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Federal Facilities

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Air Quality Planning
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DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
333 W. Nye Lane, Room 138
Carson City, Nevada 89706

April 12, 2004

Mr. Wayne Nastri
Regional Administrator
U.S. EPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105

RE: Revised recommended designations for the eight-hour ozone National Ambient Air Quality Standards (NAAQS)

Dear Mr. Nastri:

Pursuant to Section 107(d) of the Clean Air Act, I am submitting this letter to recommend to the EPA that all counties in the State of Nevada, with the exception of Clark County, be designated as attainment or unclassifiable for the 8-hour ozone standard. Based on a review of the 2003 monitoring data, the State is revising its earlier recommendation (dated July 10, 2003) and recommending that Clark County be designated non-attainment for the 8-hour standard. The attached document provides the State's justification for this recommendation and for using the political boundaries of Clark County as the boundary of the non-attainment area.

Please contact Colleen Cripps at (775) 687-9346 if you have any questions concerning this submittal.

Sincerely,

Allen Biaggi
Administrator

Enclosures

Post-it® Fax Note 7671	Date	# of pages ▶ 2
To Steve Barkite	From Colleen Cripps	
Co./Dept. EPA R9	Co. NDEP	
Phone #	Phone # 775-687-9346	
Fax # 415947-3581	Fax #	

Cc: Colleen Cripps, NDEP (w/enc.)
Christine Robinson, Clark County DAQM (w/enc.)
Nancy Wrona, Arizona DEQ (w/enc.)
Andy Goodrich, Washoe County AQMD
Steven Barhite, EPA Region IX
John Kennedy, EPA Region IX

Nevada Air Quality Designations and Boundary Recommendations for the 8-Hour Ozone National Ambient Air Quality Standard

Bureau of Air Quality Planning
Nevada Division of Environmental Protection
Allen Biaggi, Administrator

March 26, 2004

Nevada Air Quality Designations and Boundary Recommendations for the 8-Hour Ozone National Ambient Air Quality Standard

EXECUTIVE SUMMARY

Pursuant to Section 107(d) of the Clean Air Act, the State of Nevada recommends that Clark County be designated non-attainment for the 8-hour ozone standard and that the rest of the state be designated attainment/unclassifiable for the 8-hour ozone national ambient air quality standard (NAAQS). By recommending Clark County as the non-attainment area, Nevada is recommending a boundary that is significantly smaller than the metropolitan statistical area (MSA) which is EPA's presumptive default non-attainment area definition. For the metropolitan Las Vegas area, this default area would be the Las Vegas MSA, which includes all of Clark County, Nye County and Mojave County in Arizona. The following analyses, prepared by Arizona and Nevada, show that the MSA is an inappropriate boundary for the 8-hour ozone non-attainment area. Mojave County and Nye County are rural, sparsely populated, are not significant sources of ozone precursors, and are geographically isolated from the Las Vegas Valley urban area, which is both the source and receptor of the ozone pollution. There is no transport of ozone precursors into Nye County or Mojave County and those counties are not affected by the ozone produced in the urban core of Clark County. Nevada's recommendation is consistent with the new MSA definitions adopted on June 6, 2003 by the U.S. Bureau of Census.

Nevada is not making a recommendation for any tribal lands located in the described geographical area, as tribal lands are not within the State's jurisdiction for air quality purposes. NDEP respects tribal sovereignty and has worked to develop cooperative relationships with tribal air quality programs throughout the State. Nothing in this analysis should be interpreted to affect the designation of Indian Country.

Background

On March 28, 2000, The U.S. Environmental Protection Agency (EPA) issued guidance for states to use as they developed their recommendations - "Boundary Guidance on Air Quality Designations for the 8-Hour Ozone National Ambient Air Quality Standards." In addition, Section 107(d)(1)(A)(i) of the Clean Air Act (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..."*

The March 28, 2000, guidance stated metropolitan statistical areas (MSAs) would be the presumptive default nonattainment areas. The U.S. Bureau of the Census defines MSAs. In order to establish a non-attainment area other than the default, a state must address the following eleven criteria listed in the guidance:

1. Emissions and air quality in adjacent areas (including adjacent C/MSAs),
2. Population density and degree of urbanization including commercial development (significant difference from surrounding areas),
3. Monitoring data representing ozone concentrations in local areas and larger areas (urban or regional scale),
4. Location of emission sources (emission sources and nearby receptors should generally be included in the same nonattainment area),
5. Traffic and commuting patterns,
6. Expected growth (including extent, pattern and rate of growth),
7. Meteorology (weather/transport patterns),
8. Geography/topography (mountain ranges or other air basin boundaries),
9. Jurisdictional boundaries (e.g., counties, air districts, existing 1-hour nonattainment areas, Reservations, etc.),
10. Level of control of emission sources,
11. Regional emission reductions (e.g., NOx SIP call or other enforceable regional strategies).

The State of Nevada in this submittal will provide the rationale for not including Nye County in the non-attainment designation through this submittal. The State of Arizona has prepared and submitted a similar assessment for Mojave County under separate cover to EPA. A copy of their justification is attached as Appendix A.

The Las Vegas MSA Is Not an Appropriate Nonattainment Area Boundary

The Las Vegas MSA includes a total of 202,729 square miles, with Clark County accounting for 8,091 square miles, Nye County with 181,159 square miles and Mojave County with 13,479 square miles. The Nye County portion of the MSA includes large expanses of federally owned, undeveloped and undevelopable desert, a small amount of agricultural development, and small isolated rural communities that are not significant sources of ozone precursors. The entire MSA is characterized by basin and range topography and the State has, since the inception of the Clean Air Act, been divided into hydrographic basins for air quality management purposes. The numerous mountain ranges in Clark County separate the Las Vegas Valley and its ozone producing sources from Nye County. In addition prevailing winds further isolate the impacts of ozone generated in the Las Vegas Valley from Nye County and ensure that the very small volume of ozone precursors generated in Nye County are not transported into Clark County. Therefore, Nye County is neither a receptor of ozone pollution nor includes significant sources of ozone precursors that would impact the monitored non-attainment area in Clark County and should not be included within the non-attainment boundary.

The air quality record for the MSA demonstrates that the area where exceedances of the eight-hour ozone standard were measured is in the urban core: within the city of Las Vegas, in the center of the Las Vegas Valley, in the center of Clark County. This area, the most heavily urbanized part of the MSA, also contains the primary sources of ozone precursors. The highest emission densities are collocated with the densest residential and commercial development. While biogenic emissions of ozone precursors are distributed throughout the MSA and other

anthropogenic sources may be found in association with rural communities and industrial sources, these sources are considered to be insignificant when compared to the anthropogenic emissions from the Las Vegas Valley in contributing to the exceedance of the eight-hour ozone standard measured in the MSA.

Land ownership patterns have greatly influenced development patterns in the MSA and are expected to continue to do so. Only 7.14% of Clark County and 2.11% of Nye County is privately owned. State and federal lands create large, expansive barriers to contiguous expansion of the urbanized core beyond the north central portion of the MSA. As a result, the majority of the MSA is expected to remain as neither a source nor a receptor of ozone pollution.

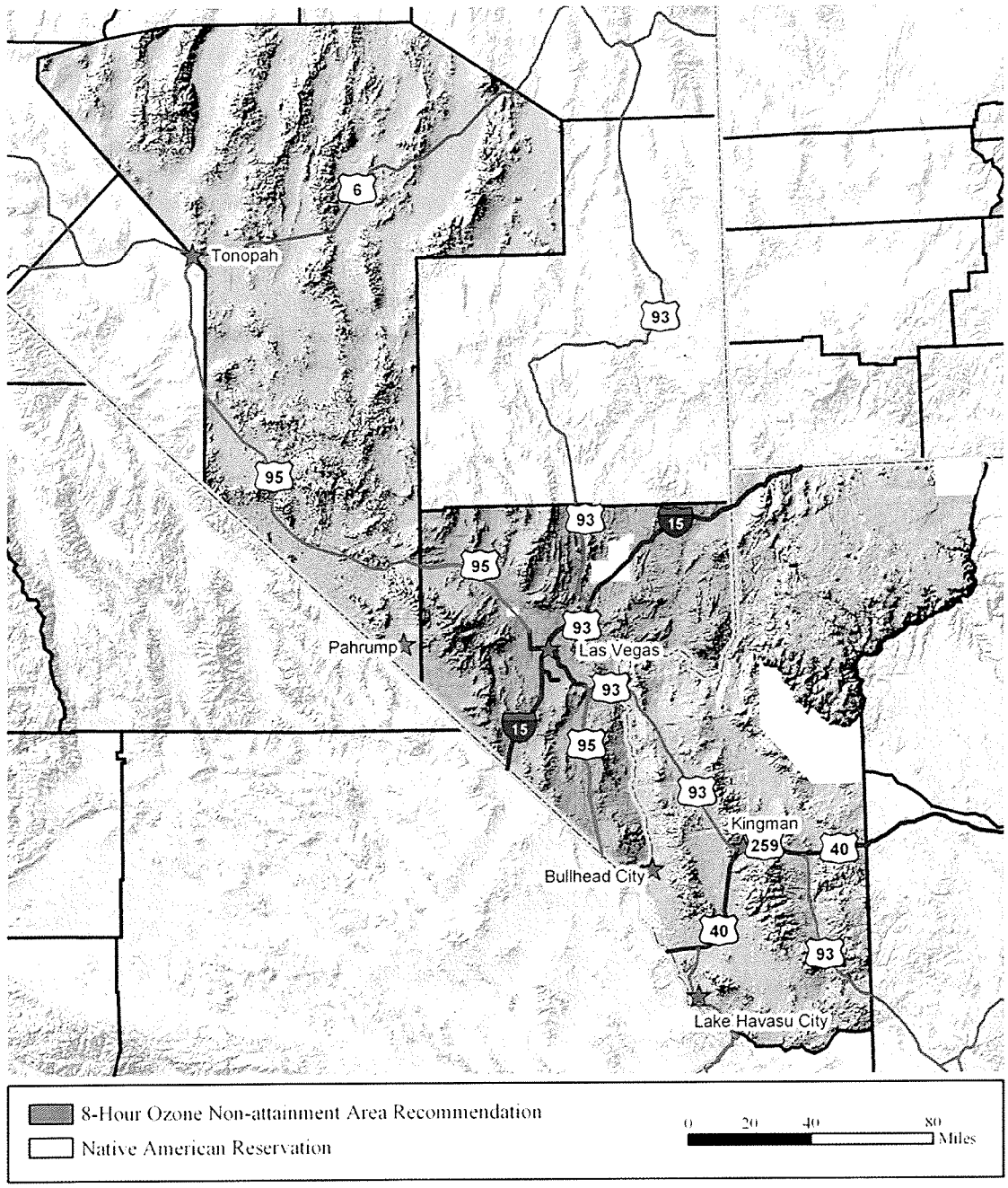
Recommended Alternative Eight-Hour Ozone Nonattainment Area Boundary

The nonattainment area recommended by Nevada is smaller than the MSA, but still meets the definition in Section 107(d)(1)(A)(i) of the Clean Air Act, addresses the criteria identified in EPA's March 2000 guidance, and is consistent with the new MSA defined by the Census Bureau on June 6, 2003. The recommended area encompasses all of Clark County, including, at the County's core, the Las Vegas Valley - an area of significant residential and stationary source growth. The recommended area excludes Nye County, Mojave County and the Las Vegas Paiute Tribal Community, the Moapa Band of the Paiute Tribal Land and the Fort Mojave Indian Reservation.

In the absence of conclusive air quality modeling and additional monitoring, it is not possible at this time to determine the precise extent of nonattainment beyond Las Vegas Valley. Therefore, Nevada's recommendation is that all of Clark County be designated non-attainment for the 8-hour ozone standard. The designation of the entire County will provide a wide buffer area between the Las Vegas Valley and Nye and Mojave County. The rest of the state would be designated an attainment/unclassifiable area, as explained in Section IV.A.

Figure ES1 illustrates the recommended 8-hour nonattainment area. Table ES1 describes by county the areas of the State recommended for Attainment/Unclassifiable and Nonattainment.

Figure ES1: 8-Hour Nonattainment Area Recommendation



Native American Reservation data is 2000 Census TIGER data

Table ES1: Recommended Attainment/Unclassifiable and Nonattainment Areas for Nevada

Nevada-Ozone (8-Hour Standard)

Designated Area	Designation Type	Classification Type
Nevada Area:		
Clark County (except those portions in Indian Country).....	Nonattainment	
Rest of State (except those portions in Indian Country).....	Attainment/ Unclassifiable	
Carson City		
Churchill County		
Douglas County		
Elko County		
Esmeralda County		
Eureka County		
Humboldt County		
Lander County		
Lyon County		
Mineral County		
Nye County		
Pershing County		
Storey County		
Washoe County		
White Pine County		

Nevada Air Quality Designations and Boundary Recommendations for the 8-Hour Ozone National Ambient Air Quality Standard

I. BACKGROUND AND REGULATORY HISTORY

The U.S. Environmental Protection Agency (EPA) is charged with developing air quality standards for the protection of human health and welfare. EPA is also required to periodically evaluate those standards and revise them if scientific analyses indicate different standards would be more protective of public health and welfare.

Children are considered among those most at risk from exposure to ozone because they are active outdoors when ozone concentrations are highest. Adults who are outdoors and active during the summer months, as well as those with asthma or respiratory illnesses, are also at risk when exposed to relatively low ozone levels during periods of moderate exertion. Individuals can experience chest pain and cough or other adverse health effects including increased asthma attacks, chronic lung inflammation, decreased lung function, and decreased lung defenses against bacterial respiratory infections.

In 1997, EPA adopted a more stringent 8-hour standard. The averaging time for the new standard (peak ozone levels are calculated over eight hours rather than over one hour) better protects the public from longer periods of exposure to ozone and helps ensure the protection of those most vulnerable, such as children and the elderly.

Table I: Comparison of Ozone Standards

Standard	Level	Averaging Time	Form (attainment test)
One-Hour	0.12 ppm	1 hour	Three exceedances at a monitor allowed in a three year period; fourth exceedance is a violation
Eight-Hour	0.08 ppm	8 hours	Three-year average of the annual fourth highest 8-hour concentration, calculated for each monitor*

* Because of the rounding convention used, 0.085 is considered the level of a violation of the standard.

Following court challenges, the U.S. Supreme Court, in February 2001, affirmed EPA's new ozone national ambient air quality standard (Whitman v. American Trucking Associations, U.S. Supreme Court, Nos. 99-1257, 99-1426, February 27, 2001) and directed EPA to move forward with implementation. As part of the process, states and tribes were requested to recommend areas that do or do not meet the new standard by July 15, 2003. EPA must publish the

designations for all areas by April 15, 2004 (American Lung Association, et al, vs. Christine Todd Whitman, Administrator, EPA, v. EPA No. 02-2239 (D.D.C.) No. 02-2239, filed November 13, 2002).

Nevada submitted its original recommendations on July 10, 2003 (see Attachment B). That recommendation was based on 2000-2002 data which showed that the entire state was in attainment of the 8-hour ozone standard. On December 3, 2003, EPA Region 9 responded to our submittal indicating that they agreed with our recommendation not to designate any Nevada area as non-attainment for the 8-hour standard (see Attachment C). EPA went on to state that they would continue to closely review monitoring data for 2003 to determine if it might affect the State's recommendation and requested that the state expedite the submittal of the 2003 monitoring data to EPA so that the designation could accurately reflect the State's air quality. EPA requested that this data be submitted by December 17, 2003. Final quality assurance of this data occurred in March of 2004, showing a single violation of the 8-hour ozone standard at 86 ppb (attainment of the standard occurs at 84 ppb). On March 18, 2004, EPA notified the State of its intent to designate the Las Vegas MSA as non-attainment for the 8-hour standard and requested a revised designation letter that included the boundary recommendations for the non-attainment area.

II. AREA DESIGNATION CRITERIA

On March 28, 2000, EPA issued guidance for states to use as they developed their recommendations - "Boundary Guidance on Air Quality Designations for the 8-Hour Ozone National Ambient Air Quality Standards" (see Appendix 1). In addition, Section 107(d)(1)(A)(i) of the Clean Air Act (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..."*

The March 28, 2000, guidance stated metropolitan statistical areas (MSAs) would be the presumptive default nonattainment areas. The U.S. Bureau of the Census defines MSAs. In order to avoid the default, a state must address eleven criteria listed in the guidance.

1) Emissions and air quality in adjacent areas (including adjacent C/MSAs),
2) Population density and degree of urbanization including commercial development (significant difference from surrounding areas),
3) Monitoring data representing ozone concentrations in local areas and larger areas (urban or regional scale),
4) Location of emission sources (emission sources and nearby receptors should generally be included in the same nonattainment area),
5) Traffic and commuting patterns,
6) Expected growth (including extent, pattern and rate of growth),
7) Meteorology (weather/transport patterns),
8) Geography/topography (mountain ranges or other air basin boundaries),
9) Jurisdictional boundaries (e.g., counties, air districts, existing 1-hour nonattainment areas, Reservations, etc.),

10) Level of control of emission sources,
11) Regional emission reductions (e.g., NOx SIP call or other enforceable regional strategies).

NDEP used these factors in developing the recommended nonattainment boundaries, as detailed in the following sections. This analysis only addresses the Nevada portion of the MSA. The Mojave County portion of the MSA is addressed in a separate document prepared and submitted by the State of Arizona under separate cover. A copy of that submittal is attached.

III. AREA DESIGNATION CRITERIA ANALYSIS

III.A For Those Areas Recommended For Attainment/Unclassifiable

Nevada's recommendation for the State's attainment/unclassifiable areas is primarily based on guidance criteria related to monitoring data trends, jurisdictional boundaries, current and expected population growth, and available emissions information from EPA's national emissions inventory.

Monitoring Data Trends

NDEP, local agencies and federal land managers currently operate monitoring sites in seven counties across Nevada. Using EPA's guidance, monitoring network design values for the 8-hour standard were determined through the following steps:

1) State and local agency daily ambient ozone concentrations were recorded for each of the monitoring sites across Nevada. All data were evaluated for completeness as specified in EPA's Guideline on Data Handling Conventions for the 8-hour Ozone NAAQS (U.S. EPA, December 1998);

2) Daily maximum 8-hour average ozone concentrations were calculated for each monitor, the fourth highest values for each year were determined, and the three-year average of the annual fourth highest values were calculated for the 2000-2002 period;

3) The design value for each monitor was compared to the NAAQS. The design value is the three-year average of the annual fourth highest 8-hour ozone concentration at the highest monitor. A calculated value less than 85 ppb is attainment of the standard, a calculated value of 85 ppb or greater is a violation of the standard.

An examination of the monitored air quality data shows that none of Nevada's counties, other than Clark County, have recorded exceedances or violations of the 8-hour standard from 2001 through 2003. Therefore, except for Clark County, Nevada is recommending that the rest of the state be designated attainment/unclassifiable. Appendix 3 summarizes monitored exceedances and violations of the 8-hour standard from 2001 through 2003. The 2001-2003 design values for recommended attainment/unclassifiable areas are shown in Table III.A.1.

Table III.A.1: 2000-2002 8-Hour Ozone Design Values for Nevada Counties (except Clark County)	
County	**Design Value (ppb)**
CarsonCity	69
Churchill (Fallon)	62
Douglas (Cave Rock)	71
Elko	n/a
Esmeralda	n/a
Eureka	n/a
Humboldt	n/a
Lander	n/a
Lyon (Fernley)	66
Mineral	n/a
Nye	n/a
Pershing	n/a
Storey	n/a
Washoe (Reno)	74*
White Pine (GBNP)	70

*This number represents the highest design value for the monitoring network in Washoe County. All other counties for which data are available contain a single monitor.

Jurisdictional Boundaries

In its analysis, NDEP included consideration of existing political boundaries, such as state lines, county lines and existing control measure applicability areas, such as the CO and PM10 non-attainment areas in Clark County.

Population Data

The level of population density on a county basis is low throughout the State with the exception of Clark County. In particular, the population density of Nye County is 1.93 individuals per square mile compared to 191.53 for Clark County. Table III.A.2 summarizes information on county population and density, and identifies the largest city for each county.

Table III.A.2: 2002 Nevada Population Data				
County/Largest City	**Area (square miles)**	**County Population**	**Largest City Population**	**Population Density (persons per square mile)**
Carson City	156	54,844		351.56
Churchill County	5,023	25,116		5.0
Fallon			8,178	
Clark County	8,091	1,549,647		191.53
Las Vegas Area*			860,093	
Douglas County	738	44,212		59.91
Minden-Garnerville			6,895	
Elko County	17,203	46,557		2.71
Elko			16,690	
Esmeralda County	3,589	1,125		0.31
Goldfield			438	
Eureka County	4,180	1,384		0.33
Eureka			434	
Humboldt County	9,658	16,308		3.90
Winnemucca			7,234	
Lander County	5,519	5,547		1.01
Battle Mountain			2,770	
Lincoln County	10,637	8,879		0.83
Caliente			1,058	
Lyon County	2,016	38,777		19.23
Fernley			10,440	
Mineral County	3,813	4,695		1.23
Hawthorne			2,995	
Nye County	18,159	35,039		1.93
Pahrump			27,527	
Pershing County	6,068	6,937		1.14
Lovelock			2,267	
Storey County	264	3,639		13.78
Virginia City			882	
Washoe County	6,551	359,423		54.87
Reno/Sparks			263,059	
White Pine County	8,897	8,863		1.00
Ely			3,886	
Nevada Total	110,561	2,023,378		18.3

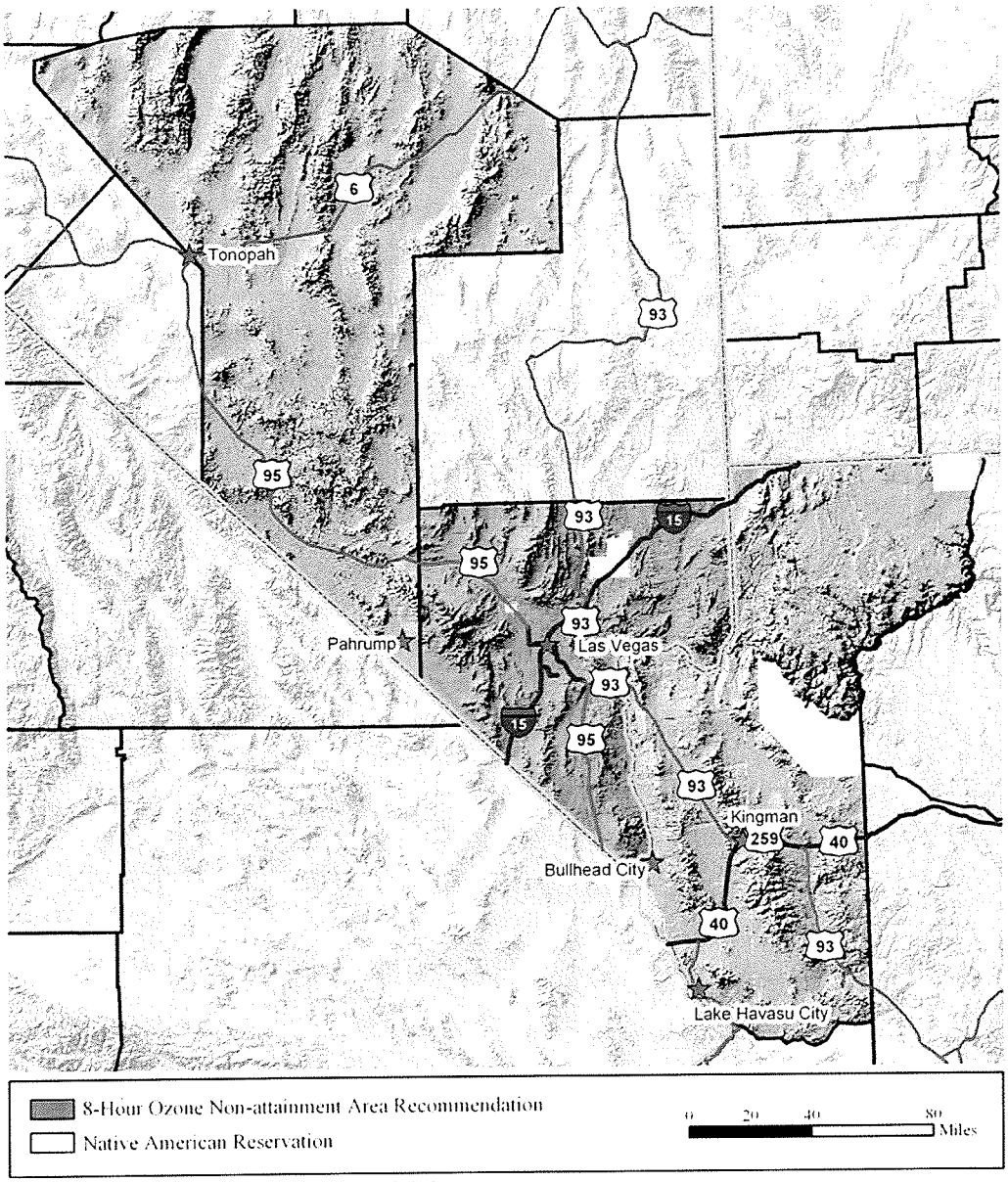
Source: Nevada State Library and Archives, Department of Cultural Affairs (DCA) (Area Data); Nevada State Demographer, 2002 population estimates, released 1-27-02. Population density was calculated from DCA and State Demographer data. There are few "urbanized areas" in Nevada. These include Las Vegas, Reno/Sparks and Carson City (67 FR 21962, May 1, 2002). An "urbanized area" is defined by the U.S. Office of Management and Budget as a continuously built-up area of 50,000 or more and generally has an overall population density of at least 1,000 persons per square mile.

