in part because of ADEM's explanation of a prevailing wind direction from the north, coupled with high background ozone values. The following graphic, prepared by ADEM, has been shared extensively with organizations in the Birmingham area, including the local media:

Shelby County Exceedance Scenario

- Ozone levels on exceedance days high even in rural areas (~70ppb)
- Small increase due to urban pollutants and weather conditions all that's needed for exceedance.
- 70ppb + 20ppb = 90 ppb EXCEEDANCE



The background level of 70 ppb (see graphic above) is an exaggeration, inasmuch as our monitors do not support this level. Nor does scientific research (*Journal of Geophysical Research-Atmosphere*, December 24, 2003) support the level as maintained by ADEM.

"The background is much lower than the EPA constant," wrote Arlene Fiore, an atmospheric scientist and one of the authors of the December 2003 report. According to the report:

> *Computer modeling analysis of ozone levels in several major U.S. cities never approached the EPA background level for ozone of 40 ppb. The Harvard study found that background ozone levels in North America were between 15 and 35 ppb.*

Our analysis at JCDH illustrates total concentration levels at some of our monitors less than 70 ppb for the 8-hour average peak ozone values, even on some of the high ozone days, especially during 2001 and 2003 (see page two of this letter for these concentration values). The background, or naturally occurring, values added to these total concentrations would be lower, of course, than the total concentration values.

Also the graphics presented in this analysis do not support ADEM's argument of a prevailing wind direction from the north. Prevailing surface winds were not from the north during the critical days analyzed to determine the violation of the 8-hour ozone NAAQS at the Helena site.

In addition to the meteorological analysis, the JCDH acknowledges that Section 107 of the Clean Air Act requires all areas to be designated nonattainment if they do not meet the standard or contribute to ambient air quality in a nearby area that does not meet the standard. JCDH also acknowledges that when an air monitor shows that air quality in an area is in violation of the ozone NAAQS (e.g., the Helena monitor in Shelby County), the EPA's policy is to designate an area around the monitor that includes the nearby area sources that may be contributing to the violation as nonattainment.

We realize that the EPA will consider eleven factors to determine whether areas located within a nonattainment C/MSA should be excluded from the nonattainment designation, and/or whether areas located nearby or adjacent to a nonattainment C/MSA should be included in the nonattainment designation. Two of these factors, especially, are prominent ones, in addition to meteorology:

- Level of control of emission sources
- Regional emission reductions impacts (e.g., NOx SIP Call or other enforceable regional strategies)

Both the Alabama SIP for the Birmingham nonattainment area and the NOx SIP Call resulted in considerable emissions controls in Jefferson County applicable to the principal contributing point source of the ozone problem in this county. Reductions in NOx emissions at this source, Alabama Power's Miller Plant, have been impressive since the 1990's – from a high of more than 46,000 tons per year (TPY) of NOx to the most recent emission rate of approximately 27,500 TPY in 2002 (projected to be ~21,000 TPY for 2003).

Such emissions reductions have not occurred in Shelby County, however. The Gaston Plant, according to ADEM, had emissions of 17,430 TPY in 1999. By 2002 the rate had climbed to 29,170 TPY. JCDH believes that "backyard" emissions should be controlled in Shelby County to the maximum extent possible to help achieve compliance with the 8-hour ozone NAAQS and to address the two factors noted above regarding emission controls and impacts.

Other factors (related to "EPA's eleven factors") have been extensively covered by ADEM in its submittal of July 14, 2003 (cover letter for this package included in Attachment #1) – e.g., population density and degree of urbanization, location of emission sources, traffic and commuting patterns, etc. According to ADEM's submittal, while Jefferson County showed only 1.8% growth in population (652,078 to 664,031) from 1990 to 2002, Alabama's fastest growing county (Shelby) showed an impressive 52.6% growth (100,131 to 152,780). Projections for population growth, presented by ADEM

in its July 14 submittal, show 2.8% and 3.3% growth rates for Jefferson County in the periods 2002-2015 and 2015-2025, respectively. However, projections for these same periods in Shelby County are 41.6% and 27.2%. The analysis of densities in population, likewise, shows profound differences in growth in these two counties. The period 1993-2002 shows an increase of 34.3% in Shelby County, with an increase of less than 1% in Jefferson County during the same period.

We believe that population demographic trends south of Jefferson County will be a major contributor to future attainment status of our region. We contend that Jefferson County itself will not be the major factor in attainment, as the data above support. Hence, we request Jefferson County be designated "in attainment" of the 8-hour ozone standard.

