

# **Annual Monitoring Network Plan Report**



**June 2015**

Clark County Department of Air Quality  
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## **Executive Summary**

This document reports the status of the Clark County air monitoring network in 2014, as required by Title 40, Part 58 of the Code of Federal Regulations. It describes network operation in 2014, changes planned for 2015–2016, and the ways in which Clark County disseminates network data to the public in a timely manner.

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## ACRONYMS AND ABBREVIATIONS

AADT	annual average daily traffic
AQS	Air Quality System
CBSA	Core-Based Statistical Area
CFR	Code of Federal Regulations
CO	carbon monoxide
DAQ	Clark County Department of Air Quality
EPA	U.S. Environmental Protection Agency
FEM	federal equivalent method
FRM	federal reference method
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NO <sub>x</sub>	oxides of nitrogen
NPAP	National Performance Audit Program
O <sub>3</sub>	ozone
Pb	lead
PEP	Performance Evaluation Program
PM	Particulate Matter
POC	parameter occurrence code
PWEI	Population Weighted Emissions Index
SPM	Special Purpose Monitoring
SLAMS	State/Local Air Monitoring System
SO <sub>2</sub>	sulfur dioxide
TSP	Total Suspended Particulate
TTP	through-the-probe
µg/m <sup>3</sup>	micrograms per cubic meter

## 1.0 INTRODUCTION

This report serves as a review of the current Clark County Department of Air Quality (DAQ) ambient air monitoring network and as a plan for future network activities. During 2014, the following conditions existed:

1. DAQ operated monitoring instruments to measure ambient concentrations of continuous and filter-based particulate matter (PM)<sub>2.5</sub>, continuous PM<sub>10</sub>, ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen oxides (NO, NO<sub>2</sub>, NO<sub>x</sub>, NO<sub>y</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (Pb).
2. DAQ operated under a quality-assured system.
3. DAQ operated visibility instrumentation at North Las Vegas Airport and operated a Sunset Elemental Carbon/Organic Carbon monitor at the Jerome Mack monitoring station as a special project.

Criteria air pollutants are a group of six common air contaminants regulated by the U.S. Environmental Protection Agency (EPA), which developed [National Ambient Air Quality Standards \(NAAQS\)](#) for these pollutants to protect public health and the environment. The six criteria pollutants are O<sub>3</sub>, PM<sub>2.5</sub>/PM<sub>10</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub>, and Pb. DAQ submits quarterly all criteria pollutant data, including precision and accuracy data, to the Air Quality System (AQS) database.

Currently, Clark County is designated as attainment for the O<sub>3</sub>, PM<sub>2.5</sub>, CO, and NO<sub>2</sub> NAAQS and “unclassifiable” for SO<sub>2</sub> and Pb. The Las Vegas Valley (Hydrographic Area 212) within Clark County is classified as attainment for PM<sub>10</sub>, and is subject to a maintenance plan. The area attained the PM<sub>10</sub> standard as of December 31, 2006, and EPA issued a “Finding of Attainment” in August 2010. EPA approved the *Request for Redesignation and Maintenance Plan for PM<sub>10</sub>*, submitted by DAQ in August 2012, with an effective date of November 5, 2014.

DAQ submitted the 2013 annual data certification to EPA in April 2014, and submitted the 2014 annual data certification in April 2015.

The Nevada Department of Transportation’s most recent annual traffic report, dated 2013, provided the traffic count information where available. For those areas where traffic count information was not available, DAQ used nearby traffic counters that measured similar traffic patterns to estimate traffic counts. Where there were no nearby traffic counters or similar traffic patterns, Monitoring personnel’s knowledge of the monitoring site’s traffic pattern was used to estimate traffic counts.

Air quality data is disseminated to the public in a timely manner through the DAQ website and EPA’s AirNow database. DAQ also provides customized data reports upon request.

## 2.0 MINIMUM MONITORING REQUIREMENTS

The tables below show that the Clark County air quality network meets or exceeds the 2014 minimum requirements of Title 40, Part 58 of the Code of Federal Regulations (40 CFR 58). Population census information was obtained from the Clark County Department of Comprehensive Planning 2012 and 2013 reports, and based on the Metropolitan Statistical Area (MSA) and the Core-Based Statistical Area (CBSA). All PM monitoring instruments, except for Pb sampling, are low volume instruments. Pb sampling is made using a Total Suspended Particulate (TSP) high volume instrument. For all gaseous monitoring operations at all sites, a two-point (zero/span) QC check is conducted daily and a three-point (zero/precision/span) QC check is conducted weekly.

### 2.1 Ozone

**Table 1. Minimum Monitoring Requirements for Ozone**

MSA	County	Population & Census Year	8-hr Design Value [ppb], DV Years <sup>1</sup>	Design Value site (name, AQS ID <sup>2</sup> )	# Required SLAMS Sites <sup>3</sup>	# Active SLAMS Sites	# Additional SLAMS Sites Needed
Las Vegas-Paradise (29820)	Clark, NV	2,062,253 (2013)	78, 2012-14	Joe Neal (32-003-0075)	2	10	0

<sup>1</sup> DV Years = the three years for which the design value was calculated (e.g., 2012-2014).

<sup>2</sup> Air Quality System (site) Identification.

<sup>3</sup> SLAMS stands for State/Local Air Monitoring System.

Notes: Monitors required for SIP or maintenance plan: NA

This network meets the minimum monitoring requirement for the referenced criteria pollutant.