*This number includes Las Vegas, North Las Vegas and Henderson.

III.B For Those Areas Recommended For Nonattainment

Monitoring data from 2001-2003 show a single violation of the 8-hour ozone standard in the Las Vegas Valley. As a result, some portion of the Las Vegas MSA should be designated non-attainment for the 8-hour NAAQS for ozone. Figure III.B.a illustrates the non-attainment area recommended by the Governor. What follows is an explanation of how each of the eleven criteria was addressed in the decision-making.

Figure III.B.a: Recommended 8-Hour Nonattainment Area



Native American Reservation data is 2000 Census TIGER data

III.B.1 Criterion #1 – Emissions and Air Quality in Adjacent Areas (including adjacent C/MSAs)

Section 107 of the Clean Air Act requires that areas not contribute to violations of ambient air quality. As indicated in the following table, Nye County volatile organic compound (VOC) and nitrogen oxide (NOx) emissions, the primary precursors to ozone formation, are substantially less than those that are produced in Clark County, the site of the only violating monitor. The emissions data (see Table III.B.1) show that Nye county sources emit only 1.97% of the NOx and 1.42% of the VOC emissions when compared to Clark County's total emissions. In addition, Nye County's emissions are spread over an area 2.24 times larger than Clark County.

In addition to the fact that contributions to Clark County from Nye county would be insignificant compared to the emissions in the Las Vegas Valley where the violation was monitored, the transport of those emission between the Las Vegas Valley and the Pahrump Valley (the nearest populated area in Nye County) is significantly limited by the topographic, geographic and meteorological characteristics of the MSA. As discussed in Criteria # 6, 7 and 8, the Las Vegas Valley and the Pahrump Valley are in separate hydrographic basins separated by the Spring Mountains. This mountain range includes Charleston Peak at 11,916 feet and the pass between the two valleys along Highway 160 is at 5594 feet. There is about 35 air miles of federally owned, undeveloped and, because of its federal ownership, undevelopable land between the Las Vegas Valley and the Pahrump Valley that includes the Mount Charleston Wilderness Area, the Red Rocks Conservation Area and a portion of the Toiyabe National Forest. Finally, the meteorology of the two valleys is significantly different and helps ensure that pollutants from Clark County are not being transported into Nye County and that the small amount of emissions generated in Nye County are not impacting Clark County. Summertime winds in the Las Vegas Valley are from the southwest along the I-15 corridor and transport any emissions from the Valley to the northeast and the Colorado Plateau. In the Pahrump Valley, summertime winds are from the southeast pushing any emissions to the northwest.

Overall, the Nye County emissions are dwarfed by the emissions from Clark County. The emissions data in combination with the topography, geography, and meteorology show that Nye County is not a source of ozone pollution for Clark County nor is Clark County's ozone impacting Nye County.

Because Clark County's monitored violation is just barely over the standard at 86 ppb and emissions are concentrated in the Las Vegas Valley and surround the monitor that measured the exceedance, measures taken by Clark County to address the violation should be sufficient to bring the area back into attainment. In addition, there is no reason to expect that the violation in Las Vegas impacts the air quality in Nye County. This factor supports the exclusion of Nye County from the recommended non-attainment area.

Table III.B.1 1999 Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx) Emissions (tons)				
Nye County	**Area Sources**	**Mobile Sources**	**Point Sources**	**Total**
NOx	144	1057	36	1237
VOC	92	691	1	784
Clark County				
NOx	4,032	27,386	31,312	62,730
VOC	18,858	23,136	13,195	55,189

Source: U.S. Environmental Protection Agency 1999 National Emission Inventory (NEI) Data

III.B.2. Criterion #2 - Population Density and Degree of Urbanization Including Commercial Development (significant difference from surrounding areas)

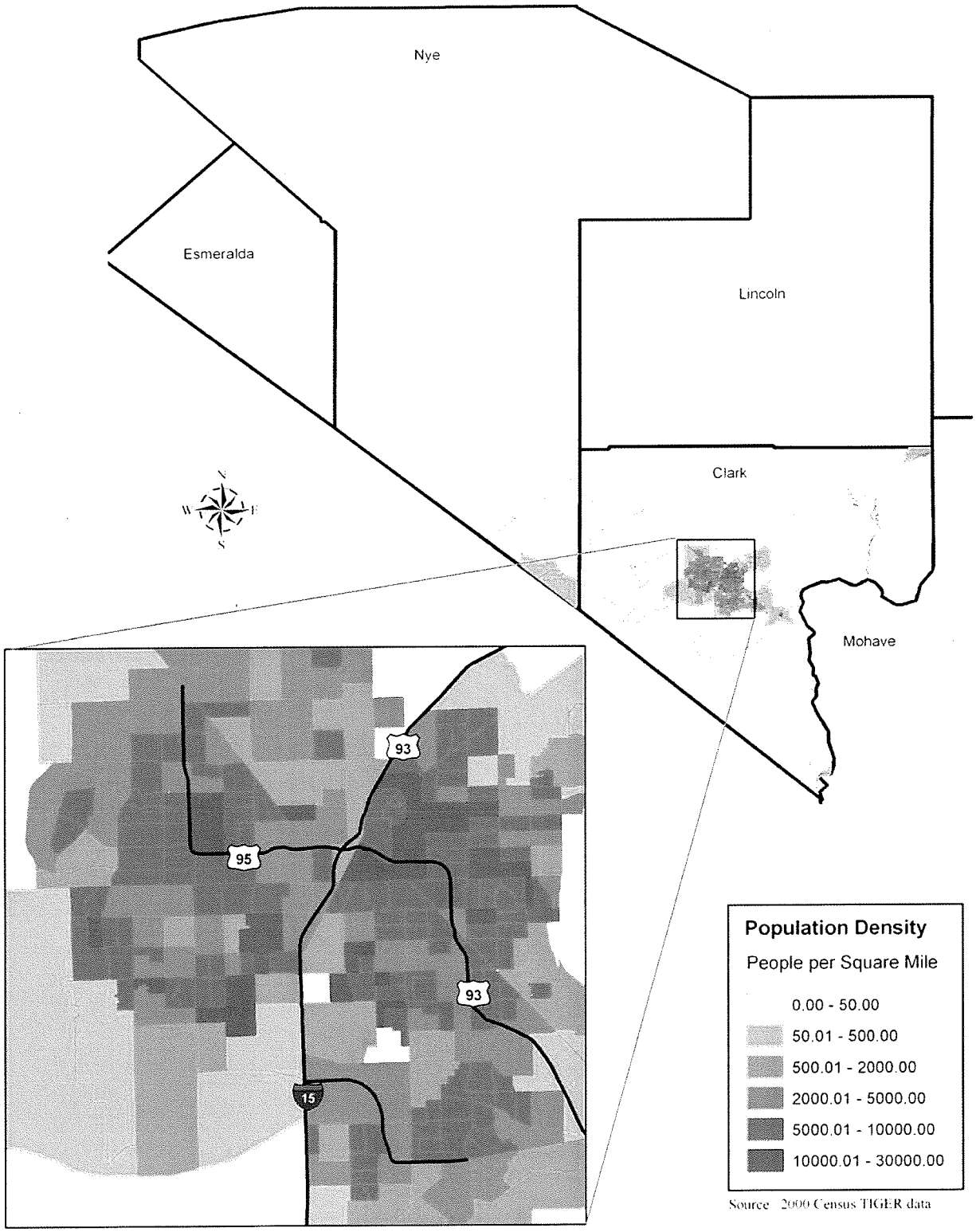
Nye County is the largest county in Nevada comprising over 16% of the state. Most of the area is desert and primarily federally owned (see Figure III.B.1). Private land accounts for only 2.11% of the county's total area (18,159 square miles). Growth in Nye County is limited by the availability of public land. In addition, the public land creates a large buffer between the largest community in Nye County (Pahrump) and the Las Vegas Valley. That buffer is approximately 35 air miles wide and includes the Spring Mountain Range, the Mount Charleston Wilderness Area, Red Rocks Conservation Area and a portion of the Toyaibe National Forest.

Consistent with the emissions levels, total population and the level of population density is low throughout Nye County. Figure III.B.2.a shows population by census tract based on 2000 U.S. Census Bureau data. There are no urban areas in Nye County and that status is unlikely to change during the timeframe necessary for Clark County to return to attainment. While the average rate of growth in Nye County over the next 10 years is expected to be 2.7% per year (Nevada State Demographer's Population Projections, April 2002), this growth rate would result in a county-wide increase of only about 9,000 residents – a number that would result in insignificant source growth.

By comparison, Clark County's population is highly urbanized with the majority of the population located in the Las Vegas Valley. The expanded portion of Figure III.B.2.a is a more detailed census tract map of the Las Vegas Valley for comparison to the rural portions of the MSA. Clark County's population is expected to grow at a similar rate with an expected population increase of 409,000 over the next 10 years. This growth is expected to be very localized and confined to existing urban area primarily due to the limited availability of private land as discussed below.

With a sharp drop in population density and a lack of urbanization at the edge of Las Vegas, which is well inside the recommended Clark County non-attainment area, analysis of Criterion 2 supports the exclusion of Nye County from the 8-hour non-attainment area.

Figure III.B.2.a: Population in Clark and Nye Counties in 2000



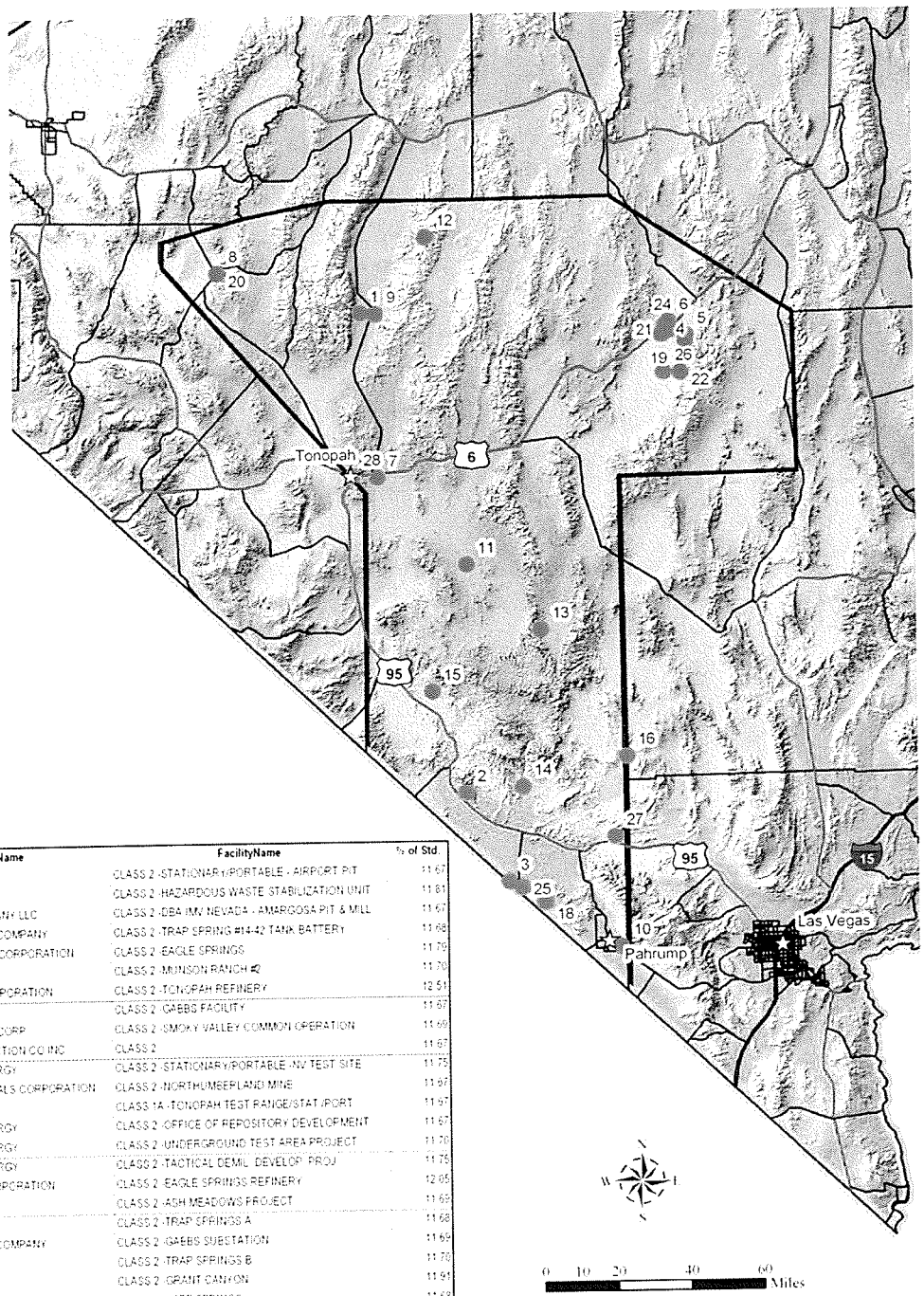
Commercial development and employment are two of the surrogate factors that may be serve as an indicator of the levels of activities generating ozone precursors. The major industries in Nye County are professional and business services, government, and leisure and hospitality. The combined 2003 labor force in Nye County is 17,350. The US Census data for 2000 show 6,231 workers in Nye County and that only 1,794 worked outside of the County.

Commercial development is very minimal in Nye County. Currently there are only 28 stationary sources of VOC or NOx emissions (see Figure III.B.2.b). These sources are distributed throughout the county and generate a total of one ton of VOC and 36 tons of NOx per year. Compared to 13,195 tons of VOC and 31,312 tons of NOx emitted annually in Clark County by stationary sources. In general, stationary sources of VOC and NOx in Clark County are located near the urban core of the County.

Pahrump, the largest community in Nye County and the closest Nye County community to the Las Vegas Valley, is considered a retirement community. This demographic can also affect the level of economic and subsequently emissions activity. The median age in Nye County is currently 43.1 years (45.4 years in Pahrump), compared to a Nevada statewide average of 35.2 years. The population over age 65 has grown by 35.22 % in Nye County over the last decade compared to an overall decrease of 11.38% statewide.

The low population levels as well as an economy dominated by business services, government and leisure/hospitality demonstrate that Nye County is not expected to be a source of ozone pollution.

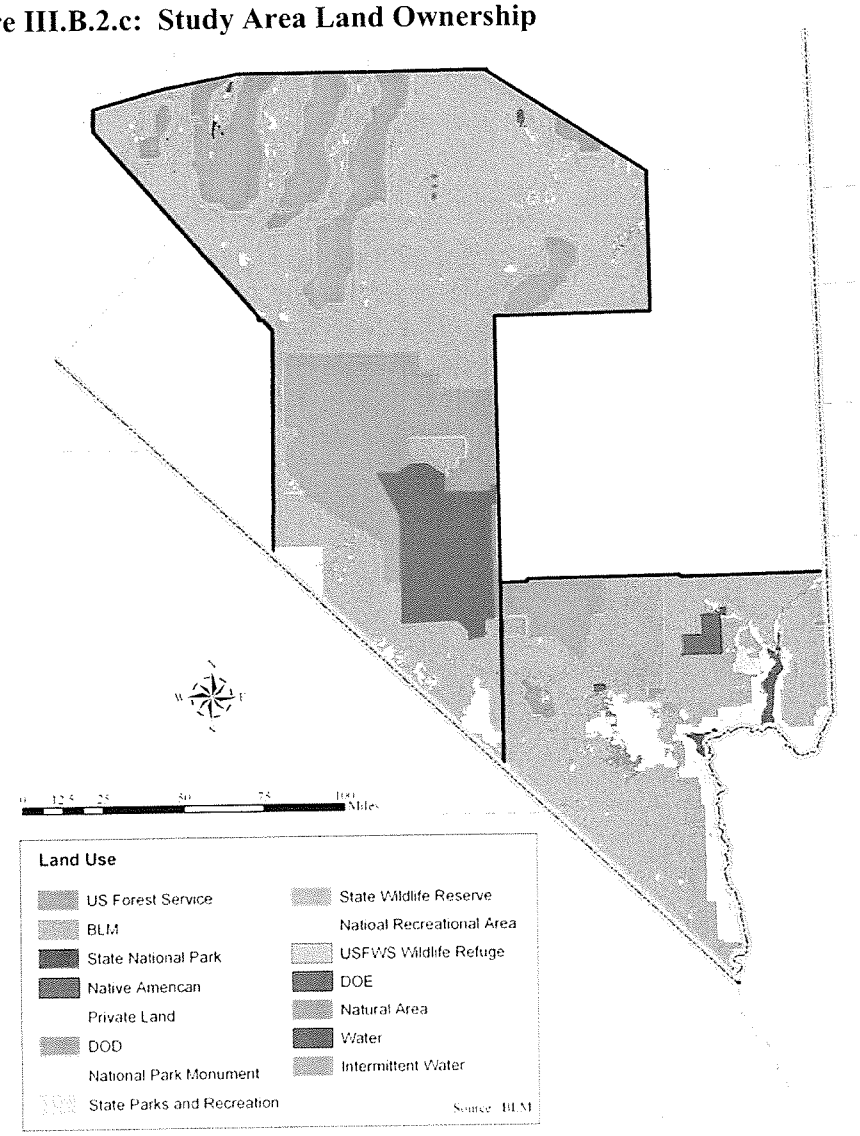
Figure III.B.2.b: Stationary Sources Emitting VOCs and NOx in Nye County



id	CompanyName	FacilityName	% of Std.
1	TONOPAH SAND & GRAVEL	CLASS 2 -STATIONARY/PORTABLE - AIRPORT PIT	11.67
2	US ECOLOGY INC	CLASS 2 -HAZARDOUS WASTE STABILIZATION UNIT	11.81
3	MUD CAMP MINING COMPANY LLC	CLASS 2 -DBA IMV NEVADA - AMARGOSA PIT & MILL	11.67
4	FRONTIER EXPLORATION COMPANY	CLASS 2 -TRAP SPRING #14-42 TANK BATTERY	11.68
5	DEERFIELD PRODUCTION CORPORATION	CLASS 2 -EAGLE SPRINGS	11.70
6	MAKOIL INC	CLASS 2 -MUNSON RANCH #2	11.70
7	FORELAND REFINING CORPORATION	CLASS 2 -TONOPAH REFINERY	12.51
8	PREMIER CHEMICALS INC	CLASS 2 -GABBS FACILITY	11.67
9	ROUND MOUNTAIN GOLD CORP	CLASS 2 -SMOKY VALLEY COMMON OPERATION	11.69
10	WULFENSTEIN CONSTRUCTION CO INC	CLASS 2	11.67
11	US DEPARTMENT OF ENERGY	CLASS 2 -STATIONARY/PORTABLE -NV TEST SITE	11.75
12	WESTERN STATES MINERALS CORPORATION	CLASS 2 -NORTHUMBERLAND MINE	11.67
13	US AIR FORCE/99ABW/EM	CLASS 1A -TONOPAH TEST RANGE/STAT./PORT	11.67
14	US DEPARTMENT OF ENERGY	CLASS 2 -OFFICE OF REPOSITORY DEVELOPMENT	11.67
15	US DEPARTMENT OF ENERGY	CLASS 2 -UNDERGROUND TEST AREA PROJECT	11.70
16	US DEPARTMENT OF ENERGY	CLASS 2 -TACTICAL DEMIL DEVELOP. PROJ	11.75
17	FORELAND REFINING CORPORATION	CLASS 2 -EAGLE SPRINGS REFINERY	12.65
18	ASH MEADOWS LLC	CLASS 2 -ASH MEADOWS PROJECT	11.69
19	MAKOIL INC	CLASS 2 -TRAP SPRINGS A	11.68
20	SIERRA PACIFIC POWER COMPANY	CLASS 2 -GABBS SUBSTATION	11.69
21	MAKOIL INC	CLASS 2 -TRAP SPRINGS B	11.70
22	MAKOIL INC	CLASS 2 -GRANT CANYON	11.94
23	MAKOIL INC	CLASS 2 -KATE SPRINGS	11.69
24	MAKOIL INC	CLASS 2 -MUNSON RANCH #6	11.69
25	AMERICAN BORATE COMPANY	CLASS 2 -AMARGOSA VALLEY	11.67
26	DOUBLE D NEVADA LLC	CLASS 3	11.69
27	AMERICAN CEMENT AND AGGREGATE	CLASS 2	11.67
28	NYE REGIONAL MEDICAL CENTER	CLASS 3	11.67

Figure III.B.2.c shows the broad range of land ownership in the study area. Land ownership patterns have greatly influenced development patterns in the MSA and are expected to continue to do so. Only 7.14% of Clark County and 2.11% of Nye County is privately owned. State and federal lands create barriers to contiguous expansion of the urbanized core of Clark County. This pattern of ownership is evident in the distribution of population density, commercial land use, and employment centers and in the distribution of current residential areas. The existence of public lands has directed, and is expected to continue to direct, where growth occurs in the greater Las Vegas area. This area is unique in that future development is constrained by the US BLM disposal boundaries in both the Pahrump Valley and the Las Vegas Valley. This boundary is set by an act of Congress and not anticipated to be changed. See Criteria #6 for related discussion.