Attachment 1

Letters from ADEM to EPA
July 14, 2003, and November 13, 2003
and
Response Letter from EPA to ADEM December 3, 2003,

ADEM

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
POST OFFICE BOX 301463 36130-1463 • 1400 COLISEUM BLVD. 36110-2059
MONTGOMERY, ALABAMA
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(334) 271-7700

JAMES W. WARR
Director

BOB RILEY
Governor

Facsimiles: (334)
Administration: 271-7950
General Counsel: 394-4332
Air: 279-3044
Land: 279-3050
Water: 279-3051
Groundwater: 270-5631
Field Operations: 272-8131
Laboratory: 277-6718
Mining: 394-4326
Education Outreach: 394-4383

July 14, 2003

Mr. James I. Palmer, Jr.
Regional Administrator
U.S. EPA, Region 4
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, Georgia 30303-8960

Dear Mr. Palmer:

As the designee of the Governor of the State of Alabama, I am providing this response to your letter of February 27, 2003, which requests the state's recommendations regarding the extent of non-attainment areas for the eight-hour ozone air quality standard. The information provided is based on monitoring data from 2000 to 2002, inclusive.

The underlying principle in developing our recommendations is EPA's air quality modeling, which indicates that the decrease in ozone concentrations that is predicted to result from several national and regional emissions reduction initiatives will be sufficient to bring all areas of Alabama into attainment of the new 8-hour ozone standard by the year 2007. Since additional local controls are unlikely to be required in order for these areas to meet this new National Ambient Air Quality Standard (NAAQS), it seems unnecessary to designate any counties as non-attainment areas except those with monitored data exceeding the standard. Further, ADEM has legal authority to impose reduction measures as necessary in any county near a nonattainment area, regardless of its attainment status. Thus, the only counties we recommend being designated as non-attainment are those with monitored data exceeding the NAAQS.

Enclosed please find an attachment which provides data from our ozone monitoring network and our recommendations for the extent of ozone non-attainment areas. The enclosed appendices provide detailed information on the

Birmingham Branch
110 Vulcan Road
Birmingham, Alabama 35209-4702
(205) 942-6168
(205) 941-1603 [Fax]

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, Alabama 35603-1333
(256) 353-1713
(256) 340-9359 [Fax]

Mobile Branch
2204 Perimeter Road
Mobile, Alabama 36615-1131
(251) 450-3400
(251) 479-2593 [Fax]

Mobile – Coastal
4171 Commanders Drive
Mobile, Alabama 36615-1421
(251) 432-6533
(251) 432-6538 [Fax]

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factors which EPA suggested be addressed in support of any non-attainment area recommended to be smaller than a metropolitan statistical area. The data are also provided in electronic format on the enclosed CD.

As documented in the attachment, we recommend that the following counties be designated non-attainment for the 8-hour ozone NAAQS: Jefferson, Shelby, and Morgan. In response to your presumptions regarding the extent of non-attainment areas, we recommend that the following Alabama counties not be included: St. Clair, Blount, Tuscaloosa (considered along with the Birmingham MSA to address the specific concerns expressed by your staff about this county), and Lawrence.

Should you require additional information, please contact Mr. Ron Gore of the Air Division at (334) 271-7868.

Sincerely,

James W. Warr
Director

JWW/rdg

cc: Beverly Banister, EPA

ADEM

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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JAMES W. WARR
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BOB RILEY
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General Counsel: 394-4332
Air: 279-3044
Land: 279-3050
Water: 279-3051
Groundwater: 270-5631
Field Operations: 272-8131
Laboratory: 277-6718
Mining: 394-4326
Education/Outreach: 394-4383

November 13, 2003

Mr. James I. Palmer, Jr.
Regional Administrator
U.S. EPA, Region 4
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, Georgia 30303-8960

Dear Mr. Palmer:

This letter is to inform you that ozone data through the 2003 monitoring season for the Decatur, Alabama, monitor located in Morgan County has been quality checked and has been submitted to the EPA Air Quality System (AQS). The data indicates that the Decatur monitor has attained the National Ambient Air Quality Standard (NAAQS) for 8-hour ozone. The design value for the 2001-2003 period is .081 ppm, which is less than the 8-hour ozone NAAQS (.085 ppm).

Based on this information, we request that Morgan County be withdrawn from our 8-hour ozone nonattainment recommendations submitted to your office in July 2003.

If you have any further questions, please contact Chris Howard at (334) 271-7878.