Figure III.B.2.c: Study Area Land Ownership



III.B.3. Criterion #3 - Monitoring Data Representing Ozone Concentrations in Local Areas and Larger Areas (urban or regional scale)

In his November 14, 2002 memo, EPA Assistant Administrator, Jeffrey Holmstead, stated that state and tribal recommendations should *generally* (emphasis added) be based on 2000-2002 monitoring data, updating the request to use 1998-2000 data in the Seitz March 2000 memo, and that 2001-2003 data would be used, where quality assured data is available, in making final designations. Nevada's 2003 data in Clark County were quality assured in March of 2003. At the request of EPA, these data will be included in this revised designation action.

Clark County DAQM operates an extensive monitoring network at 14 sites in and near Las Vegas (see Figures III.B.3.a-c). For the period 2001-2003, the monitoring data show that all of the Clark County monitors, except one (the Joe Neal site in the city of Las Vegas), meet the 8-hour ozone standard. This site, near the urban core, showed a monitored design value of 0.086 parts per million. The Clark County DAQM data show that none of the other monitored areas within or outside of Las Vegas have recorded violations of the 8-hour standard for the compliance period 2001-2003. Attachment D contains a summary of monitored air quality data and 8-hour design values for the Clark County network from 2001-2003. Attachment E contains the one-hour design values. The one-hour exceedance rate is zero.

No ozone monitoring has been conducted in Nye County. Based on the distance to the Las Vegas Valley, the geographic barriers, and wind patterns, the Nevada Bureau of Air Quality Planning assumed that the ozone levels in Nye County in general and Pahrump in particular would be significantly less than the standard and similar to those monitored in other rural parts of the state (see Table III.A.1).

Figure III.B.3.a: Clark County Ozone Monitoring Sites

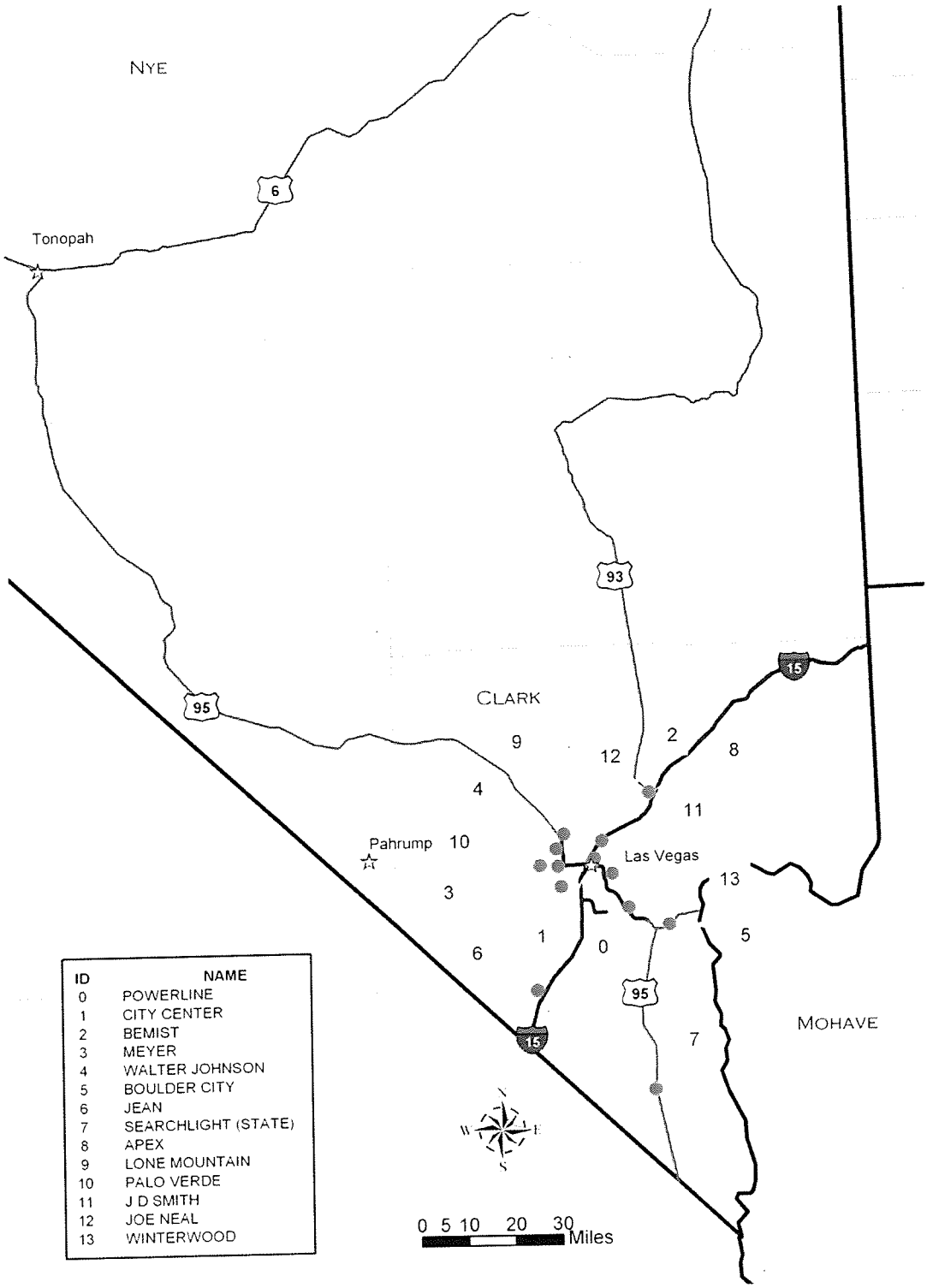
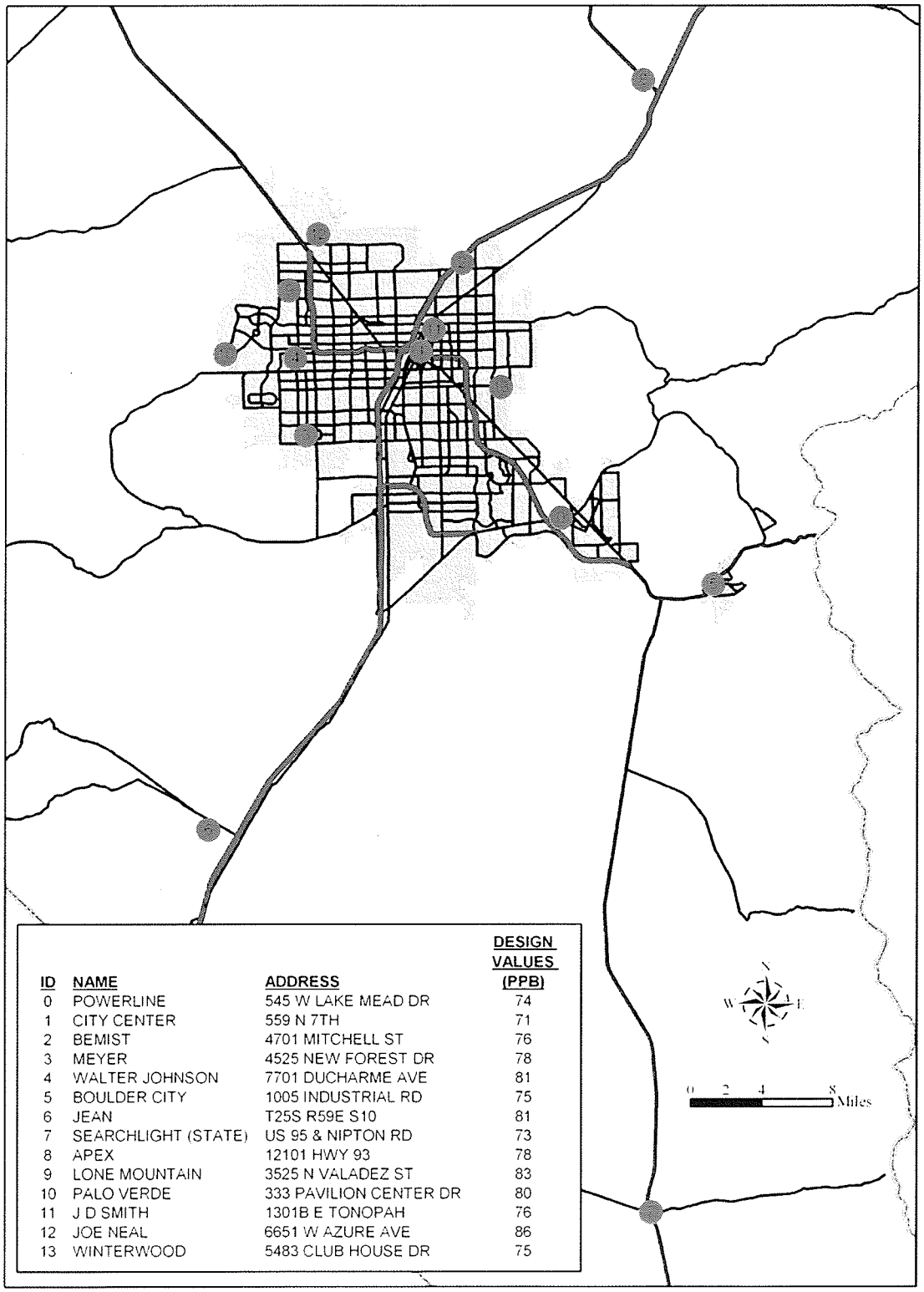
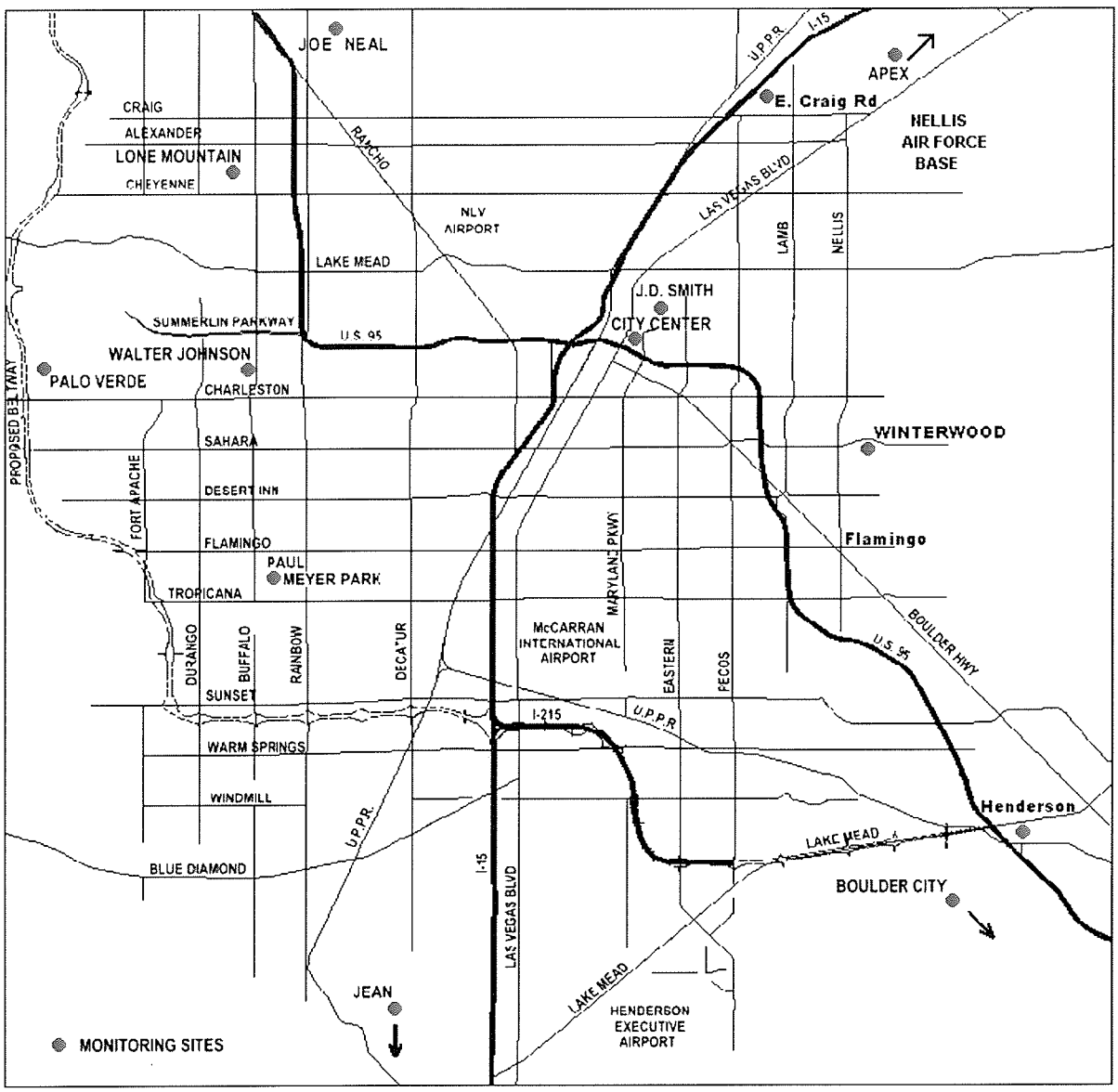


Figure III.B.2.b Clark County ozone monitoring network and design values for each site.



ID	NAME	ADDRESS	DESIGN VALUES (PPB)
0	POWERLINE	545 W LAKE MEAD DR	74
1	CITY CENTER	559 N 7TH	71
2	BEMIST	4701 MITCHELL ST	76
3	MEYER	4525 NEW FOREST DR	78
4	WALTER JOHNSON	7701 DUCHARME AVE	81
5	BOULDER CITY	1005 INDUSTRIAL RD	75
6	JEAN	T25S R59E S10	81
7	SEARCHLIGHT (STATE)	US 95 & NIPTON RD	73
8	APEX	12101 HWY 93	78
9	LONE MOUNTAIN	3525 N VALADEZ ST	83
10	PALO VERDE	333 PAVILION CENTER DR	80
11	J D SMITH	1301B E TONOPAH	76
12	JOE NEAL	6651 W AZURE AVE	86
13	WINTERWOOD	5483 CLUB HOUSE DR	75

Figure III.B.2.c Street map showing the ozone monitoring network for the Las Vegas Valley



III.B.4. Criterion #4 - Location of Emissions Sources (emissions sources and nearby receptors should generally be included in the same nonattainment area)

Area sources and mobile sources account for the largest proportion of ozone precursor emissions in both Nye County and Clark County. These sources are associated primarily with urban areas and interstate transportation corridors. In Clark County, area and mobile sources comprise 76% of the total VOC and NOx emissions for 1999. For Nye County, area and mobile sources are more than 97% of total 1999 emissions. The largest urban centers are the Las Vegas metropolitan area (pop. 779,183) in Clark County and Pahrump (pop. 24,235) and Tonopah (pop. 2,833) in Nye County.

In an attempt to characterize potential point sources of ozone generation within Nye County, all permitted stationary sources that have the potential to emit NOx and VOC's have been queried from the current point source emissions inventory and are identified on Figure III.B.4. As shown on the map, the point sources are widely distributed throughout the county. Each point source has been evaluated for its respective capability to contribute to the generation of ozone. The analysis utilized the "*VOC/NOx Point Source Screening Tables*" developed by Richard D. Scheffe, dated September 1988. The screening technique is recognized as one that, while simple to use, maintains several inherent assumptions that lead to conservative (high ozone concentration) results. The estimates generated from the screening analysis are interpreted as very conservative predictions, and ones that would otherwise exceed actual ozone formation. More refined analyses may be conducted on specific individual point sources should the screening level evaluation indicate significantly elevated ozone levels.

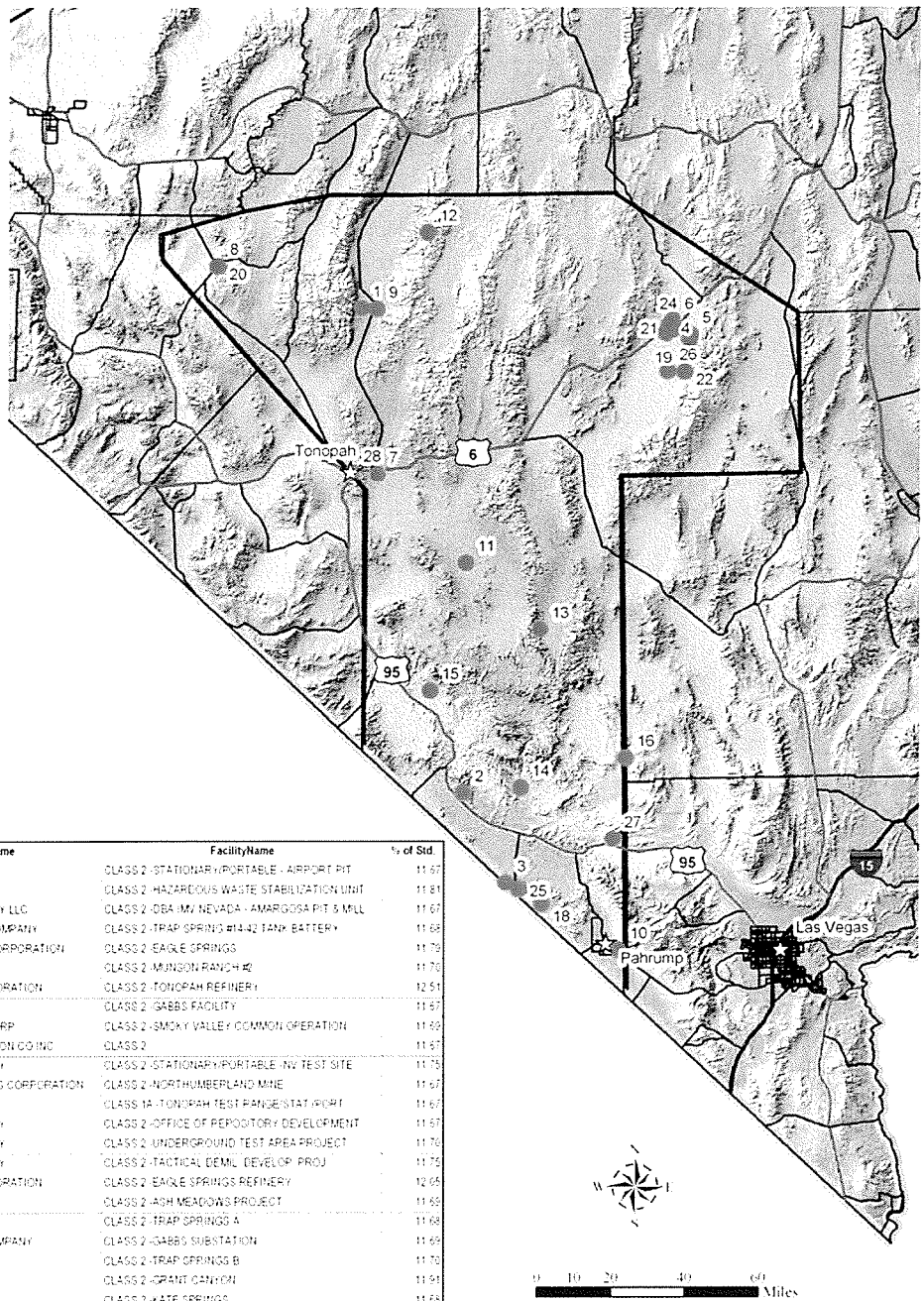
Each point source was analyzed using its maximum potential to emit of NOx and VOC's, respectively. The analysis utilized the "rural" screening tables, as each of the sources is located in an area where the downwind impact area is described as rural and no ozone exceedances have ever been reported. The results of the analysis, as identified on the accompanying map, clearly show that the levels of ozone that may be generated from these point sources is inherently low. From this analysis, it can be concluded that the likelihood of significant ozone generation from the point sources in Nye County is highly unlikely. This result is primarily due to the fact that the majority of the point sources have a potential to emit that is very low or the NOx to VOC ratio is such that the potential for ozone generation is extremely low.

As previously discussed, this analysis is a screening level evaluation that is recognized as one that will generate conservative (higher than actual) ozone levels. Utilizing each point sources' potential to emit adds to the conservative nature of this evaluation. An evaluation of the actual emissions from the same sources for calendar year 2002 shows that actual emissions of NOx are approximately 82 percent, and VOC are 67 percent of the potential to emit. An analysis of the potential for ozone generation utilizing actual emissions would indicate that the likelihood of ozone generation from the point sources would be highly unlikely. Therefore, based on the information and analysis provided, ozone generation from the point sources located in Nye County is not expected to occur.

Overall, Nye County emissions for all source categories are so small that no impact on Clark County from these sources is expected to occur. In addition, while Clark County emissions are significantly greater than Nye County emissions for all source categories, they are primarily located in the urban core of the County in the Las Vegas Valley. Pollution from Clark County is not anticipated to affect Nye County and vice versa due to distance from the pollution sources in Clark County, topographic barriers between the Las Vegas Valley and Nye County, and the prevailing wind direction in each of the Counties.

This criterion supports the exclusion of Nye County from the Las Vegas non-attainment area.

Figure III.B.4: Ozone Generation from Stationary Sources – Nye County



id	CompanyName	FacilityName	% of Std.
1	TONOPAH SAND & GRAVEL	CLASS 2 -STATIONARY/PORTABLE - AIRPORT PIT	11.67
2	US ECOLOGY INC	CLASS 2 -HAZARDOUS WASTE STABILIZATION UNIT	11.81
3	MUD CAMP MINING COMPANY LLC	CLASS 2 -DBA IMV NEVADA - AMARGOSA PIT & MILL	11.67
4	FRONTIER EXPLORATION COMPANY	CLASS 2 -TRAP SPRING #14-42 TANK BATTERY	11.68
5	DEERFIELD PRODUCTION CORPORATION	CLASS 2 -EAGLE SPRINGS	11.79
6	MAKOIL INC	CLASS 2 -MUNSON RANCH #2	11.70
7	FORELAND REFINING CORPORATION	CLASS 2 -TONOPAH REFINERY	12.51
8	PREMIER CHEMICALS INC	CLASS 2 -GABBS FACILITY	11.67
9	ROUND MOUNTAIN GOLD CORP	CLASS 2 -SMOKY VALLEY COMMON OPERATION	11.69
10	WULFENSTEIN CONSTRUCTION CO INC	CLASS 2	11.67
11	US DEPARTMENT OF ENERGY	CLASS 2 -STATIONARY/PORTABLE -NV TEST SITE	11.75
12	WESTERN STATES MINERALS CORPORATION	CLASS 2 -NORTHUMBERLAND MINE	11.67
13	US AIR FORCE/99ABW/EM	CLASS 1A -TONOPAH TEST RANGE/STAT/PORT	11.67
14	US DEPARTMENT OF ENERGY	CLASS 2 -OFFICE OF REPOSITORY DEVELOPMENT	11.67
15	US DEPARTMENT OF ENERGY	CLASS 2 -UNDERGROUND TEST AREA PROJECT	11.76
16	US DEPARTMENT OF ENERGY	CLASS 2 -TACTICAL DEMIL DEVELOP PROJ	11.75
17	FORELAND REFINING CORPORATION	CLASS 2 -EAGLE SPRINGS REFINERY	12.65
18	ASH MEADOWS LLC	CLASS 2 -ASH MEADOWS PROJECT	11.69
19	MAKOIL INC	CLASS 2 -TRAP SPRINGS A	11.68
20	SIERRA PACIFIC POWER COMPANY	CLASS 2 -GABBS SUBSTATION	11.69
21	MAKOIL INC	CLASS 2 -TRAP SPRINGS B	11.70
22	MAKOIL INC	CLASS 2 -GRANT CANYON	11.91
23	MAKOIL INC	CLASS 2 -KATE SPRINGS	11.68
24	MAKOIL INC	CLASS 2 -MUNSON RANCH #3	11.69
25	AMERICAN BORATE COMPANY	CLASS 2 -AMARGOSA VALLEY	11.67
26	DOUBLE D NEVADA LLC	CLASS 3	11.69
27	AMERICAN CEMENT AND AGGREGATE	CLASS 2	11.67
28	NYE REGIONAL MEDICAL CENTER	CLASS 3	11.67

III.B.5. Criterion #5 - Traffic and Commuting Patterns

The vehicle miles traveled in Nye County for 2002 as determined by the Nevada Department of Transportation is 350 million miles compared to 12,109 million miles in Clark County. Pahrump, the largest "urban" center in Nye County and the community nearest to Clark County, is primarily a retirement community so we would expect to see minimal commuting between Pahrump and Las Vegas. In fact, the annual average daily traffic over Highway 160, the major highway between Nye County and Clark County, is 7,720. This number includes the total number of trips in both directions and compared to the 296,846 average daily trips within Clark County is a very minor component of mobile source impact. Obviously the traffic and commuting patterns in Clark County completely dwarf those of Nye County and indicate that mobile emissions from Nye County are an insignificant source of ozone precursors.

This factor supports the exclusion of Nye County from the Las Vegas non-attainment area. There are no communities in Nye County that are centers of commuter traffic to the Las Vegas area.

III.B.6. Criterion #6 - Expected Growth (including extent, pattern and rate of growth)

Projected population growth was reviewed for the period 2000–2010. The projected population growth rate in Nye County over the next 10 years is 2.7% per year (Nevada State Demographer's Population Projections, April 2002). This growth rate would result in a county-wide increase of only about 9,000 residents – a number that would result in insignificant source growth. The State Demographer predicts a similar growth rate for Clark County, but the increase would be almost 409,000 people in the same ten year period.

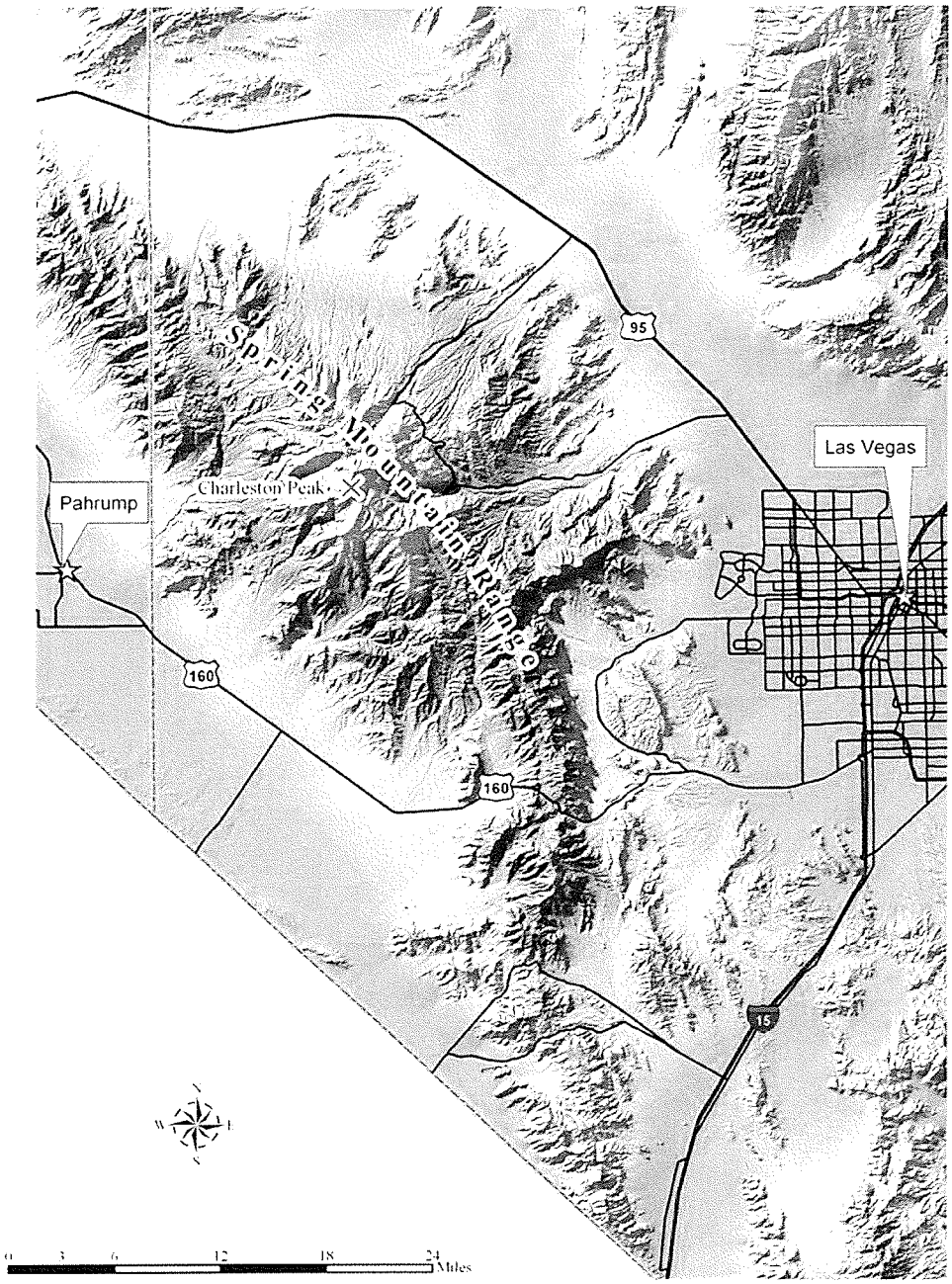
Clark County's growth should occur primarily in the urban core. As described under Criterion #2, land ownership patterns have greatly influenced development patterns in the MSA and are expected to continue to do so. Only 2.11% of Nye County and 7.14% of Clark County are privately owned. State and federal lands (see Figure III.B.2.c) create barriers to contiguous expansion of the urbanized core. As a result, the majority of growth in the MSA is expected to be primarily within the Las Vegas Valley with Nye County continuing as neither a source nor a receptor of ozone pollution. Again, this area is unique in that future development is constrained by the US BLM disposal boundaries in both the Pahrump Valley and the Las Vegas Valley. This boundary is set by an act of Congress and not anticipated to be changed.

This factor supports the exclusion of Nye County from the Las Vegas non-attainment area. Growth of the Las Vegas area is constrained locally and there is no expected growth of this area into Nye County.

III.B.7. Criterion #7 - Meteorology (weather/transport patterns)

Meteorological patterns play a pivotal role in the formation of elevated ozone concentrations. Topographically driven surface winds have an influence on the speed and direction of the transport of urban ozone precursor emissions. Ultimately, since emissions are more or less constant from day to day, the meteorological variation dictates the days and locations that will experience elevated ozone. In southern Nye County the predominant summertime wind pattern is from the southeast, which would not transport ozone precursors from Nye County into Clark County (see Attachment F for wind roses from the NDEP monitoring site in Pahrump). The summertime winds in the Las Vegas Valley are typically from the southwest. This difference in wind direction can generally be explained by the location of the Spring Mountain Range. Winds coming into Nevada from the southwest would be split at the southernmost end of the range turning any wind entering the Pahrump Valley to the northeast. Winds coming over Cajon Pass into the Las Vegas Valley would continue in their northeasterly direction through the Valley and out to the Colorado Plateau (see Figure III.B.7). Therefore, there is no reason to believe that emissions in Clark County are impacting Nye County and vice versa. Therefore, this factor supports the exclusion of Nye County from the Las Vegas non-attainment area.

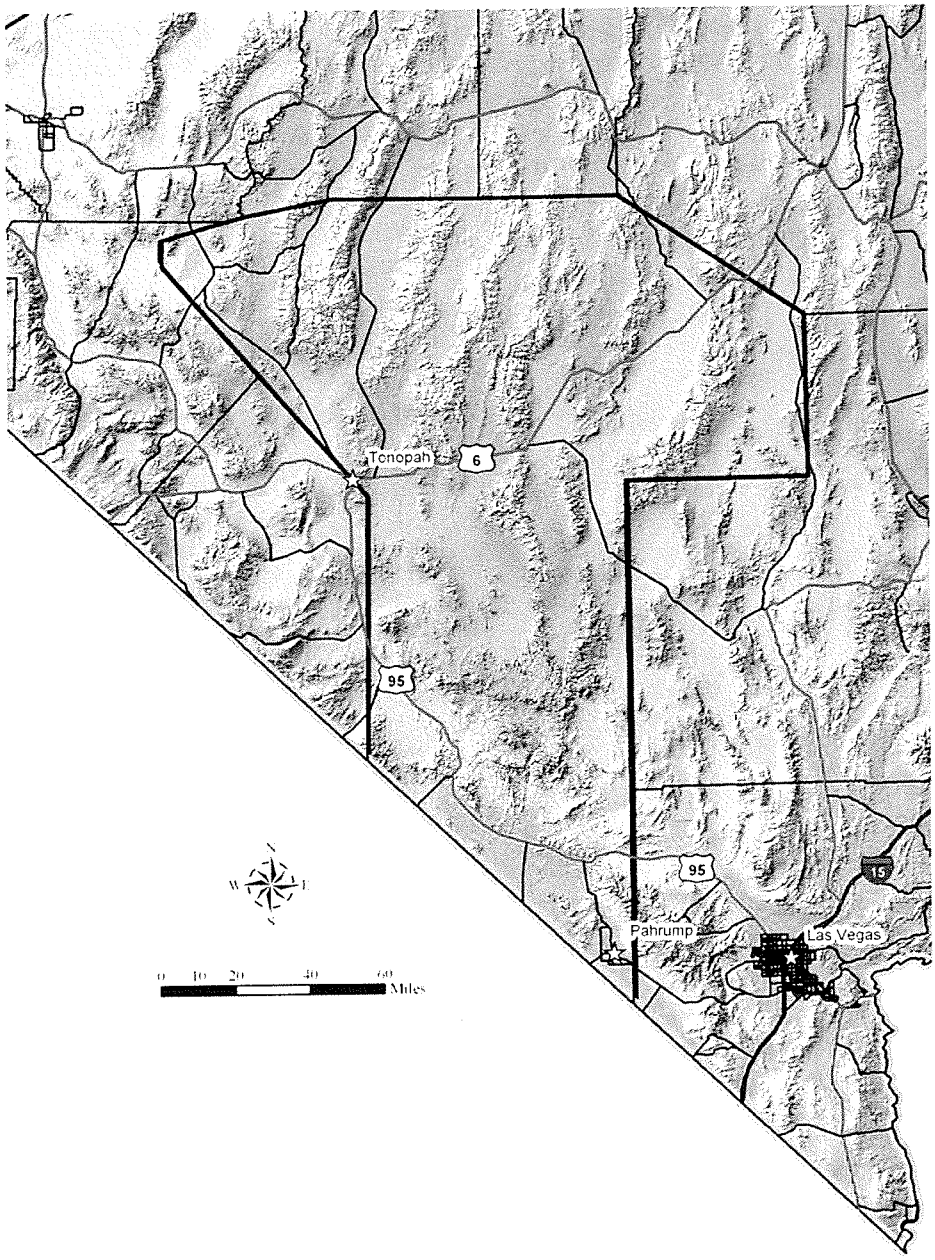
Figure III.B.7. Topographic map showing the Spring Mountains as a barrier between Nye and Clark Counties.



III.B.8. Criterion #8 - Geography/Topography (mountain ranges or other air basin boundaries)

Nye County is geographically isolated from Clark County by multiple mountain ranges. The entire Great Basin is characterized by basin and range topography. This topography was the basis for Nevada's decision to use hydrographic areas as the air quality management unit throughout the state. The mountain ranges separating Nevada's 256 basins provide a natural barrier to the movement of air and pollutants between basins. Figure III.B.8 shows the topography of southern Nevada. In the absence of major storm fronts, topography dictates the strength and direction of these surface winds and would provide a barrier in most cases from the transport of pollutants between the basins. Specifically, the Las Vegas Valley is separated from the Pahrump Valley in Nye County by the Spring Mountains which contain Charleston Peak at 11,916 feet. The pass between the two hydrographic basins is 5594 feet, a major barrier to transport.

Figure III.B.8 Topographic map of Clark and Nye Counties



III.B.9. Criterion #9 - Jurisdictional Boundaries (e.g., counties, air districts, existing 1-hour nonattainment areas, reservations, etc.)

The recommendation of Clark County as the Las Vegas non-attainment area incorporates the following jurisdictional considerations. First, the State has no jurisdiction within the interior boundaries of Indian reservations. Therefore, the proposed nonattainment area excludes all Indian Country. The three Indian reservations that are located within or adjacent to the proposed non-attainment area in Nevada are the Las Vegas Paiute Tribe and the Moapa Band of Paiute Tribe, which are located in the north-central portion of the proposed nonattainment area; and the Fort Mojave Indian Reservation, a portion of which located in the southern-most tip of the proposed nonattainment area.

The Clark County boundaries were selected for the recommended outer boundary of the proposed non-attainment area. This area coincides with the current jurisdictional boundaries of the air quality management authorities in Nevada. For all practical purposes, air quality management in Clark County is under the authority of the Clark County Air Quality Management District. Nye County is under the jurisdiction of the Nevada Division of Environmental Protection.

The ambient air quality monitoring record documents exceedances and violations of the 8-hour average ozone NAAQS only within the Las Vegas Valley in the center of the urban core. A significant buffer zone (including a number of mountain ranges) exists between the areas showing exceedances and Nye County. Non-attainment boundaries for CO and PM10 are restricted to the Las Vegas Valley. By requesting that the entire county be designated as non-attainment for the 8-hour standard, we are acknowledging the regional nature of ozone and including a significant buffer beyond the urban core of the County, yet providing for a more reasonable non-attainment area than the CMSA.

Finally, because the monitored exceedance in Clark County is just over the standard and the violation occurred in the urban core of the County, we can assume that the general distribution of sources contributing to the violation is in the urban area. Clark County 's jurisdiction extends well beyond what is reasonably considered necessary to bring the Las Vegas area back into attainment. Controls in Nye County will not provide any additional ozone reductions in the Las Vegas Valley. Therefore, this factor supports the exclusion of Nye County from the Las Vegas non-attainment area.

III.B.10. Criterion #10 - Level of Control of Emissions Sources

This factor is intended to capture emissions sources adjacent to a violating area, especially where these sources might be poorly controlled and therefore would represent a cost-effective industrial group for targeting a control strategy. There are no such sources in Nye County. Emissions sources in Nye County do not generate ozone precursors in amounts that could reasonably be expected to have any affect on the level of ozone in Clark County (see Criterion #4), particularly given the large distance between the two areas, the topographic barriers, and the meteorology of the two areas. Therefore, specific controls have not been required for these sources. There are several federally

enforceable control measures, specifically gasoline and diesel vehicle engine and fuel standards as well as state-wide application of New Source Review Rules and existing Stationary Source Performance Standards that provide adequate control for emissions sources in Nye County.

III.B.11. Regional Emission Reductions (e.g., NOx SIP call or other enforceable regional strategies)

The State is developing its regional haze SIP in coordination with other states, federal agencies and Indian Tribes in the West through the Western Regional Air Partnership. Regional strategies will be submitted as part of the regional haze SIP due December 31, 2007.

CONCLUSION:

Based on the 11 factors evaluated above the State of Nevada recommends that the boundary of the 8-hour ozone non attainment area be limited to the political boundaries of Clark County.

IV. AREA DESIGNATION RECOMMENDATIONS

IV.A Attainment/Unclassifiable Areas

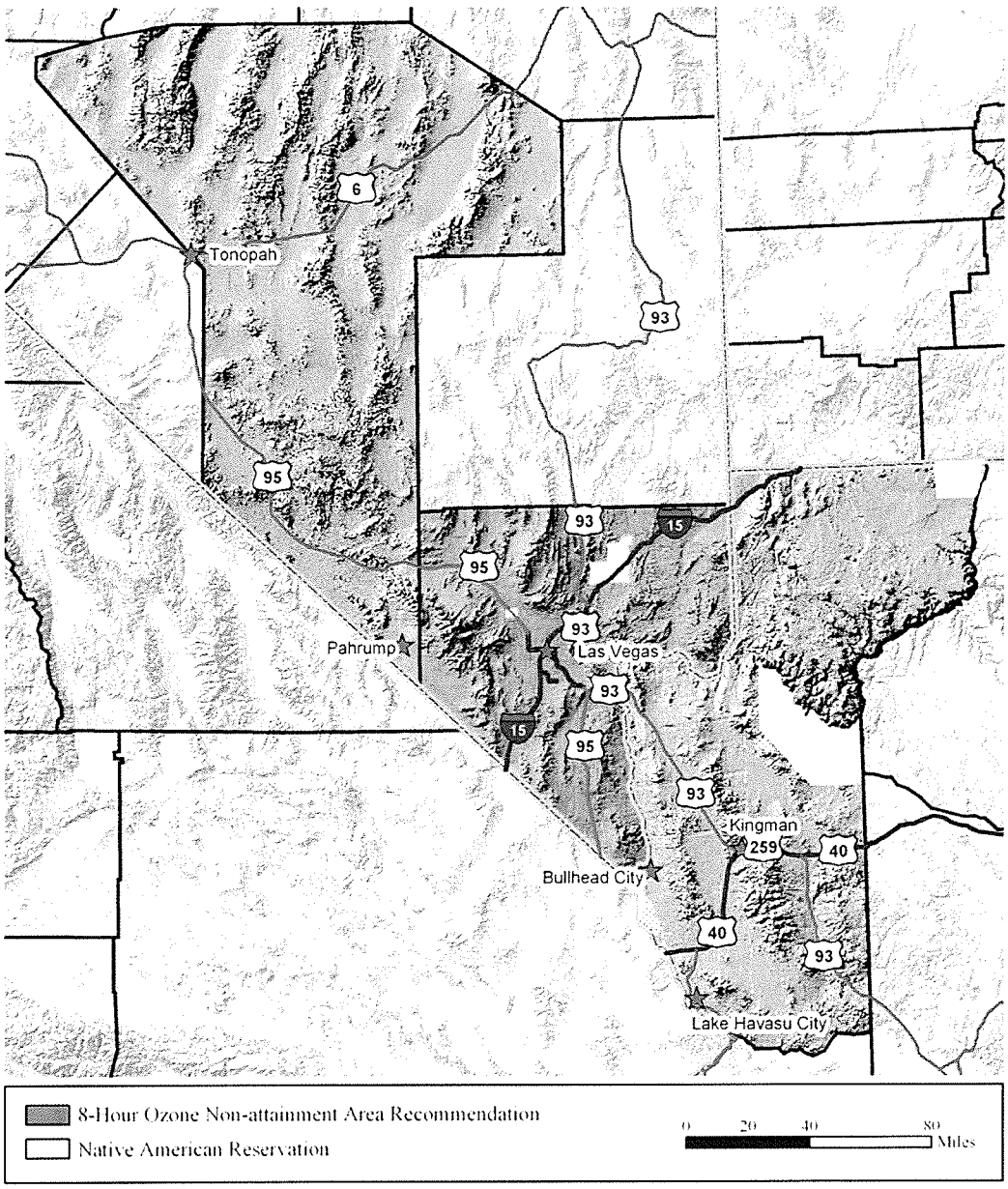
Nevada recommends that all of the following counties (except for Indian Country) be designated attainment/nonclassifiable for the 8-hour ozone NAAQS:

Carson City
Churchill County
Douglas County
Elko County
Esmeralda County
Eureka County
Humboldt County
Lander County
Lyon County
Mineral County
Nye County
Pershing County
Storey County
Washoe County
White Pine County

IV.B Nonattainment Area

The nonattainment area recommended by Nevada is smaller than the MSA, but still meets the definition in Section 107(d)(1)(A)(i) of the Clean Air Act and addresses the criteria identified in EPA's March 2000 guidance. The recommended area is Clark County, excluding all tribal lands.

Figure IV.B: 8-Hour Nonattainment Area Recommendation



Native American Reservation data is 2000 Census TIGER data

Table IV.B: Recommended Attainment/Unclassifiable and Nonattainment Areas for Nevada

Nevada-Ozone (8-Hour Standard)

Designated Area	Designation Type	Classification Type
Nevada Area:		
Clark County (except those portions in Indian Country).....	Nonattainment	
Rest of State (except those portions in Indian Country).....	Attainment/ Unclassifiable	
Carson City		
Churchill County		
Douglas County		
Elko County		
Esmeralda County		
Eureka County		
Humboldt County		
Lander County		
Lyon County		
Mineral County		
Nye County		
Pershing County		
Storey County		
Washoe County		
White Pine County		

Attachment A

Arizona Department of Environmental Quality Submittal

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Janet Napolitano
Governor

1110 W. Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.adeq.state.az.us

Stephen A. Owens
Director

March 26, 2004

Wayne Nastri, Regional Administrator
U.S. Environmental Protection Agency, Region IX
ORA-1
75 Hawthorne Street
San Francisco, CA 94105-3901

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Re: Exclusion of Mohave County from the Las Vegas 8-Hour Ozone Nonattainment Area

Dear Mr. Nastri:

On July 11, 2003, Governor Napolitano signed an 8-hour ozone area designation recommendation for all areas of Arizona outside of Indian Country. That recommendation was transmitted to you on July 15, 2003, and requested that Mohave County be classified as attainment /unclassifiable. Recent communications from your staff have indicated that the Las Vegas Consolidated Metropolitan Statistical Area (C/MSA), which includes Mohave County, will be classified as nonattainment. This letter transmits Arizona's justification for excluding Mohave County. The analysis was prepared consistent with the guidance contained in the memorandum of March 28, 2000, from John Seitz regarding Boundary Guidance on Air Quality Designations for the 8-Hour Ozone National Ambient Air Quality Standards. Arizona's justification addresses each of the eleven factors that states are directed to consider in recommending nonattainment area boundaries that are smaller than the C/MSA.

Arizona appreciates your consideration of this analysis. If you have questions or need more information, your staff should contact Nancy Wrona, Director of the Air Quality Division, or Ira Domsky, Deputy Division Director, at (602) 771-2308.