Sincerely,

James W. Warr
Director

JWW:CMH:adh

cc: Beverly Banister, U.S. EPA, Region 4
Kay Prince, U.S. EPA, Region 4
Dalton Smith, Governor's Office

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

DEC - 3 2003

4APT-APB

Mr. James W. Warr, Director
Alabama Department of Environmental Management
1400 Coliseum Blvd.
Montgomery, AL. 36110-2059

Dear Mr. Warr:

Thank you for making recommendations on 8-hour ozone air quality designations. Your letter is an important step in providing citizens of Alabama with information on air pollution levels where they live and work. Levels of ground-level ozone have improved significantly since the Clean Air Act (CAA) was amended in 1990 at which time 135 areas were designated as not attaining the 1-hour ozone standard. Since that time nearly half those areas (67) have cleaned up their air to meet the 1-hour ozone standard and have been redesignated as attaining that standard. However, many areas have still not met the less stringent 1-hour ozone standard, and in 1997, the U. S. Environmental Protection Agency (EPA) promulgated a more stringent 8-hour ozone national ambient air quality standard. Thus, much work remains to be done. Under the CAA, EPA is required to promulgate designations for new or revised standards, such as the 8-hour ozone standard. Earlier this year, after several public interest groups filed a lawsuit claiming EPA had not met the statutory deadline for designating areas for the 8-hour ozone standard, we entered into a consent decree that requires us to promulgate designations by April 15, 2004.

The CAA defines a nonattainment area as any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant. EPA guidance indicates that Alabama should use the larger of the Consolidated Metropolitan Statistical Area (CMSA), Metropolitan Statistical Area (MSA), or the 1-hour ozone nonattainment area as the presumptive boundary for 8-hour ozone nonattainment areas. The guidance provides 11 factors that Alabama should consider in determining whether to modify the presumptive boundaries. We have reviewed your letter, dated July 14, 2003, submitting Alabama's recommendations on air quality designations for the 8-hour ozone standard. We have also reviewed the extensive justification information you have submitted to support your recommendations for areas that differed from the presumptive boundaries. We appreciate the effort the State made to develop this supporting information. This letter is to inform you that the EPA does not intend to make modifications to your recommended designations and boundaries. We will continue to work with your office as we move forward to make final designations.

EPA has been tracking preliminary 2003 ozone monitoring data and its impact on areas' 2001-2003 design values. We received a letter from you, dated November 13, 2003, informing us that the ozone monitoring data for 2003 has completed the full quality assurance

and quality control process and has been fully uploaded into the Air Quality System (AQS). According to this data, the Decatur area is now meeting the 8-hour ozone standard, and, because of this, you have revised your official recommendation for Morgan County, Alabama, to attainment. EPA concurs with your revised recommendation for Morgan County.

The enclosures to this letter provide tables in which EPA identifies the counties that should be included in each nonattainment area and a summary explaining why we believe your recommendations are consistent with the statutory definition of a nonattainment area in light of the 11 factors provided in our guidance. Enclosure 1 identifies the areas/counties that will be designated nonattainment. Enclosure 2 provides information on those areas/counties which do not require modification, but which differ from EPA's presumptive boundaries. We look forward to a continued dialogue with Alabama as we work to finalize the designations for the 8-hour ozone standard. If you have any questions, please do not hesitate to contact Beverly Banister, Director, Air Pesticides, and Toxics Management Division, at (404) 562-9326 or Kay Prince, Chief, Air Planning Branch, at (404)-562-9026.

Sincerely,

J. I. Palmer, Jr.
Regional Administrator

Enclosure

cc: Ron Gore, ADEM
Daniel E. Shea, Huntsville DNR
James L. Carroll, Jefferson County DHEHS

Attachment 2

Letter from ADEM to EPA
January 21, 2004

Request for Exclusion of Jefferson County
From 8-Hour Ozone Nonattainment Area

ADEM

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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GOVERNOR

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General Counsel: 394-4332
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Land: 279-3050
Water: 279-3051
Groundwater: 270-5631
Field Operations: 272-8131
Laboratory: 277-6718
Mining: 394-4326
Education/Outreach: 394-4383

January 21, 2004

Mr. James I. Palmer, Jr.
Regional Administrator
U.S. EPA, Region 4
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, Georgia 30303-8960

Dear Mr. Palmer:

We have received your letter dated December 3, 2003, in which you agreed with our June 2003 recommendation that the Birmingham 8-hour ozone nonattainment area should consist of Jefferson and Shelby counties. That recommendation was based on ozone monitoring data through 2002. In accordance with previous guidance from EPA, we now wish to revise our recommendation based on data through 2003.