Sincerely,

Stephen A. Owens
Director

Enclosure

cc: Colleen Cripps, Nevada Department of Environmental Protection
Colleen McKaughan, Associate Director

March 26, 2004

Arizona Boundary Recommendations for the 8-Hour Ozone National Ambient Air Quality Standard:

Additional Information to Support the Exclusion of Mohave County Arizona from the EPA Proposed Las Vegas, Nevada 8-Hour Ozone Nonattainment Area

BACKGROUND

In 1997, the U.S. Environmental Protection Agency (EPA) adopted a new more stringent National Ambient Air Quality Standard for ozone. The averaging time for the new standard (peak ozone levels are calculated over eight hours rather than over one hour) better protects the public from longer periods of exposure to ozone and helps ensure the protection of those most vulnerable, such as children and the elderly. As part of the process of implementing the new 8-hour standard, States and Tribes were requested to recommend boundaries for areas that do or do not meet the standard by July 15, 2003. Arizona submitted boundary recommendations on July 15, 2003, and technical support documentation for the recommendations on July 22, 2003.

The State's recommendations were based on ambient monitoring and emissions data, population information, and other criteria outlined in EPA's March 28, 2000, guidance "Boundary Guidance on Air Quality Designations for the 8-Hour Ozone National Ambient Air Quality Standards." Only one area of the State was recommended nonattainment and Arizona has subsequently been working with EPA to refine the boundaries of the Phoenix 8-hour ozone nonattainment area.

EPA recently informed Arizona of their intent to designate the Las Vegas, Nevada area as nonattainment for the 8-hour standard. Because the default nonattainment area as defined in the March 28, 2000, guidance is the Las Vegas metropolitan statistical area (MSA), EPA is requesting additional information on neighboring Mohave County Arizona (See Attachment 1).

Arizona has concluded that the inclusion of Mohave County is not appropriate. The following information is provided to support the State's original recommendation that all of Mohave County be designated Attainment/Unclassifiable for the 8-hour standard. Additionally, as tribal lands are not within the State's jurisdiction for air quality purposes, no recommendation is being made for any tribal lands located in the described geographical area.

AREA DESIGNATION CRITERIA ANALYSIS

Section 107(d) (1)(A)(i) of the Clean Air Act (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...* "

In addition, EPA issued guidance on March 28, 2000, for states to use as they developed their recommendations – "Boundary Guidance on Air Quality Designations for the 8-Hour Ozone National Ambient Air Quality Standards."

The guidance states metropolitan statistical areas would be the presumptive default nonattainment areas as defined by the U.S. Bureau of the Census.[1] In order to avoid the default, a state must address eleven criteria listed in the guidance.

The following sections present data and information on the eleven guidance criteria for the Mohave County area. The analysis is based on the assumption of the pre-2003 Las Vegas Metropolitan Statistical Area boundaries. These data show that Mohave County is expected to remain as neither a source nor a receptor of ozone pollution.

Criterion #1 – Emissions and Air Quality in Adjacent Areas (including adjacent C/MSAs)

Section 107 of the Clean Air Act requires that areas not contribute to violations of ambient air quality. As indicated in the following table, Mohave County Volatile Organic Compound (VOC) and Nitrogen Oxide (NOx) emissions, the primary precursors to ozone formation, are substantially less than those that emanate within Clark County, the site of the only violating monitor. Emissions data for 1999, as displayed in Table 1, show that while the land area of Mohave County is 1.7 times larger than that of Clark County, Mohave County sources emit approximately 25% of the VOC and 16% of the NOx emissions when compared to the Clark County total emissions.

Overall, Mohave County emissions are less than 20 percent of Clark County emissions and all of the Mohave County source categories are dwarfed by their Clark County counterparts. These data show that Mohave County is not a source of ozone pollution for Clark County.

[1] Based on earlier U.S. Code of Regulations the Las Vegas MSA included Clark and Nye Counties in Nevada and Mohave County in Arizona. Subsequently, the U.S. Census Bureau revised the criteria for determining MSAs and in 2003 published new MSAs for the U.S. The Las Vegas MSA now includes only Clark County Nevada. For purposes of determining 8-hour ozone boundaries, however, EPA has used the pre-2003 MSA boundaries as the default boundary for nonattainment areas.

Table 1: 1999 Volatile Organic Compounds (VOC) and Nitrogen Oxides (Nox) Emissions (tons)		
Geographic Area/Emissions Source Type	Clark County	Mohave County
Area (square miles)	8,060	13,470
VOC Emissions		
Fuel Combustion Electric Utility	202	0
Fuel Combustion Industrial	36	16
Fuel Combustion Other	602	98
Petroleum and Related Industries	37	2
Other Industrial Processes	8	9
Solvent Utilization	12,520	1,457
Storage and Transport	3,107	1,081
Waste Disposal and Recycling	1,486	198
Highway Vehicles	23,136	3,997
Off-Highway	10,391	5,211
Miscellaneous	3,663	1,763
VOC – Total	55,189	13,833
NOx Emissions		
Fuel Combustion Electric Utility	30,927	<1
Fuel Combustion Industrial	1,611	1,322
Fuel Combustion Other	1,075	69
Metals Processing	153	0
Petroleum and Related Industries	0	229
Other Industrial Processes	200	5
Storage and Transport	281	0
Waste Disposal and Recycling	613	86
Highway Vehicles	27,386	6,761
Off-Highway	15,507	3,588
Miscellaneous	777	550
NOx – Total	78,331	12,610
Total VOC and NOx Emissions	133,520	26,443

Source: U.S. Environmental Protection Agency 1999 National Emission Trends (NET) Tier Report

Criterion #2 – Population Density and Degree of Urbanization Including Commercial Development (significant difference from surrounding areas)

Mohave County is geographically the second largest county in Arizona. Most of the area is classified as desert. Land ownership is distributed as follows: the U.S. Forest Service and Bureau of Land Management own 55.2 percent; Indian reservations, 6.7 percent; the State of Arizona, 6.6 percent; individual or corporate, 17.2 percent; and other public lands, 14.3 percent.

Consistent with emissions levels, total population and the level of population density is low throughout Mohave County. Table 2 presents a comparison between Clark County

and Mohave County and summarizes information on county population and density, and identifies the largest cities and towns for each county.

Population densities are substantially higher in Clark County where the population distribution shows that more than 96% of the total county population resides in the Las Vegas area. In Mohave County approximately 65% of the population resides in and around four main centers.

Table 2: 2002 Population Data			
County/Largest Cities and Towns/Unincorporated Areas	Area (square miles)	Population	Population Density (persons per square mile)
Mohave County	13,479	166,465	12.35
Bullhead City		35,410	
Colorado City		3,905	
Kingman		22,045	
Lake Havasu City		46,400	
Unincorporated Areas		58,705	
Clark County	8,060	1,578,752	195.8
Las Vegas Valley Urban Area*		1,522,117	
Boulder City		14,993	
City of Mesquite		13,278	
Unincorporated Outlying Areas		27,944	

* The Las Vegas Valley Urban Area includes the adjacent incorporated cities of Henderson, Las Vegas, and North Las Vegas, and unincorporated areas that include: Enterprise, Lone Mtn., Paradise, Sloan, Spring Valley, Summerlin South, Sunrise Manor, Whitney, Winchester, and other areas.

Mohave County 2002 Data Source: Arizona Department of Commerce (ADOC), County profiles (Area Data); Arizona Department of Economic Security (ADES), Research Administration, Population Statistics Unit, mid-year 2002 population estimates, approved 12-06-02. Population density was calculated from ADOC and ADES data.

Clark County 2002 Data Source: Southern Nevada Consensus Population Estimate, July, 2002.

Commercial development and employment are two of the surrogate factors that may serve as an indicator of the levels of activities generating ozone precursor emissions. Major industries in Mohave County are retail trade and service industries dominated by small businesses and public administration. Other activities include transportation and public utilities, finance, and insurance and real estate. Table 3 summarizes county wide employment information from 2001 through 2003.

Table 3: Mohave County Labor Force and Non-farm Employment: Annual Averages 2001-2003*			
Employment Category	2001	2002	2003
Civilian Labor Force	71,275	73,250	75,800
Employed Persons	68,050	69,175	72,125
Unemployment Rate	4.5%	5.6%	4.9%
Total Nonfarm Employment	42,975	44,725	46,925
Natural Resources and Mining	100	100	100
Construction	5,175	5,750	5,925
Manufacturing	3,025	3,125	3,350
Trade, Transportation and Utilities	9,825	10,000	10,675
Information	825	900	875
Financial Activities	1,450	1,600	1,900
Professional Business Services	2,900	3,125	3,425
Educational and Health Services	5,100	5,475	5,600
Leisure and Hospitality	5,150	5,075	5,625
Other Services	1,975	2,050	2,075
Federal Government	525	500	525
State and Local Government	6,900	7,075	6,850

* 2001 Agricultural employment was estimated at 461 for Mohave County.

Source: Arizona Department of Economic Security, Research Administration, prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics. Data are adjusted to Current Population Survey 2004 to reflect place of residence, and benchmarked to 1st quarter 2002. Since data are rounded, annual averages may not sum to total nonfarm employment.

The degree of commercial development is relatively low throughout Mohave County with the greatest level of development generally centered near the towns of Bullhead City, Kingman, and Lake Havasu City and the Interstate 40 regional transportation corridor centered on Kingman.

The primary economic activity in Bullhead City is tourism associated with Colorado River recreational activities and the casino/resort center in Laughlin, Nevada located across the Colorado River from Bullhead City. Similarly, the primary economic activity in Lake Havasu City is tourism associated with Colorado River recreational activities and resort facilities. Kingman is a regional trade, service, and distribution center for northwest Arizona and is the County seat. The combined 2002 civilian labor force for Bullhead City, Kingman, and Lake Havasu City was estimated at 47,904 which is more than 65 percent of the County total civilian labor force.

Mohave County has also recently experienced a changing demographic that can affect the level of economic and subsequently emissions activity. The median age in Mohave County is currently 42.9 years compared to an Arizona statewide average age of 34.2 years. The population over age 65 has grown by 65 percent in the last decade. In addition, the fastest growing component of personal income was from non-labor sources. These sources are primarily past investment income and government transfer payments

including retirement, disability and retirement benefits, medical payments, unemployment insurance benefits, and veteran's benefits.

The low population levels as well as an economy dominated by retail trade and service industries demonstrate that Mohave County is not expected to be a source of ozone pollution outside of the three most populated communities.

Criterion #3 – Monitoring Data Representing Ozone Concentrations in Local Areas and Larger Areas (urban or regional scale)

ADEQ and local agencies have worked to develop an extensive monitoring network for determining compliance with the ozone standards in Arizona. Selection of monitoring sites has been based on the development of a monitoring network representative of areas of Arizona with the highest expected ambient ozone concentrations. ADEQ, local agencies and private industries currently operate monitoring sites in nine counties across Arizona. Because of the low emissions densities, no monitoring sites are currently operated in Mohave County.

The Clark County Department of Air Quality Management operates an extensive monitoring network of 14 sites in and near the Las Vegas area. Individual monitor locations are shown on the map in Attachment 2. An examination of the monitored air quality data for the Las Vegas area shows that all monitoring locations meet the 8-hour ozone standard with the exception of one location (Joe Neal site) in the City of Las Vegas. This site, situated near the urban core, recorded a violation of the 8-hour standard for the period 2001 through 2003 of 0.086 parts per million. Other data show that none of the other monitored areas within or outside Las Vegas have recorded violations of the 8-hour standard for the compliance periods 2000 through 2002 or 2001 through 2003. In addition, data from the Boulder City monitoring site, which records air quality near the Nevada/Arizona border, show no exceedances of the 8-hour standard. Attachment 3 contains a summary of monitored air quality data and 8-hour design values for the Clark County network from 2001 through 2003.

Criterion #4 – Location of Emissions Sources (emissions sources and nearby receptors should generally be included in the same nonattainment area)

Area and mobile sources are the largest source group for both Clark and Mohave Counties. These sources are associated with urban areas and interstate transportation corridors. In Clark County area and mobile sources comprise 76% of the total VOC and NOx emissions for 1999. For Mohave County, area and mobile sources are more than 97% of total 1999 emissions.[2] The largest urban centers are the Las Vegas metropolitan area in Clark County and the Kingman, Lake Havasu City, Bullhead City areas in Mohave County.

[2] See EPA National Emission Trends (NET) Tier Report for 1999.

Highway vehicles make up 41% of total emissions in Mohave County and 38% of Clark county emissions. As described under Criterion 5, the highest activity level for this source type is consistent with the location of population centers for the area of interest. The map in Attachment 4 notes the location of various point sources for the Las Vegas MSA and surrounding areas.

Overall, Clark County emissions are significantly greater than Mohave County emissions for all source category types. In addition, the most populated areas in Mohave County are located at least 100 miles from Las Vegas, the largest source of Clark County emissions.

Criterion #5 – Traffic and Commuting Patterns

As shown in Table 4, vehicle miles traveled in Mohave County are dwarfed by those in Clark County. This is consistent with the earlier discussion under Criterion 4.

Table 4 – Vehicle Miles Traveled (VMT) by County (millions of miles traveled)

County	1996 VMT	1999 VMT
Mohave	537	1,896
Clark	7,383	9,776

Source: Federal Highway Administration, U.S. Bureau of the Census, U.S. EPA.

While no data are available on persons commuting between Mohave County and Las Vegas, a number of factors make this unlikely.

As discussed under Criterion 2, Mohave County has also recently experienced a changing demographic that can affect the level of economic and subsequently emissions activity. The median age in Mohave County is currently 42.9 years compared to an Arizona statewide average age of 34.2 years. The population over age 65 has grown by 65 percent in the last decade. In addition, the fastest growing component of personal income was from non-labor sources. These sources are primarily past investment income and government transfer payments including retirement, disability and retirement benefits, medical payments, unemployment insurance benefits, and veteran's benefits. Those with personal income from non-labor sources are, by definition, not commuting.

The three most populated communities in Mohave County are located at least 100 miles from Las Vegas. Access to Las Vegas from the populated areas in Mohave County is principally by U.S. Highway 93, with a functional classification of 2R Principal Arterial. In Nevada, it is a four-lane divided highway from Las Vegas to Boulder City, where it varies from four lanes to two lanes. Congestion occurs at the switchbacks leading to Hoover Dam and due to Dam crossing restrictions.

With most of the economic activity in Bullhead City and Lake Havasu City associated with tourism and service sectors, and considering that Kingman is the local economic hub for Mohave County, as well as the County seat, it is unlikely that there is considerable commuting from the populated centers in Mohave County to Las Vegas. This is

particularly true for residents of the Bullhead City area, which lies across the Colorado River from Laughlin, Nevada. Laughlin currently has nine hotels/casinos and one motel, providing 10,000 beds, 125,000 square feet of meeting space and 60 restaurants, all of which represent a significant source of jobs in the area.

Criterion #6 - Expected Growth (including extent, pattern and rate of growth)

Some of the fastest population growth rates in the nation are occurring in the Southwest. Tables 5 and 6 show population and vehicle miles traveled projections for Mohave and Clark Counties. While growth rates are similar, the projected population and traffic increases in Clark County dwarf those of Mohave County.

Table 5: Population Projection Data 1999-2020

County/City/ Area	1999	2002	2005	2010	2015	2020	1999-2020 Growth Factor
Mohave	142,925	166,465	171,804	191,102	215,988	236,396	0.65%
Bullhead City		35,410	35,926	41,899	48,206	53,848	
Colorado City		3,905	4,863	5,500	6,072	6,626	
Kingman		22,045	22,845	25,225	27,256	29,277	
Lake Havasu City		46,400	52,639	58,777	63,783	68,886	
Unincorporated Areas		58,705	55,231	63,002	70671	77,759	
Clark	1,327,145	1,578,832	1,761,614	1,969,748	2,082,455	2,123,277	0.60%

Mohave County Data Source: Arizona Department of Economic Security.

Clark County Data Source: Nevada State Demographer's Office.

Table 6: Vehicle Miles Traveled (VMT) Projections by County (millions of miles traveled)

County	1996 VMT	1999 VMT	1999-2010 Growth Factor	2010 VMT	2010-2020 Growth Factor	2020 VMT
Mohave	537	1,896	51.5%	2,872	25.7%	3,611
Clark	7,383	9,776	49.3%	14,596	24.9%	18,230

Source: Federal Highway Administration, U.S. Bureau of the Census, U.S. EPA.

In Table 7, area and mobile source emissions (and the small fraction of non-electric utility point sources) are projected to grow proportionately with population in Mohave County. The projections are based on the assumptions of no additional control measures implemented for these sources. Emissions projection estimates for electric utilities are based on the anticipated industry growth rate contained in the Western Regional Air Partnership, *Annex to the Report of the Grand Canyon Visibility Transport Commission, October 16, 2000.* The projected 2020 Mohave County emissions are 32% of recent 1999 Clark County levels.

Table 7: Emissions Projections 1999-2020 (tons)					
Emissions Source Type	1999	2005	2010	2015	2020
	Mohave County				
Electric Utilities	<1	1	1	1	2
Area, Mobile, Other Point	26,443	31,592	35,699	39,625	43,192
Total	26,443	31,593	35,700	39,626	43,194

As discussed under Criterion 2, land ownership is distributed as follows: the U.S. Forest Service and Bureau of Land Management own 55.2 percent; Indian reservations, 6.7 percent; the State of Arizona, 6.6 percent; individual or corporate, 17.2 percent; and other public lands, 14.3 percent. Those land ownership patterns are shown on the map in Attachment 5. Because relatively little individually or corporately-owned land is available, future growth is likely to be confined to the existing population centers. Little infrastructure exists in the smaller population centers, making growth in those areas more expensive and therefore less likely.

The area of Clark County between Mohave County and Las Vegas shows a similar land ownership distribution, as depicted in Attachment 6. As a result, it is unlikely that the metropolitan Las Vegas area will grow toward Mohave County.

Criterion #7 – Meteorology (weather/transport patterns)

As shown in Attachment 7, the predominant wind pattern during the summer months is from the southwest, which neither transports ozone precursors from Mohave County into Clark County, nor would make Mohave County a receptor of Clark County ozone.

Criterion #8 - Geography/Topography (mountain ranges or other air basin boundaries)

The Black and Cerbat Mountains in Mohave County act as a barrier to prevent flow of ozone precursors from Mohave County to Las Vegas. As discussed under Criterion 7, the predominant summer wind pattern neither transports ozone precursors from Mohave County into Clark County, nor would make Mohave County a receptor of Clark County ozone.

Criterion #9 - Jurisdictional Boundaries (e.g., counties, air districts, existing 1-hour nonattainment areas, Reservations, etc.)

Emission sources located in Mohave County are under the jurisdiction of the State of Arizona and Clark and Nye Counties are under separate jurisdictions. Including Mohave County within a Las Vegas 8-hour ozone nonattainment area is not necessary to bring the Las Vegas area into attainment of the 8-hour ozone standard. Clark County's jurisdiction extends well beyond that necessary to bring the area into attainment. As discussed under Criterion 3, an examination of the monitored air quality data for the Las Vegas area

shows that all monitoring locations meet the 8-hour ozone standard with the exception of one location (Joe Neal site) in the City of Las Vegas. This site, situated near the urban core, recorded a violation of the 8-hour standard for the period 2001 through 2003 of 0.086 parts per million. Other data show that none of the other monitored areas within or outside Las Vegas have recorded violations of the 8-hour standard for the compliance periods 2000 through 2002 or 2001 through 2003. In addition, data from the Boulder City monitoring site, which records air quality near the Nevada/Arizona border, show no exceedances of the 8-hour standard.

Criterion #10 - Level of Control of Emissions Sources

Several federally enforceable control measures, specifically gasoline and diesel vehicle engine and fuel standards as well as Statewide application (for sources under ADEQ's jurisdiction) of New Source Review Rules, Arizona Administrative Code (AAC) R18-2-401 through 407 and Existing Stationary Source Performance Standards AAC R18-2-701 through 732, provide control for emissions sources in Mohave County.

Criterion #11 - Regional Emission Reductions (e.g., NOx SIP call or other enforceable regional strategies)

Because there are no enforceable regional strategies in place at this time, this criterion is not applicable. The State of Arizona, however, is developing its regional haze SIP in coordination with other states, federal agencies and Indian Tribes in the West through the Western Regional Air Partnership. Some regional strategies were submitted in the Regional Haze SIP submitted to EPA on December 23, 2003.

CONCLUSION

The Las Vegas MSA includes a total of 39,833 square miles, with Mohave County accounting for 13,479 square miles. The majority of Mohave County includes large expanses of undeveloped desert and isolated rural communities. The vast tracts of undeveloped desert and agricultural areas are not a significant source of ozone precursors. A major portion of the County includes two surface water basins that are relatively isolated from the greater Las Vegas area. Finally, prevailing winds during the ozone season greatly limit the impact of emissions from the urbanized Las Vegas area on these non-urbanized portions of Mohave County.

The air quality record for the MSA demonstrates that areas where exceedances of the eight-hour ozone standard are measured are concentrated in the urban core.

Sources of ozone precursors are located in the most heavily urbanized part of the MSA, which is also in its north central area. The highest emission densities are collocated with the densest residential and commercial development. While biogenic emissions of ozone precursors are distributed throughout the MSA and other anthropogenic sources may be found in association

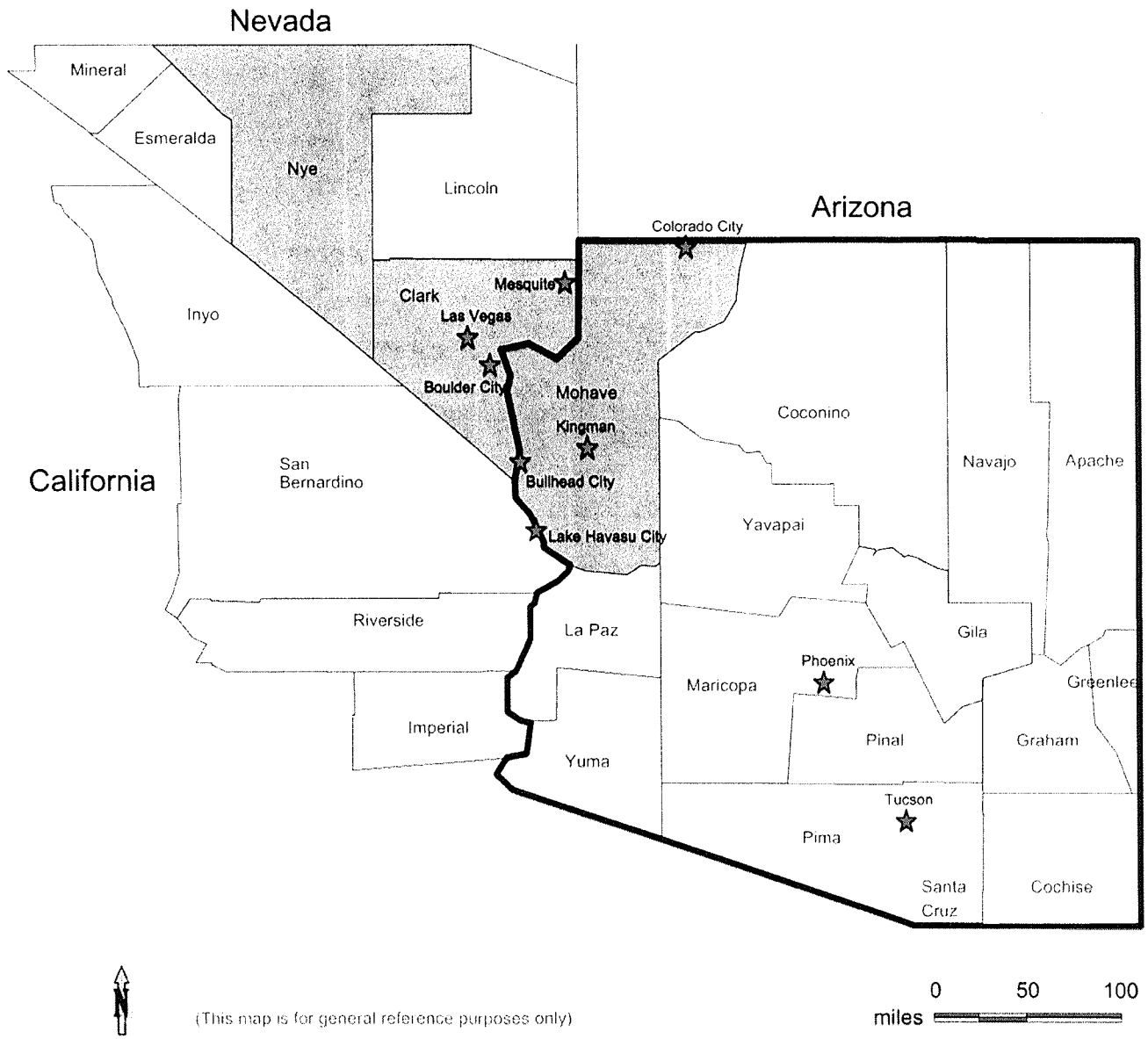
with rural communities and industrial sources, these sources are considerably less important than anthropogenic emissions in contributing to exceedances of the eight-hour ozone standard measured in the MSA.

In addition, the major Mohave County population centers are located at least 100 miles distant from Las Vegas and are both meteorologically and geographically isolated from the Las Vegas area.

Attachment 1

2002 Las Vegas Metropolitan Statistical Area Map

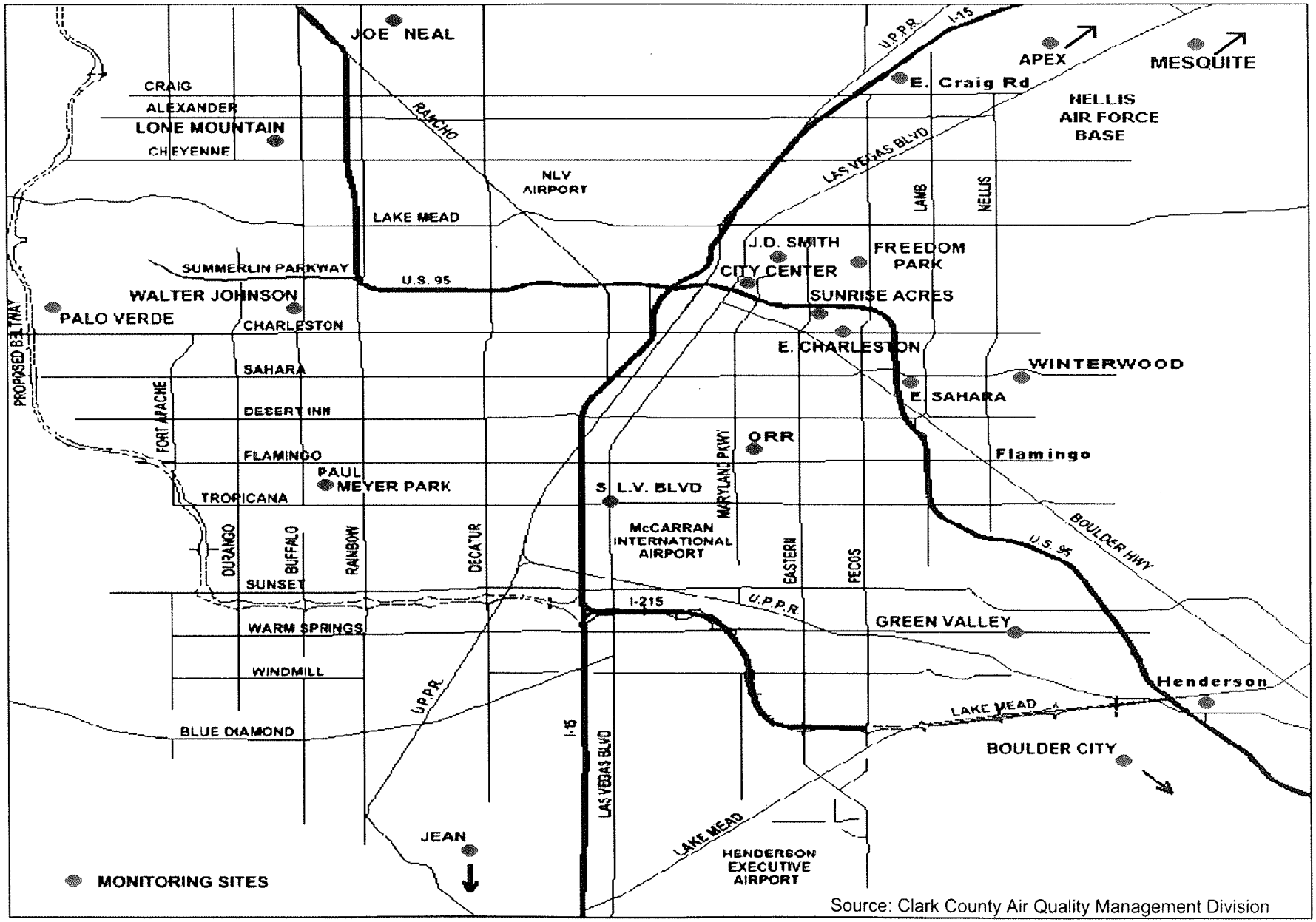
2002 Las Vegas Metropolitan Statistical Area



Attachment 2

Las Vegas Area Monitoring Site Map

LAS VEGAS AREA MONITORING SITES



Source: Clark County Air Quality Management Division

Attachment 3

Clark County 8-Hour Ozone Summary Statistics – 2001 through 2003

Clark County
Air Quality Management Division
OZONE {PPM}
Running High 8-hour Average

	OZONE SUMMARY STATISTICS FOR 2001 THROUGH 2003							
	E. Craig Road							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.078	10-Aug	0.071	22-Jun	0.071	6-Jun	**0.070**	11-Aug
2002	0.089	16-Jun	0.082	27-Jun	0.079	28-Jun	**0.078**	15-Jun
2003	0.089	21-Jul	0.084	29-Jun	0.081	1-Jun	**0.080**	26-May
Average							**0.076**	
	City Center							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.083	10-Aug	0.070	11-Aug	0.067	22-Jul	**0.063**	23-Aug
2002	0.077	27-Jun	0.076	2-Sep	0.076	16-Jun	**0.073**	11-Aug
2003	0.082	28-Jun	0.081	26-May	0.081	29-Jun	**0.078**	1-Jun
Average							**0.071**	
	Winterwood							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.085	10-Aug	0.074	16-Jun	0.072	11-May	**0.071**	17-Sep
2002	0.086	16-Jun	0.081	12-Jul	0.080	27-Jun	**0.077**	17-Jun
2003	0.088	29-Jun	0.079	26-May	0.078	13-Jun	**0.078**	21-Jul
Average							**0.075**	

Clark County
Air Quality Management Division
OZONE {PPM}
Running High 8-hour Average

	S.E. Valley							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.076	10-Aug	0.076	29-Jul	0.075	7-Jun	**0.072**	16-Jun
2002	0.087	27-Jun	0.082	16-Jun	0.079	11-Aug	**0.078**	8-Jun
2003	0.076	13-Jun	0.074	4-Jun	0.073	25-May	**0.073**	21-Jun
Average							**0.074**	
	Apex							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.076	29-May	0.075	25-May	0.074	16-May	**0.074**	6-Jun
2002	0.090	16-Jun	0.083	15-Jun	0.083	16-May	**0.082**	15-Apr
2003	0.092	29-Jun	0.080	25-May	0.078	21-Jul	**0.078**	1-Jun
Average							**0.078**	
	Lone Mountain							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.090	10-Aug	0.088	11-Aug	0.082	9-Aug	**0.080**	25-May
2002	0.092	27-Jun	0.088	18-Aug	0.087	11-Aug	**0.086**	28-Jun
2003	0.089	21-Jul	0.088	29-Jun	0.085	9-Jul	**0.085**	26-May
Average							**0.083**	

Clark County
Air Quality Management Division
OZONE {PPM}
Running High 8-hour Average

	Palo Verde							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.091	10-Aug	0.090	11-Aug	0.078	29-Jul	**0.078**	2-Jul
2002	0.090	27-Jun	0.087	18-Aug	0.084	28-Jun	**0.082**	11-Aug
2003	0.088	21-Jul	0.087	29-Jun	0.083	26-May	**0.082**	3-Jun
							0.080	
	Jean							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.082	16-Jun	0.080	18-May	0.080	1-Jun	**0.079**	17-Jun
2002	0.093	27-Jun	0.092	28-Jun	0.085	18-Aug	**0.083**	11-Aug
2003	0.089	29-Jun	0.086	3-Jun	0.085	4-Jun	**0.083**	27-Jun
							0.081	
	Paul Meyer							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.085	10-Aug	0.081	11-Aug	0.080	2-Jul	**0.076**	25-May
2002	0.090	27-Jun	0.084	18-Aug	0.083	28-Jun	**0.079**	16-Jun
2003	0.086	21-Jul	0.084	29-Jun	0.083	28-Jun	**0.081**	3-Jun
							0.078	

Clark County
Air Quality Management Division
OZONE {PPM}
Running High 8-hour Average

	Boulder City							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.074	17-Jun	0.073	17-Sep	0.072	16-Jun	**0.071**	10-May
2002	0.084	27-Jun	0.082	16-Jun	0.081	15-Jun	**0.081**	17-Jun
2003	0.079	29-Jun	0.077	28-Jun	0.074	11-Apr	**0.074**	21-Jul
							0.075	
	J.D. Smith							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.080	10-Aug	0.072	11-Aug	0.072	16-Aug	**0.071**	6-Jun
2002	0.085	16-Jun	0.083	27-Jun	0.080	28-Jun	**0.078**	12-Jul
2003	0.092	21-Jul	0.085	29-Jun	0.081	9-Jul	**0.081**	1-Jun
							0.076	
	Walter Johnson							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.092	10-Aug	0.088	11-Aug	0.082	2-Jul	**0.082**	25-May
2002	0.088	18-Aug	0.086	11-Aug	0.085	27-Jun	**0.081**	29-Jul
2003	0.093	21-Jul	0.086	29-Jun	0.085	17-Aug	**0.082**	26-May
							0.081	

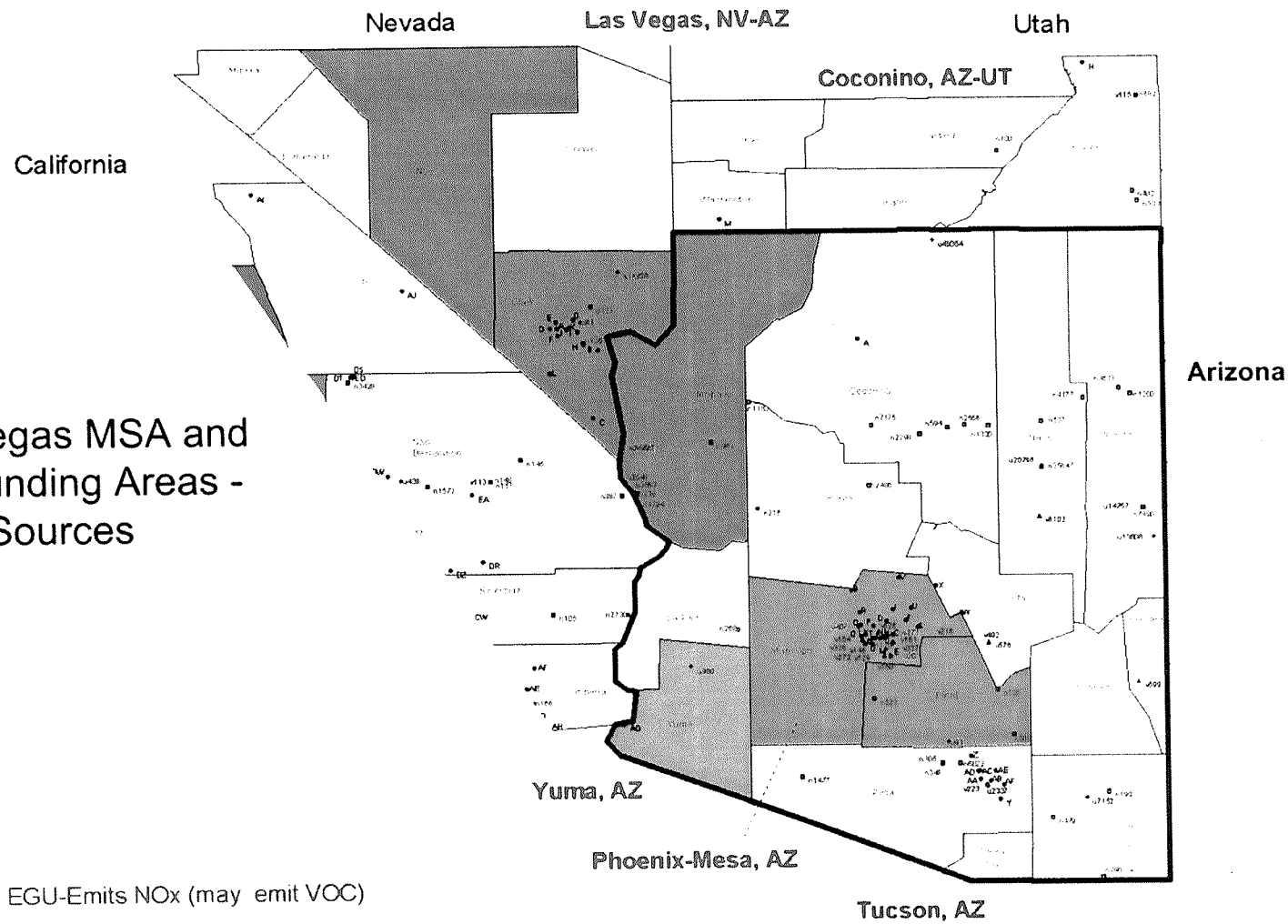
Clark County
Air Quality Management Division
OZONE {PPM}
Running High 8-hour Average

	Joe Neal							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.094	10-Aug	0.085	9-Aug	0.084	11-Aug	**0.083**	14-Aug
2002	0.093	27-Jun	0.088	16-Jun	0.087	28-Jun	**0.086**	11-Aug
2003	0.094	29-Jun	0.092	21-Jul	0.09	9-Jul	**0.089**	26-May
							0.086	
	Searchlight							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2001	0.084	17-Jun	0.079	16-Jun	0.074	10-May	**0.073**	1-Jun
2002	0.081	27-Jun	0.076	8-Jun	0.075	16-Jun	**0.074**	6-May
2003	0.082	29-Jun	0.074	17-May	0.073	25-May	**0.072**	27-Jun
							0.073	

Attachment 4

Las Vegas Metropolitan Statistical Area and Surrounding Area Point Source Map

Las Vegas MSA and Surrounding Areas - Point Sources



- u836 EGU-Emits NOx (may emit VOC)
- n2836 NOx Source (may emit VOC)
- v681 VOC Source (may emit NOx)
- D Ozone monitoring site

0 50 100
miles

Counties included in Metro Statistical Areas are shaded.
Emissions are in tons per year (NET 96 Inventory).

October 25, 2000

Source: EPA Data for Ozone planning - Designation at http://www.epa.gov/ttn/naaqs/ozone/areas/viewmap.htm

Attachment 5

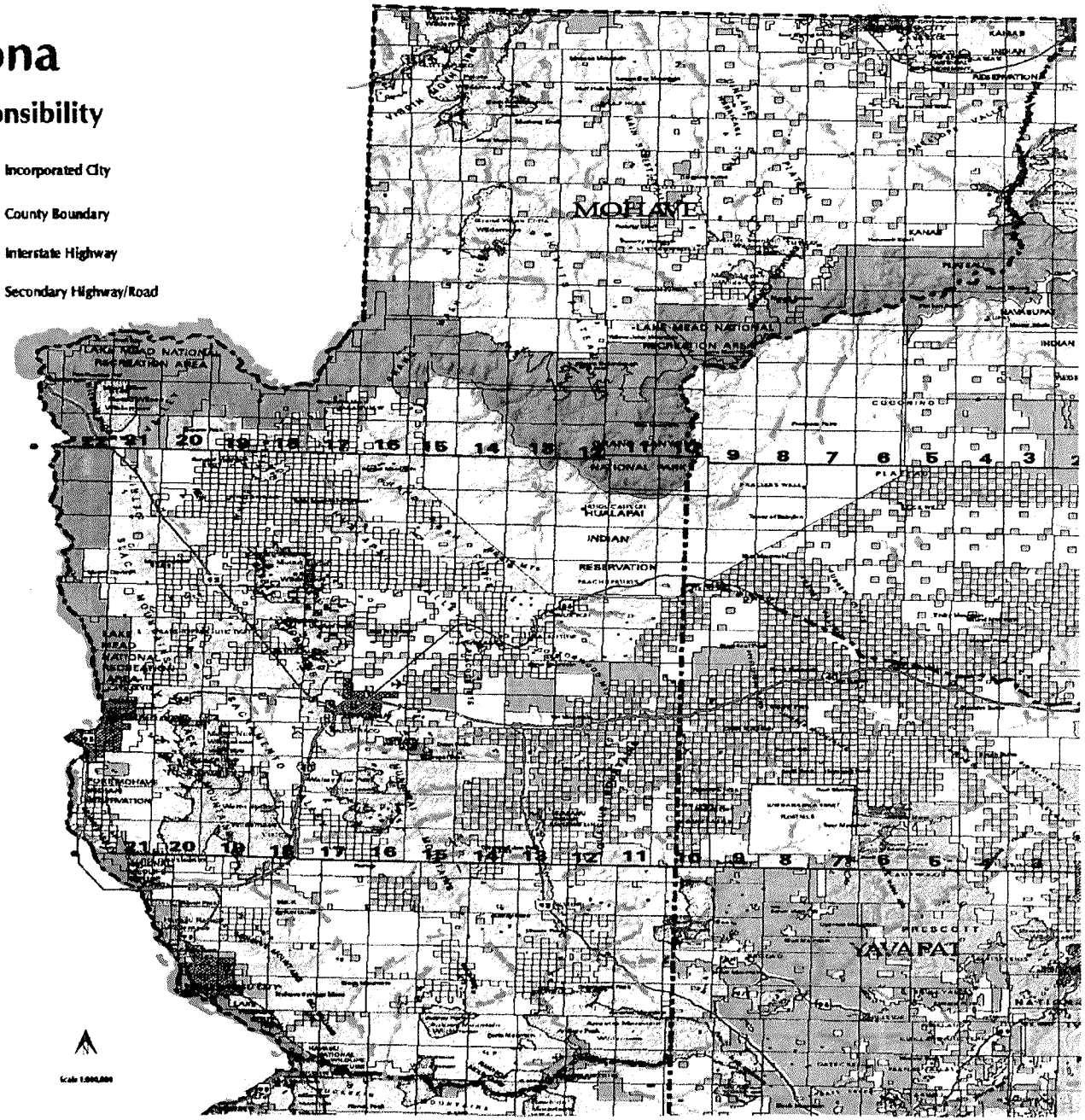
Mohave County Arizona Surface Management Map

State of Arizona

Surface Management Responsibility

- Private
- State Trust
- Bureau of Land Management
- Parks and Recreation
- National Parks, Monuments, Historical and Rec. Sites
- National Forest and Wilderness
- Wildlife Refuge
- Indian Reservation
- Military
- Other
- Incorporated City
- County Boundary
- Interstate Highway
- Secondary Highway/Road

January 2002

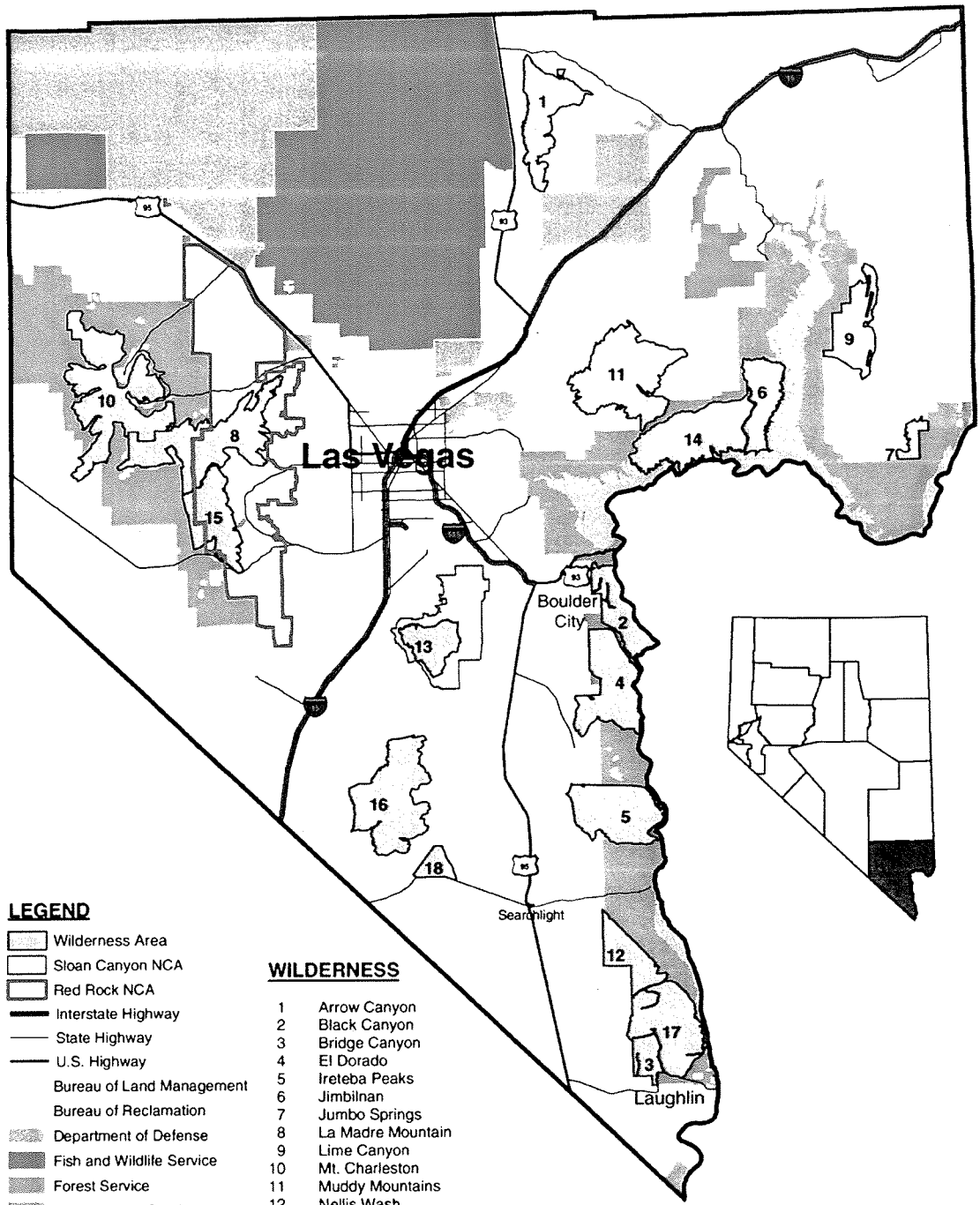


This image depicts a portion of of the original Arizona State Land Department map. The entire map can be viewed online at http://www.land.state.az.us/maps/paper_maps_surface.htm.