Monitoring data for the years 2001 through 2003 indicate that all monitors in Jefferson County measure attainment of the 8-hour ozone standard. The monitor located in Shelby County continues to show nonattainment of the 8-hour ozone standard (3-year average of 87 ppb vs. the 85 ppb standard). Attachment 1 shows the most recent 8-hour ozone design values for all monitors located in Jefferson and Shelby counties. Based on the latest monitoring data, we recommend that the nonattainment area should consist only of Shelby County.

The underlying principle in developing our June 2003 recommendations was EPA's air quality modeling, which indicated that the decrease in ozone concentrations predicted to result from several national and regional emissions reduction initiatives will be sufficient to bring all areas of Alabama into attainment of the new 8-hour ozone standard by the year 2007. Since additional local controls are unlikely to be required in order for Shelby County to meet this new National Ambient Air Quality Standard (NAAQS), it seems unnecessary to designate any county as non-attainment other than Shelby County. Further, even if local controls prove necessary, ADEM has legal authority to impose reduction measures in any county near Shelby County, regardless of the attainment status of that nearby county.

We also considered the following additional factors in recommending that only Shelby County be designated nonattainment:

- The extensive monitoring network in Jefferson County provides data supporting Jefferson County's non-inclusion. All nine ozone monitors in Jefferson County reflect attainment of the 8-hour ozone standard. The attached map shows that the monitoring network measures ozone levels in all corners of the county. It is likely that, on a monitor per square mile basis, this is the most heavily monitored area in the southeast. It is illogical to designate a county non-attainment when so many monitors measure attainment.

Birmingham Branch
110 Vulcan Road
Birmingham, Alabama 35209-4702
(205) 942-6168
(205) 941-1603 [Fax]

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, Alabama 35603-1333
(256) 353-1713
(256) 340-0359 [Fax]

Mobile Branch
2204 Perimeter Road
Mobile, Alabama 36615-1131
(251) 450-3400
(251) 479-2593 [Fax]

Mobile – Coastal
4171 Commanders Drive
Mobile, Alabama 36615-1421
(251) 432-6533
(251) 432-6598 [Fax]

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- The principal contributing factor to Shelby County's ozone non-attainment status is the high regional background ozone level during ozone episodes. Analysis of air quality data has shown that, on days when the 8-hour ozone standard is exceeded in the Birmingham area, the incoming background 8-hour ozone levels are typically near 70 parts per billion, which is about 80 percent of the 8-hour ozone standard. While emissions in the Jefferson and Shelby County urban area contribute an additional 20 to 25 parts per billion to the total ozone load during episodes, air pollution controls shown by EPA to be necessary to mitigate regional background ozone levels would be of a regional or national nature, not locally specific.

- The withdrawal of Jefferson County from the non-attainment area should have no negative effects on Shelby County.

- The recommendation to exclude Jefferson County is also supported by the Jefferson County Department of Health, which, as you know, administers air quality regulations in Jefferson County through its Air and Radiation Protection Division.

We look forward to EPA's concurrence on this issue. Should you require additional information, please contact Mr. Ron Gore of the Air Division at (334) 271-7868.