Attachment 6

Clark County Nevada Wilderness Area and Land Ownership Map

Clark County Wilderness Areas



LEGEND

- Wilderness Area
- Sloan Canyon NCA
- Red Rock NCA
- Interstate Highway
- State Highway
- U.S. Highway
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Fish and Wildlife Service
- Forest Service
- National Park Service
- Native American Reservation
- Private
- State of Nevada
- Water

WILDERNESS

1	Arrow Canyon
2	Black Canyon
3	Bridge Canyon
4	El Dorado
5	Ireteba Peaks
6	Jimbilnan
7	Jumbo Springs
8	La Madre Mountain
9	Lime Canyon
10	Mt. Charleston
11	Muddy Mountains
12	Nellis Wash
13	North McCullough
14	Pinto Valley
15	Rainbow Mountain
16	South McCullough
17	Spirit Mountain
18	Wee Thump Joshua Tree

N

5 2.5 0 5 10 15 20 Miles

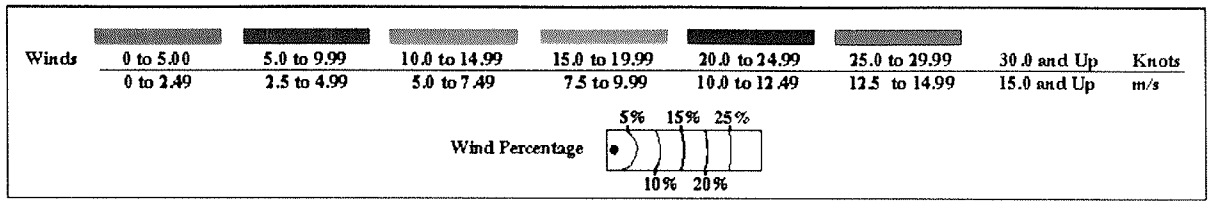
December 13, 2002

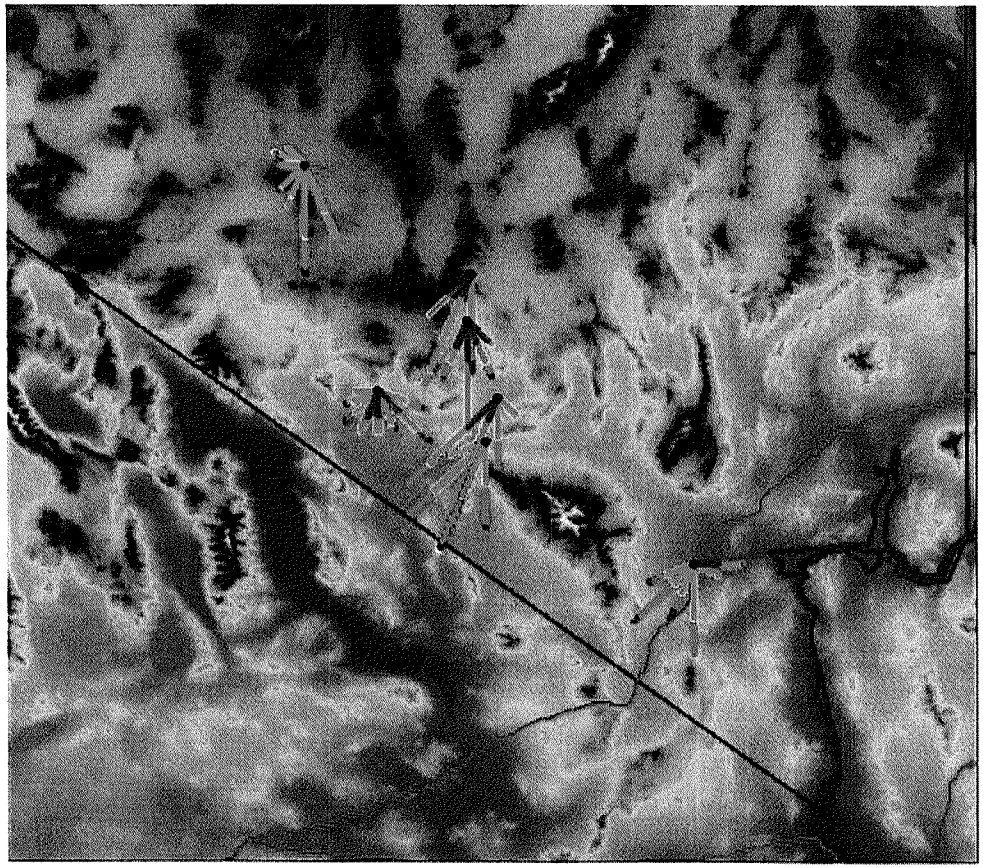
NO WARRANTY IS MADE BY THE BUREAU OF LAND MANAGEMENT AS TO THE ACCURACY, RELIABILITY, OR COMPLETENESS OF THESE DATA FOR INDIVIDUAL USE OR AGGREGATE USE WITH OTHER DATA

Attachment 7

Windrose Wind Analysis for Southern Nevada

Wind Systems of the Mountain West: Graphic Analyses
Windrose Wind Analysis for Southern Nevada at 00 UTC, overall Summer





Source: "A Climatological Study of Thermally Driven Wind Systems of the U.S. Intermountain West," Stewart et. al., University of Utah, August 1, 2001.

Attachment B

Original Nevada 8-hour Ozone Designation Recommendations (July 10, 2003)

ALLEN BIAGGI, *Administrator*

(775) 687-4670

Administration
Facsimile 687-5856

Water Pollution Control
Facsimile 687-4684

Mining Regulation and
Reclamation
Facsimile 684-5259

STATE OF NEVADA
KENNY C. GUINN
Governor

R. MICHAEL TURNIPSEED, *Director*

Waste Management
Corrective Actions
Federal Facilities

Air Pollution Control
Air Quality Planning
Water Quality Planning

Facsimile 687-6396

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL PROTECTION

333 W. Nye Lane, Room 138
Carson City, Nevada 89706

July 10, 2003

Mr. Wayne Nastri
Regional Administrator
U.S. EPA – Region IX
75 Hawthorne Street
San Francisco, CA 94105

RE: Recommended designations for the eight-hour ozone National Ambient Air Quality Standards (NAAQS)

Dear Mr. Nastri:

Pursuant to Section 107(d) of the 1990 Clean Air Act, I am submitting this letter to recommend to the EPA that the State of Nevada be designated as attainment or unclassifiable for the eight-hour ozone NAAQS. The State of Nevada has reviewed historical data for ozone and suggests that all areas within the State's jurisdiction be designated as unclassifiable except for Carson City County which are in attainment for the standard.

The Air Quality Management Division of the Washoe County Health Department has reviewed historical data and recommends that Washoe County be designated as an attainment area for the eight-hour ozone standard. A copy of their letter in enclosed.

The Department of Air Quality Management in Clark County has reviewed historical data and recommends that Clark County be designated as an attainment area for the eight-hour ozone standard. A copy of their letter in enclosed.

Please contact Colleen Cripps at (775) 687-9346 if you have any questions which you like to discuss.

Sincerely,

Allen Biaggi, Administrator
Nevada Division of Environmental Protection

AB: cs

Certified Mail: 7002 2030 0005 8437 4186
Enclosures

CC: Colleen Cripps, NDEP
Andy Goodrich, Washoe County District Health Department AQMD
Christine Robinson, Clark County Department of Air Quality Management.

Nevada Bureau of Air Quality Planning

3-Year Average Annual 4th-Highest Daily Maximum 8-Hour Ozone Concentrations
(Highs and averages in parts per million, truncated)

SLAMS

Site/AIRS No.	Year*	1st-High	Day-Mo.	2nd-High	Day-Mo.	3rd-High	Day-Mo.	4th-High	Day-Mo.
Carson City	2000	0.069	10-May	0.069	30-May	0.067	23-Aug	**0.067**	29-May
325100004	2001	0.075	30-Aug	0.074	16-Aug	0.074	22-Jun	**0.071**	15-Aug
	2002	0.073	7-Jun	0.073	2-Jun	0.072	27-Jun	**0.068**	29-May
Truncated three-year average		0.072		0.072		0.071		**0.068****	

*Meets minimum data recovery requirements (3-year minimum 90%, annual minimum 75%, per season)
**0.068 ppm rounds to 0.07 ppm for comparison with the standard of 0.08 ppm.

(COLLEEN)

DISTRICT HEALTH DEPARTMENT

AIR QUALITY MANAGEMENT DIVISION

RECEIVED ENVIRONMENTAL PROTECTION JUN 23 '03

June 20, 2003

Mr. Allen Biaggi, Administrator
Nevada Division of Environmental Protection
333 West Nye Lane
Carson City NV 89706-0851

Re: Washoe County's Designation for the 8-Hour Ozone National Ambient Air Quality Standard (NAAQS)

Dear Mr. Biaggi:

Pursuant to Section 107(d) of the Clean Air Act, the governor of each state is to recommend area designations to the USEPA whenever a National Ambient Air Quality Standard (NAAQS) is revised. Based on guidance documents from Mr. Jeffrey R. Holmstead, Assistant Administrator for the USEPA's Office of Air and Radiation, Washoe County's designation recommendation for the federal 8-Hour Ozone NAAQS must be made by July 15, 2003.

The Air Quality Management Division of the Washoe County District Health Department has reviewed historical Washoe County 8-hour average ozone data and recommends that Washoe County be designated as an attainment area for the 8-Hour Ozone NAAQS. A summary of 8-hour ozone data for Washoe County for the calendar years 2000, 2001, and 2002 is enclosed to verify that Washoe County has not exceeded the 8-Hour Ozone NAAQS of 0.08 ppm. The data are reported following the protocols defined in Appendix I to Part 50, Title 40 of the Code of Federal Regulations, and have been submitted to the EPA AIRS database.

If you have any questions regarding this matter, please feel free to call Duane Sikorski or me at (775) 784-7200.

Sincerely,

Andrew C. Goodrich, REM
Director

cc: Wayne Nastri, USEPA, Region IX
Colleen Cripps, Nevada DEP/BAQ
Duane Sikorski, Washoe County District Health Department AQMD

P.O. BOX 11130 Reno, NV 89520-0027 • 401 Ryland Street, Ste. 331 • (775) 784-7200 • FAX (775) 784-7225

WASHOE COUNTY IS AN EQUAL OPPORTUNITY EMPLOYER HIRING EMPLOYMENT ELIGIBLE APPLICANTS

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Washoe County 2000, 2001, and 2002 Ozone Data Based on 8-Hour Averages, ppm

Site/AIRS #		1st High	Month/Day	2nd High	Month/Day	3rd High	Month/Day	4th High	Month/Day
Incline*	2000	0.067	5/29	0.066	8/3	0.065	5/14	0.065	5/30
320312002	2001	0.075	8/17	0.075	8/30	0.074	6/22	0.068	6/30
	2002	0.076	6/27	0.072	6/14	0.070	8/14	0.070	8/15
	Average	**0.073**		**0.071**		**0.070**		**0.068**	
Lemmon Valley	2000	0.072	5/30	0.068	8/22	0.067	5/29	0.066	5/10
320312009	2001	0.070	6/22	0.069	8/17	0.068	8/29	0.067	8/9
	2002	0.070	6/27	0.068	6/26	0.068	7/31	0.067	6/13
	Average	**0.071**		**0.068**		**0.068**		**0.067**	
Reno2	2000	0.068	8/22	0.067	8/20	0.067	8/28	0.065	7/31
320310016	2001	0.075	8/30	0.071	8/29	0.071	8/31	0.068	8/9
	2002	0.077	8/15	0.075	7/11	0.075	7/31	0.074	6/27
	Average	**0.073**		**0.071**		**0.071**		**0.069**	
South Reno	2000	0.069	5/29	0.068	5/30	0.068	8/1	0.067	7/29
320310020	2001	0.081	8/30	0.076	8/9	0.076	8/16	0.075	8/29
	2002	0.080	6/27	0.080	7/31	0.079	8/12	0.075	8/11
	Average	**0.077**		**0.075**		**0.074**		**0.072**	
Sparks	2000	0.070	8/20	0.070	8/22	0.069	5/30	0.069	8/6
320311005	2001	0.076	8/30	0.072	8/9	0.072	8/16	0.072	8/31
	2002	0.080	6/27	0.079	8/15	0.077	7/31	0.076	8/16
	Average	**0.075**		**0.074**		**0.073**		**0.072**	
Toll	2000	0.071	5/29	0.071	5/30	0.071	8/23	0.070	8/1
320310025	2001	0.076	8/30	0.073	8/16	0.070	8/29	0.070	8/31
	2002	0.081	6/27	0.074	8/16	0.071	6/7	0.071	7/31
	Average	**0.076**		**0.073**		**0.071**		**0.070**	

Washoe County Air Quality Management Division - 6/20/03

*Data submitted to AIRS by California Air Resources Board - Monitors Operated by Washoe County AQMD

Department of Air Quality Management

500 S Grand Central Pky 1st Fl • PO Box 551776 • Las Vegas NV 89155-1776
(702) 455-5942 • Fax (702) 383-9994

Christine L. Robinson, Director
Catherine MacDougall, Assistant Director • Susan Selby, Assistant Director

June 27, 2003

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PROTECTION
JUL - 9 03

Mr. Allen Biaggi, Administrator
Nevada Division of Environmental Protection
333 W. Nye Lane, Room 138
Carson City, Nevada 89706

Re: Recommendation on Designation for the Federal 8 hour Ozone Standard – Clark County

Dear Mr. Biaggi:

In accordance with the January 2, 2003, EPA guidance memo regarding attainment status with the 8-hour Ozone National Ambient Air Quality Standard (NAAQS), we have reviewed the relevant data and have made a determination Clark County is in attainment of the 8-hour NAAQS for ozone. Based on 2000-2002 quality assured data for all sites monitored in Clark County by the Department of Air Quality Management (DAQM), the 4th highest value of all sites are in compliance of the ozone standard. Given this information, it is our recommendation that Clark County be designated as Attainment/Unclassifiable.

Enclosed is the DAQM monitoring data for the ambient sites in Clark County for your review. If you have any questions or need clarification on any item related to this issue, please contact Mrs. Catherine MacDougall of my staff at (702) 455-1602.

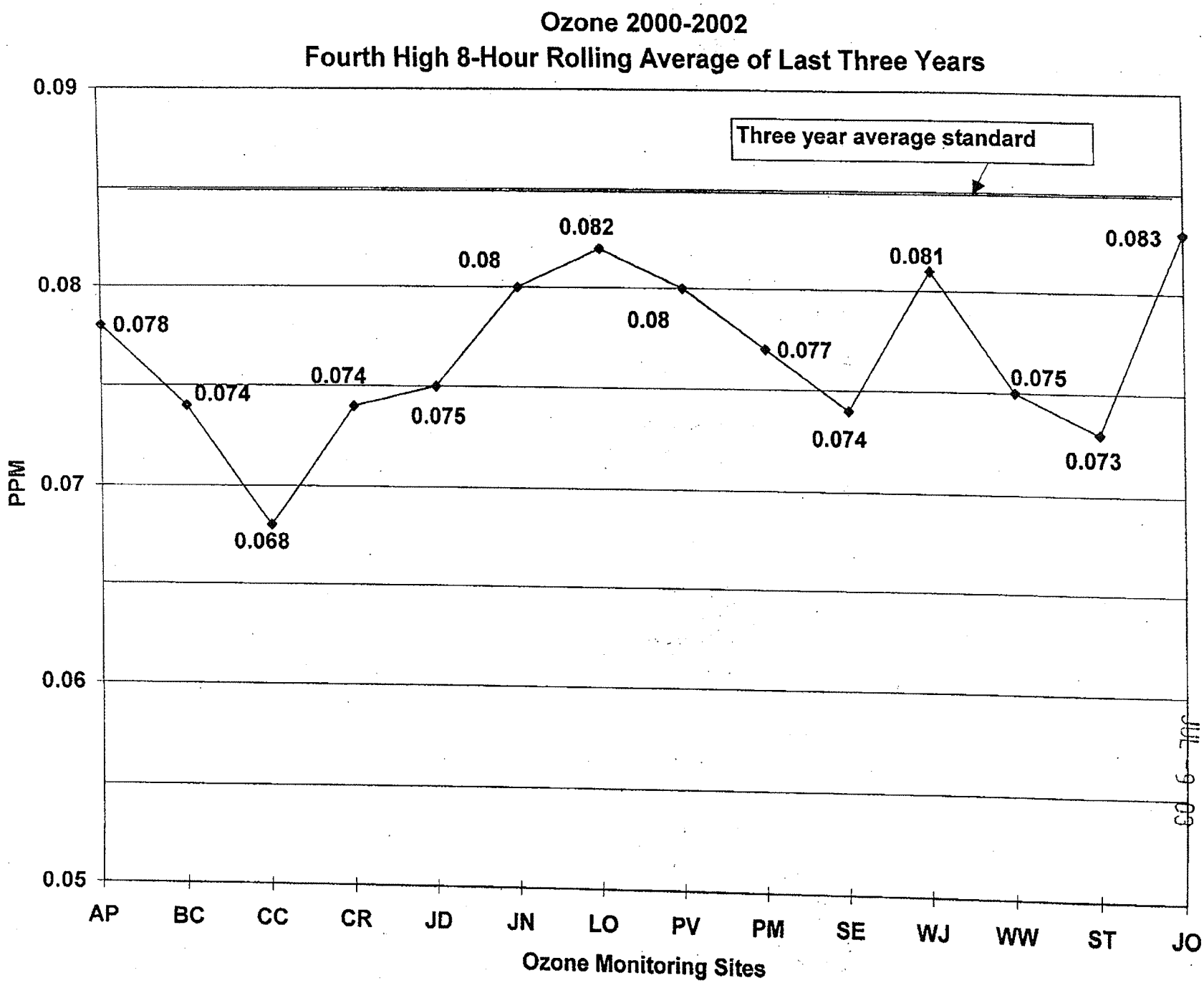
In public service,

Catherine R MacDougall for
Christine Robinson, Director

Enc

Cc:
Jolaine Johnson, NDEP
Colleen Cripps, NDEP
Jacob Snow, General Manager, RTC
Richard Holmes, Assistant County Manager
Alan Pinkerton, Assistant Director, Comprehensive Planning
Catherine MacDougall, Assistant Director, DAQM
Susan Selby, Assistant Director, DAQM
John Koswan, Assistant Planning Manager
Erika McCalvin, Senior Planner

BOARD OF COUNTY COMMISSIONERS
MARY KINCAID-CHAUNCEY, Chair • CHIP MAXFIELD, Vice-Chairman
YVONNE ATKINSON GATES • MARK A. JAMES • RORY REID • MYRNA WILLIAMS • BRUCE L. WOODBURY
THOM REILLY, County Manager



Red Line = Exceedance Standard

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PROTECTION
JUL - 9 03

Clark County
Air Quality Management Department
OZONE {PPM}
4th High 8-hour Rolling Average

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ENVIRONMENTAL
PROTECTION
JUL -9 03

	E. Craig Road							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.076	4-Jun	0.074	11-Jun	0.074	2-Aug	**0.074**	26-Aug
2001	0.078	10-Aug	0.071	22-Jun	0.071	6-Jun	**0.070**	11-Aug
2002	0.089	16-Jun	0.082	27-Jun	0.079	28-Jun	**0.078**	15-Jun
Average							**0.074**	
	City Center							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.076	2-Aug	0.074	4-Jun	0.071	11-Jun	**0.070**	1-Jun
2001	0.083	10-Aug	0.070	11-Aug	0.067	22-Jul	**0.063**	23-Aug
2002	0.077	27-Jun	0.076	2-Sep	0.076	16-Jun	**0.073**	11-Aug
Average							**0.068**	
	Winterwood							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.081	2-Aug	0.079	19-May	0.077	23-May	**0.077**	6-Aug
2001	0.085	10-Aug	0.074	16-Jun	0.072	11-May	**0.071**	17-Sep
2002	0.086	16-Jun	0.081	12-Jul	0.080	27-Jun	**0.077**	17-Jun
Average							**0.075**	
	S.E. Valley							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.080	2-Aug	0.077	11-Jun	0.074	30-May	**0.073**	23-May
2001	0.076	10-Aug	0.076	29-Jul	0.075	7-Jun	**0.072**	16-Jun
2002	0.087	27-Jun	0.082	16-Jun	0.079	11-Aug	**0.078**	8-Jun
Average							**0.074**	
	Shadow Lane (Station Closed)							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.076	2-Aug	0.073	4-Jun	0.071	6-Aug	**0.069**	23-May
2001	0.087	10-Aug	0.073	11-Aug	0.070	25-May	**0.068**	22-Jul
Average							**0.068**	
	Apex							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.084	26-May	0.084	12-Jun	0.083	23-May	**0.080**	2-Aug
2001	0.076	29-May	0.075	25-May	0.074	16-May	**0.074**	6-Jun
2002	0.090	16-Jun	0.083	15-Jun	0.083	16-May	**0.082**	15-Apr
Average							**0.078**	

Clark County
Air Quality Management Department
OZONE (PPM)
4th High 8-hour Rolling Average

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PROTECTION
JUL -9 03

	Lone Mountain							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.083	29-Jul	0.083	1-Aug	0.082	2-Aug	**0.082**	6-Aug
2001	0.090	10-Aug	0.088	11-Aug	0.082	9-Aug	**0.080**	25-May
2002	0.092	27-Jun	0.088	18-Aug	0.087	11-Aug	**0.086**	28-Jun
Average							**0.082**	
	Palo Verde							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.084	4-Jun	0.082	6-Aug	0.081	2-Aug	**0.080**	12-Jun
2001	0.091	10-Aug	0.090	11-Aug	0.078	29-Jul	**0.078**	2-Jul
2002	0.090	27-Jun	0.087	18-Aug	0.084	28-Jun	**0.082**	11-Aug
							0.080	
	Jean							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.082	30-May	0.081	12-Aug	0.080	11-Jun	**0.078**	4-Jun
2001	0.082	16-Jun	0.080	18-May	0.080	1-Jun	**0.079**	17-Jun
2002	0.093	27-Jun	0.092	28-Jun	0.085	18-Aug	**0.083**	11-Aug
							0.080	
	Paul Meyer							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.083	4-Jun	0.080	2-Aug	0.079	20-Jun	**0.077**	11-Jun
2001	0.085	10-Aug	0.081	11-Aug	0.080	2-Jul	**0.076**	25-May
2002	0.090	27-Jun	0.084	18-Aug	0.083	28-Jun	**0.079**	16-Jun
							0.077	
	Boulder City							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.079	2-Aug	0.078	31-May	0.073	23-May	**0.072**	27-Apr
2001	0.074	17-Jun	0.073	17-Sep	0.072	16-Jun	**0.071**	10-May
2002	0.084	27-Jun	0.082	16-Jun	0.081	15-Jun	**0.081**	17-Jun
							0.074	
	J.D. Smith							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.085	2-Aug	0.079	4-Jun	0.077	11-Jun	**0.077**	12-Jun
2001	0.080	10-Aug	0.072	11-Aug	0.072	16-Aug	**0.071**	6-Jun
2002	0.085	16-Jun	0.083	27-Jun	0.080	28-Jun	**0.078**	12-Jul
							0.075	

Clark County
Air Quality Management Department
OZONE {PPM}
4th High 8-hour Rolling Average

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ENVIRONMENTAL
PROTECTION
JUL -9 03

	Walter Johnson							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.083	4-Jun	0.082	2-Aug	0.082	6-Aug	**0.080**	12-Jun
2001	0.092	10-Aug	0.088	11-Aug	0.082	2-Jul	**0.082**	25-May
2002	0.088	18-Aug	0.086	11-Aug	0.085	27-Jun	**0.081**	29-Jul
							0.081	
	Joe Neal							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.086	29-Jul	0.085	1-Aug	0.081	26-Aug	**0.080**	6-Aug
2001	0.094	10-Aug	0.085	9-Aug	0.084	11-Aug	**0.083**	14-Aug
2002	0.093	27-Jun	0.088	16-Jun	0.087	28-Jun	**0.086**	11-Aug
							0.083	
	Searchlight							
Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
2000	0.078	25-Jul	0.073	6-Aug	0.072	1-Jul	**0.072**	2-Aug
2001	0.084	17-Jun	0.079	16-Jun	0.074	10-May	**0.073**	1-Jun
2002	0.081	27-Jun	0.076	8-Jun	0.075	16-Jun	**0.074**	6-May
							0.073	

Appendix C

EPA's December 10, 2003 Response to Nevada Recommendations

COLLEEN

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

December 3, 2003

OFFICE OF THE
REGIONAL ADMINISTRATOR

Honorable Kenny C. Guinn
Governor of Nevada
Capitol Building
Carson City, Nevada 89701

Dear Governor Guinn:

Thank you for making recommendations on 8-hour ozone air quality designations. This is an important step in providing citizens of Nevada with information on air pollution levels where they live and work. We have reviewed Nevada Division of Environmental Protection Administrator Allen Biaggi's July 10, 2003 letter submitting Nevada's recommendations. This letter is to inform you that the EPA agrees with your recommendation to not designate any Nevada area as nonattainment for the 8-hour ozone standard. Please note that EPA will address designations of Tribal lands through a separate concurrent process with the Tribes in Nevada.