Sincerely,

James W. Warr
Director

JWW/rdg

Attachments

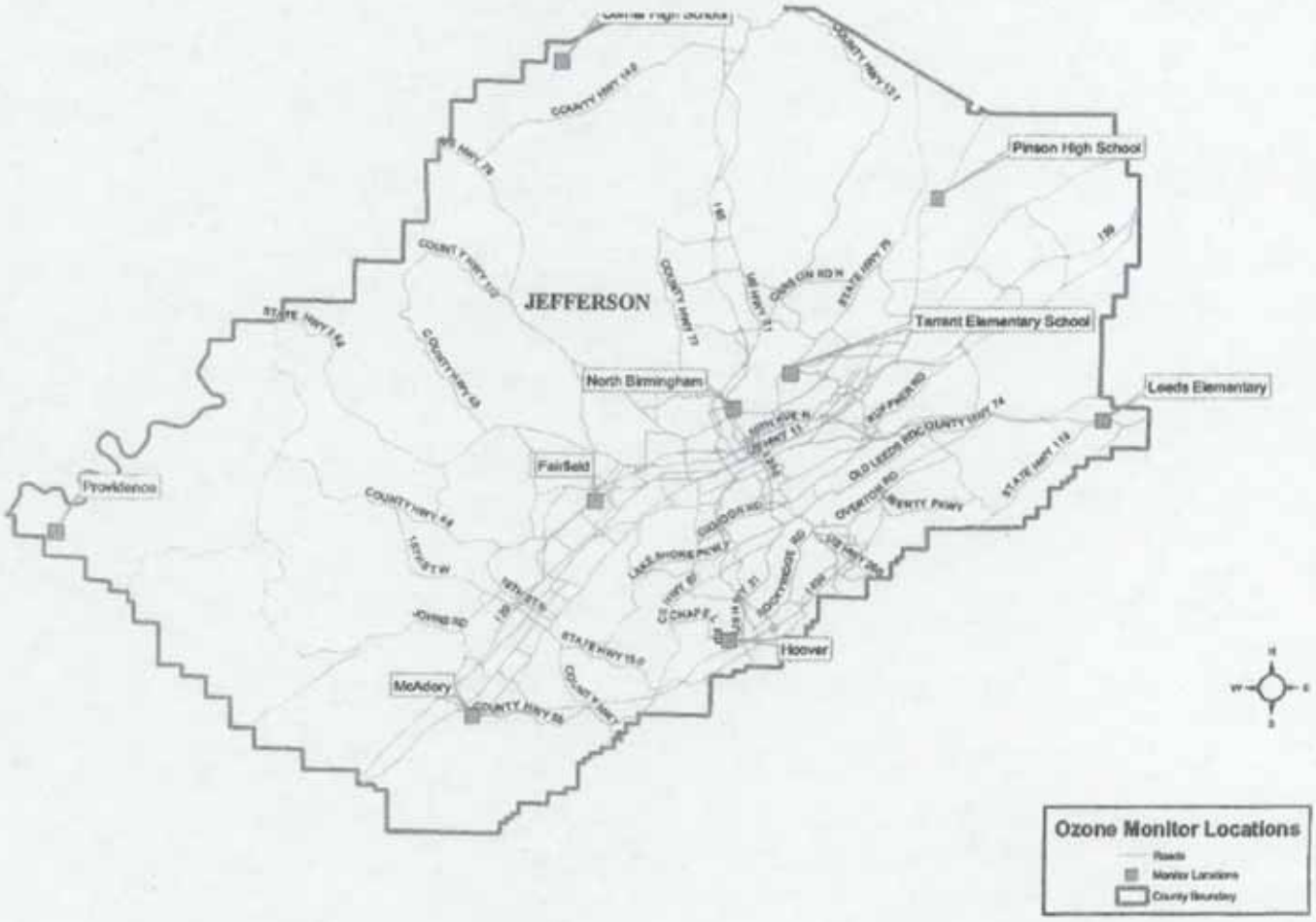
cc: Beverly Banister, EPA
Jefferson County Department of Health

Attacment 1
Letter from ADEM
January 21, 2004

Attachment 1
Birmingham Area 8-Hour Ozone Design Values (ppm)

			3 Yr Avg.		4th High Values		
		County	2001-2003		2003	2002	2001
Helena		Shelby	0.087		0.083	0.090	0.089
Fairfield		Jefferson	0.079		0.075	0.084	0.078
McAdory		Jefferson	0.079		0.073	0.081	0.084
Hoover		Jefferson	0.083		0.077	0.086	0.086
Pinson		Jefferson	0.079		0.081	0.078	0.080
Tarrant		Jefferson	0.075		0.075	0.083	0.080
Corner		Jefferson	0.080		0.077	0.083	0.081
Providence		Jefferson	0.081		0.070	0.086	0.086
North Bham		Jefferson	0.076		0.068	0.082	0.079
Leeds		Jefferson	0.072		0.070	0.077	0.071

Attachment 2
Letter from ADEM
January 21, 2004



Attachment 3

EPA Mapping
8-Hour Average Peak Ozone Concentrations
2001-2003

8-Hour Average Peak Ozone Concentrations 2001

August 3, 2001

August 15, 2001

August 23, 2001

August 24, 2001

August 25, 2001

8-Hour Average Peak Ozone Concentrations 2002

8-Hour Average Peak Ozone Concentrations 2003

April 13, 2003
Not Available
From the EPA

May 24, 2003

June 23, 2003

September 9, 2003

Attachment 4

Surface Wind Analyses
(Wind Directions and Wind Speeds)
Birmingham International Airport Observations
2001-2003