Levels of ground-level ozone, a major constituent of smog, 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 United States 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". (CAA §107(d)(1)) EPA guidance indicates that Nevada 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 Nevada should consider in determining whether to modify the presumptive boundaries. We have reviewed your submission and believe it is consistent with our guidance.

EPA has been tracking 2003 ozone monitoring data and its impact on areas' 2001-2003 design values (DV). EPA will continue to closely review monitoring data for differences that

may occur throughout the remainder of the 2003 ozone season or as a result of data handling procedures to determine if it might affect the State's recommendation. It is critical for Nevada to expedite submittal of the 2003 monitoring data to EPA so that air quality designations and classifications for the 8-hour ozone standard will accurately reflect the State's air quality. Please submit your final 2003 8-hour ozone monitoring data into the Air Quality System as quickly as possible, if it has not already been done. In addition, please submit the 8-hour and 1-hour design values and the average expected 1-hour exceedance rate to John Kennedy, Technical Support Office Chief (415-947-4129), by official letter by December 17, 2003 to advance the designations and classifications process.

Based on our preliminary review of air quality monitoring data for the 2003 ozone season, there are no areas in Nevada violating the 8-hour ozone standard based on data from 2001-2003. However, the data indicate that a monitor in Clark County is recording ambient levels of ozone that bring the area close to violating the standard. In fact, the 2003 data indicate that ozone levels are higher than they have been during the past several years, and the 2003 data will continue to affect the 3-year average design value for the area for several years. We will continue to review the 2003 monitoring data and will also watch this monitor closely over the next several years to determine whether the area remains in attainment with the 8-hour ozone standard.

We look forward to a continued dialog with Nevada as we work to finalize the designations for the 8-hour ozone standard. If you have any questions, please do not hesitate to contact Steven Barhite at (415) 972-3980.

Sincerely,

Wayne Nastri
Regional Administrator

cc: Allen Biaggi, NDEP
Andy Goodrich, Washoe County District Health Department AQMD
Christine Robinson, Clark County Department of Air Quality Management

Attachment D

Clark County 8-Hour Ozone Design Values from Monitored Data in AIRS

Clark County
Air Quality Management Division
OZONE {PPM}
Running High 8-hour Average

		E. Craig Road							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.078	10-Aug	0.071	22-Jun	0.071	6-Jun	**0.070**	11-Aug
	2002	0.089	16-Jun	0.082	27-Jun	0.079	28-Jun	**0.078**	15-Jun
	2003	0.089	21-Jul	0.084	29-Jun	0.081	1-Jun	**0.080**	26-May
	Average							**0.076**	
		City Center							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.083	10-Aug	0.070	11-Aug	0.067	22-Jul	**0.063**	23-Aug
	2002	0.077	27-Jun	0.076	2-Sep	0.076	16-Jun	**0.073**	11-Aug
	2003	0.082	28-Jun	0.081	26-May	0.081	29-Jun	**0.078**	1-Jun
	Average							**0.071**	
		Winterwood							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.085	10-Aug	0.074	16-Jun	0.072	11-May	**0.071**	17-Sep
	2002	0.086	16-Jun	0.081	12-Jul	0.080	27-Jun	**0.077**	17-Jun
	2003	0.088	29-Jun	0.079	26-May	0.078	13-Jun	**0.078**	21-Jul
	Average							**0.075**	
		S.E. Valley							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.076	10-Aug	0.076	29-Jul	0.075	7-Jun	**0.072**	16-Jun
	2002	0.087	27-Jun	0.082	16-Jun	0.079	11-Aug	**0.078**	8-Jun
	2003	0.076	13-Jun	0.074	4-Jun	0.073	25-May	**0.073**	21-Jun
	Average							**0.074**	
		Apex							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.076	29-May	0.075	25-May	0.074	16-May	**0.074**	6-Jun
	2002	0.090	16-Jun	0.083	15-Jun	0.083	16-May	**0.082**	15-Apr
	2003	0.092	29-Jun	0.080	25-May	0.078	21-Jul	**0.078**	1-Jun
	Average							**0.078**	
		Lone Mountain							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.090	10-Aug	0.088	11-Aug	0.082	9-Aug	**0.080**	25-May
	2002	0.092	27-Jun	0.088	18-Aug	0.087	11-Aug	**0.086**	28-Jun
	2003	0.089	21-Jul	0.088	29-Jun	0.085	9-Jul	**0.085**	26-May
	Average							**0.083**	
		Palo Verde							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.091	10-Aug	0.090	11-Aug	0.078	29-Jul	**0.078**	2-Jul
	2002	0.090	27-Jun	0.087	18-Aug	0.084	28-Jun	**0.082**	11-Aug
	2003	0.088	21-Jul	0.087	29-Jun	0.083	26-May	**0.082**	3-Jun
								0.080	

Clark County
Air Quality Management Division
OZONE {PPM}
Running High 8-hour Average

		Jean							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.082	16-Jun	0.080	18-May	0.080	1-Jun	**0.079**	17-Jun
	2002	0.093	27-Jun	0.092	28-Jun	0.085	18-Aug	**0.083**	11-Aug
	2003	0.089	29-Jun	0.086	3-Jun	0.085	4-Jun	**0.083**	27-Jun
								0.081	
		Paul Meyer							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.085	10-Aug	0.081	11-Aug	0.080	2-Jul	**0.076**	25-May
	2002	0.090	27-Jun	0.084	18-Aug	0.083	28-Jun	**0.079**	16-Jun
	2003	0.086	21-Jul	0.084	29-Jun	0.083	28-Jun	**0.081**	3-Jun
								0.078	
		Boulder City							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.074	17-Jun	0.073	17-Sep	0.072	16-Jun	**0.071**	10-May
	2002	0.084	27-Jun	0.082	16-Jun	0.081	15-Jun	**0.081**	17-Jun
	2003	0.079	29-Jun	0.077	28-Jun	0.074	11-Apr	**0.074**	21-Jul
								0.075	
		J.D. Smith							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.080	10-Aug	0.072	11-Aug	0.072	16-Aug	**0.071**	6-Jun
	2002	0.085	16-Jun	0.083	27-Jun	0.080	28-Jun	**0.078**	12-Jul
	2003	0.092	21-Jul	0.085	29-Jun	0.081	9-Jul	**0.081**	1-Jun
								0.076	
		Walter Johnson							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.092	10-Aug	0.088	11-Aug	0.082	2-Jul	**0.082**	25-May
	2002	0.088	18-Aug	0.086	11-Aug	0.085	27-Jun	**0.081**	29-Jul
	2003	0.093	21-Jul	0.086	29-Jun	0.085	17-Aug	**0.082**	26-May
								0.081	
		Joe Neal							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.094	10-Aug	0.085	9-Aug	0.084	11-Aug	**0.083**	14-Aug
	2002	0.093	27-Jun	0.088	16-Jun	0.087	28-Jun	**0.086**	11-Aug
	2003	0.094	29-Jun	0.092	21-Jul	0.09	9-Jul	**0.089**	26-May
								0.086	
		Searchlight							
	Year	1st High	Date	2nd High	Date	3rd High	Date	**4th High**	Date
	2001	0.084	17-Jun	0.079	16-Jun	0.074	10-May	**0.073**	1-Jun
	2002	0.081	27-Jun	0.076	8-Jun	0.075	16-Jun	**0.074**	6-May
	2003	0.082	29-Jun	0.074	17-May	0.073	25-May	**0.072**	27-Jun
								0.073	

Attachment E

Clark County One-Hour Design Values from Monitored Data in AIRS

Clark County one hour Ozone data for 2001, 2002 and 2003.

Site Code	Site	Year	1st High	Date	2nd High	Date	3rd High	Date	4th High	Date
32-003-0022	Apex	2001	0.092	06/17:11	0.085	08/07:15	0.084	08/24:14	0.083	05/29:14
32-003-0022	Apex	2002	0.094	06/16:15	0.091	04/15:15	0.091	06/27:18	0.091	08/11:15
32-003-0022	Apex	2003	0.099	06/29:13	0.090	06/06:14	0.090	07/17:14	0.089	06/01:17
32-003-0601	Boulder City	2001	0.081	06/17:12	0.079	08/10:17	0.078	06/16:17	0.077	05/10:11
32-003-0601	Boulder City	2002	0.090	06/16:13	0.090	06/27:18	0.088	06/15:13	0.087	06/28:01
32-003-0601	Boulder City	2003	0.089	06/29:12	0.081	06/28:13	0.079	04/11:16	0.079	05/28:11
32-003-0016	City Center	2001	0.103	08/10:15	0.082	08/11:12	0.078	06/17:10	0.074	07/22:11
32-003-0016	City Center	2002	0.087	07/12:12	0.087	08/11:15	0.086	06/16:13	0.085	06/27:11
32-003-0016	City Center	2003	0.096	07/21:14	0.095	06/29:10	0.094	06/06:14	0.091	06/28:12
32-003-0020	East Craig Road	2001	0.102	08/10:15	0.092	06/17:10	0.085	08/09:14	0.081	07/01:11
32-003-0020	East Craig Road	2002	0.097	07/12:12	0.096	06/16:12	0.095	06/27:11	0.093	08/13:14
32-003-0020	East Craig Road	2003	0.111	06/03:13	0.096	05/25:10	0.092	05/26:13	0.089	07/27:13
32-003-2002	J.D. Smith	2001	0.102	08/10:16	0.090	0617:11	0.084	06/01:14	0.083	07/01:12
32-003-2002	J.D. Smith	2002	0.108	07/12:12	0.095	06/16:14	0.091	06/27:11	0.091	06/28:12
32-003-2002	J.D. Smith	2003	0.115	07/21:14	0.098	06/06:14	0.094	06/29:11	0.091	07/09:15
32-003-1019	Jean	2001	0.098	06/17:09	0.090	06/16:19	0.090	06/23:21	0.088	05/18:15
32-003-1019	Jean	2002	0.099	06/27:17	0.094	06/28:09	0.088	06/07:20	0.088	08/18:13
32-003-1019	Jean	2003	0.095	06/29:11	0.093	06/06:12	0.092	06/04:14	0.091	06/27:16
32-003-0075	Joe Neal	2001	0.112	08/10:15	0.107	08/09:14	0.101	06/17:10	0.094	08/07:14
32-003-0075	Joe Neal	2002	0.109	08/13:15	0.102	06/27:11	0.101	07/12:13	0.101	08/12:14

32-003-0075	Joe Neal	2003	0.114	06/29:11	0.107	07/21:14	0.104	07/09:16	0.102	06/03:14
32-003-0072	Lone Mountain	2001	0.110	08/10:15	0.100	08/07:13	0.099	08/09:14	0.098	06/17:10
32-003-0072	Lone Mountain	2002	0.105	07/12:12	0.101	06/27:13	0.101	07/29:14	0.101	08/11:16
32-003-0072	Lone Mountain	2003	0.115	07/21:14	0.108	06/29:11	0.101	06/06:14	0.098	07/09:15
32-003-0073	Palo Verde	2001	0.110	08/10:14	0.100	08/11:13	0.099	06/17:10	0.093	07/02:15
32-003-0073	Palo Verde	2002	0.099	08/11:14	0.097	06/27:12	0.096	07/09:15	0.095	08/12:13
32-003-0073	Palo Verde	2003	0.107	07/21:13	0.098	06/29:11	0.097	06/03:14	0.093	06/08:11
32-003-0043	Paul Meyer Park	2001	0.106	08/10:16	0.088	08/11:13	0.087	06/20:11	0.086	07/02:11
32-003-0043	Paul Meyer Park	2002	0.096	06/27:12	0.094	08/18:12	0.091	06/28:12	0.090	08/11:13
32-003-0043	Paul Meyer Park	2003	0.099	07/21:14	0.093	06/03:13	0.093	06/29:11	0.090	06/04:15
32-003-0007	S. E. Valley	2001	0.091	08/10:16	0.083	06/17:10	0.083	06/23:22	0.080	06/07:13
32-003-0007	S. E. Valley	2002	0.091	06/27:20	0.090	08/13:13	0.089	07/12:13	0.088	06/16:13
32-003-0007	S. E. Valley	2003	0.079	06/13:17	0.079	07/09:13	0.078	05/24:23	0.078	05/25:09
32-003-0078	Searchlight	2001	0.089	06/17:05	0.083	06/01:18	0.083	06/20:02	0.080	06/01:24
32-003-0078	Searchlight	2002	0.089	06/07:21	0.086	06/27:15	0.085	06/08:18	0.081	06/28:02
32-003-0078	Searchlight	2003	0.088	06/29:10	0.084	05/17:16	0.080	06/28:23	0.080	08/29:16
32-003-0538	Winterwood	2001	0.116	08/10:15	0.089	06/17:10	0.086	05/29:14	0.084	07/01:11
32-003-0538	Winterwood	2002	0.096	07/12:12	0.091	06/16:15	0.088	06/27:11	0.087	06/17:13
32-003-0538	Winterwood	2003	0.096	06/29:12	0.094	07/17:15	0.091	07/21:15	0.089	06/04:15
32-003-0071	Walter Johnson	2001	0.111	08/10:14	0.097	07/02:14	0.097	08/11:12	0.096	06/17:10
32-003-0071	Walter Johnson	2002	0.098	08/11:14	0.098	08/18:12	0.094	07/29:14	0.094	08/14:14
32-003-0071	Walter Johnson	2003	0.112	07/21:14	0.099	06/29:11	0.096	08/17:14	0.093	06/03:14

Attachment F

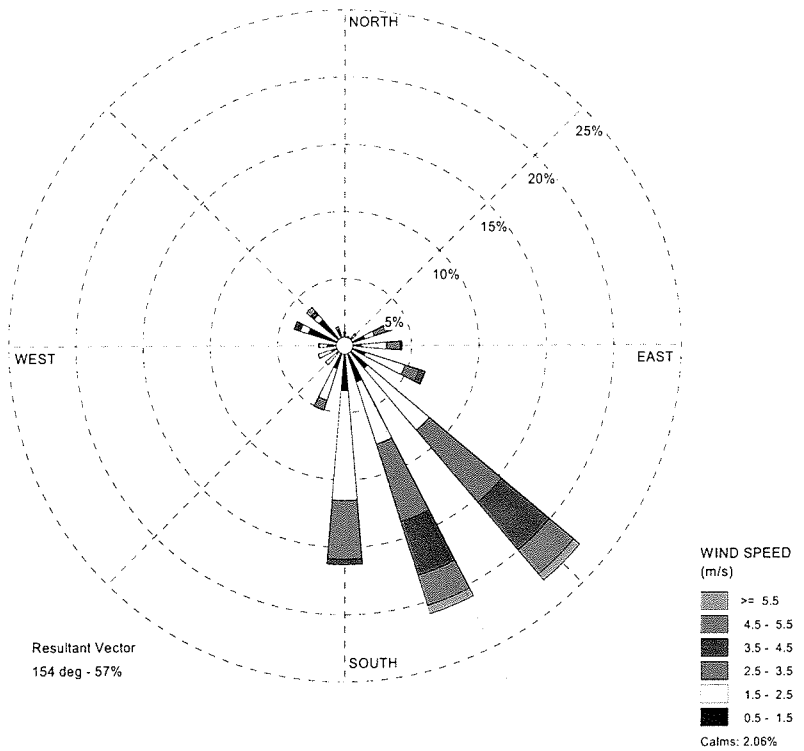
Summertime Wind Roses for 2001-2003 from NDEP Data Monitored in Pahrump, Nevada

WIND ROSE PLOT:

Pahrump, Nevada On-Site Meteorological Data

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:
Summer (June-August) 2001 Data	**2001** **Jun 5 - Sep 1** **00:00 - 23:00**	**NDEP - BAQP**
		MODELER: **fmf**
	CALM WINDS: **2.06%**	TOTAL COUNT: **2135 hrs.**
	AVG. WIND SPEED: **2.31 m/s**	DATE: **4/5/2004** PROJECT NO.:

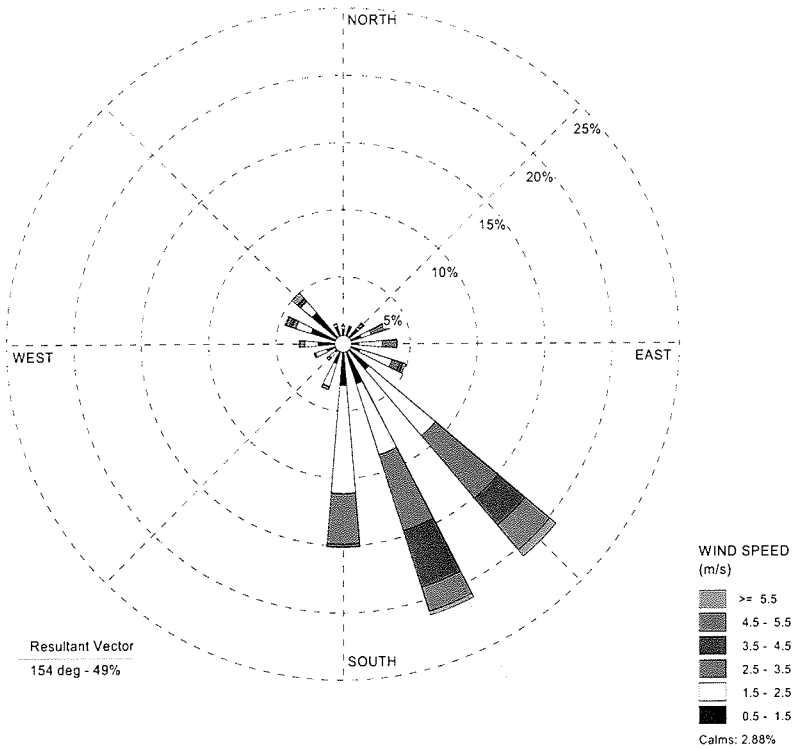
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

Pahrump, Nevada On-Site Meteorological Data

DISPLAY:

Wind Speed
Direction (blowing from)

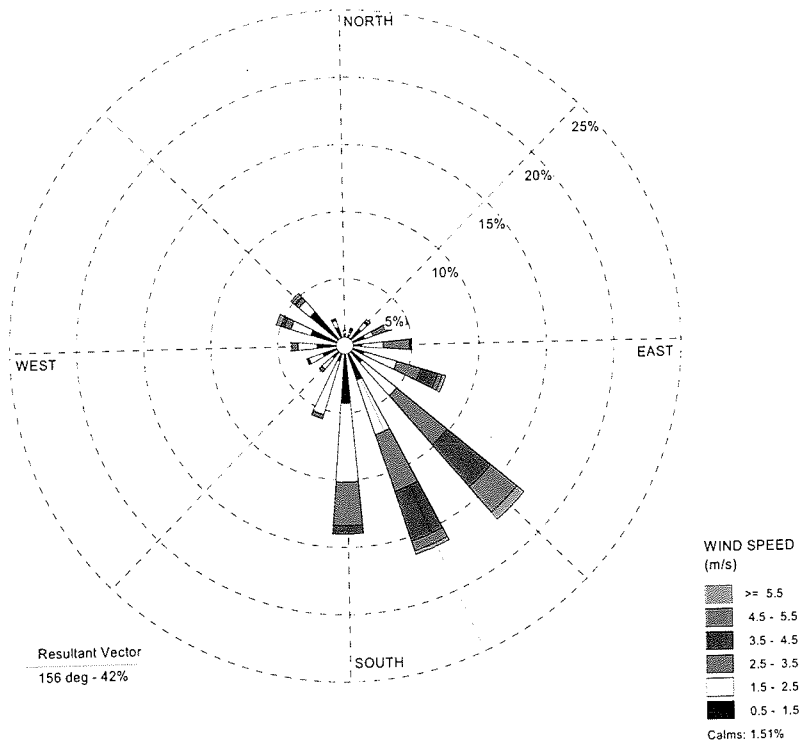


COMMENTS:	DATA PERIOD:	COMPANY NAME:	
Summer (June-August) 2002 Data	**2002** **May 31 - Sep 1** **00:00 - 23:00**	**NDEP - BAQP**	
		MODELER: **fmf**	
	CALM WINDS: **2.88%**	TOTAL COUNT: **2256 hrs.**	
	AVG. WIND SPEED: **2.19 m/s**	DATE: **4/5/2004**	PROJECT NO:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:
Pahrump, Nevada On-Site Meteorological Data

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
Summer (June-August) 2003 Data	**2003** **May 31 - Sep 1** **00:00 - 23:00**	**NDEP - BAQP**	
		MODELER: **fmf**	
	CALM WINDS: **1.51%**	TOTAL COUNT: **1722 hrs.**	
	AVG. WIND SPEED: **2.27 m/s**	DATE: **4/5/2004**	PROJECT NO.:

WRPLOT View - Lakes Environmental Software