### 2.2 PM<sub>2.5</sub>

**Table 2. Minimum Monitoring Requirements for PM<sub>2.5</sub> (FRM and FEM)<sup>1</sup>**

MSA	County	Pop. & Census Year	Annual Design Value [µg/m <sup>3</sup> ], DV Years <sup>2</sup>	Annual Design Value Site (name, AQS ID)	Daily Design Value [µg/m <sup>3</sup> ], DV Years <sup>1</sup>	Daily Design Value Site (name, AQS ID)	# Required SLAMS Sites	# Active SLAMS Sites <sup>3</sup>	# Additional SLAMS Sites Needed
Las Vegas-Paradise (29820)	Clark, NV	2,062,253 (2013)	9.7, 2012-14	Sunrise Acres (32-003-0561)	24, 2012-14	Sunrise Acres (32-003-0561)	2	5 + collocation	0

<sup>1</sup> FRM stands for federal reference method, and FEM stands for federal equivalent method.

<sup>2</sup> DV Years = the three years for which the design value was calculated (e.g., 2012-2014).

<sup>3</sup> Meets requirements in 40 CFR 58 Appendix D 4.7.2.

Notes: Monitors required for SIP or maintenance plan: NA

This network meets the minimum monitoring requirement for the referenced criteria pollutant.

### 2.3 PM<sub>10</sub>

**Table 3. Minimum Monitoring Requirements for PM<sub>10</sub>**

MSA	County	Pop. & Census Year	Max. Concentration in 2014 [ $\mu\text{g}/\text{m}^3$ ]	Max. Conc. Site (name, AQS ID)	# Required SLAMS sites	# Active SLAMS sites	# Additional SLAMS Sites Needed
Las Vegas-Paradise (29820)	Clark, NV	2,062,253 (2013)	1081	Jean (32-003-1019)	6-10	9	0

Notes: Monitors required for SIP or maintenance plan: NA  
 This network meets the minimum monitoring requirement for the referenced criteria pollutant.

### 2.4 NO<sub>2</sub>

**Table 4. Minimum Monitoring Requirements for NO<sub>2</sub>**

CBSA <sup>1</sup>	Pop. & Census Year	Max AADT Counts <sup>2</sup> (2013)	# Required Near-road Monitors	# Active Near-road Monitors	# Additional Near-road Monitors Needed	# Required Area-wide Monitors	# Active Area wide Monitors	# Additional Area-wide Monitors Needed
Las Vegas-Paradise-Pahrump (332)	2,062,253 (2013)	264,000	2	2	0	1	2	0

<sup>1</sup> Core-Based Statistical Area.

<sup>2</sup> AADT stands for annual average daily traffic.

Notes: Monitors required for SIP or maintenance plan: NA.  
 J.D. Smith and Sunrise Acres meet the requirements for area-wide monitors. Sunrise Acres also meets RA40 requirements (EPA Regional Administrator-required monitors per 40 CFR 58, App. D, Sec. 4.3.4: 1)  
 Monitors required for Photochemical Assessment Monitoring Station: NA  
 Two near-road NO<sub>2</sub> monitors operational in 2015

### 2.5 SO<sub>2</sub>

**Table 5. Minimum Monitoring Requirements for SO<sub>2</sub>**

CBSA	County	Population & Census Year <sup>3</sup>	Total SO <sub>2</sub> <sup>1</sup> [tons/yr]	Population Weighted Emissions Index <sup>2</sup> [million persons-tons/yr]	# Required Monitors	# Active Monitors	# Additional Monitors Needed
Las Vegas-Paradise-Pahrump (332)	Clark, NV	2,000,759 (2012)	7,179	14,364 (est.)	1	1	0

<sup>1</sup> Using 2011 National Emissions Inventory data.

<sup>2</sup> Calculated by multiplying CBSA population and total SO<sub>2</sub> and dividing product by one million.

<sup>3</sup> Used for Population Weighted Emissions Index (PWEI) calculation

Notes: PWEI requirements met.

Monitors required for SIP or maintenance plan: NA

EPA Regional Administrator-required monitors per 40 CFR 58, App. D, Sec. 4.4.3: 0

This network meets the minimum monitoring requirement for the referenced criteria pollutant.

## 2.6 CO

**Table 6. Minimum Monitoring Requirements for CO**

CBSA	Pop. & Census Year	# Required Near-Road Monitors	# Active Near-Road Monitors	# Additional Monitors Needed
Las Vegas-Paradise-Pahrump (332)	2,062,253 (2013)	0	0	0

Notes: Monitors required for SIP or maintenance plan: NA

EPA Regional Administrator-required monitors per 40 CFR 58, App. D, Sec. 4.2.2: 0

This network meets the minimum monitoring requirement for the referenced criteria pollutant.

## 2.7 Pb

The source emission threshold for the ambient source-oriented Pb monitoring requirement is 0.50 tons per year. DAQ has not identified sources that might trigger this requirement, and a preliminary assessment has shown no such sources within Clark County. Therefore, DAQ does not conduct source-oriented Pb monitoring.

**Table 7. Minimum Monitoring Requirements for Pb at NCore**

NCore Site (name, AQS ID)	CBSA	Pop. & Census Year	# Required Monitors	# Active Monitors	# Additional Monitors Needed
Jerome Mack Middle School (32-003-0540)	Las Vegas-Paradise-Pahrump (332)	2,062,253 (2013)	1	1	0

Notes: Monitors required for SIP or maintenance plan: NA

This network meets the minimum monitoring requirement for the referenced criteria pollutant.

### 3.0 COLLOCATED MONITORS AS OF 2015

**Table 8. Filter-Based PM<sub>2.5</sub> FRM Network**

Method Code	# Primary Monitors, Site	# Required Collocated Monitors	# Active Collocated Monitors
EQPM-0202-145	1: Jerome Mack	1	1, Collocated at Jerome Mack

**Table 9. Continuous PM<sub>2.5</sub> FEM Network**

Method Code	# Primary Monitors, Site	# Required Collocated Monitors	# Active Collocated FRM Monitors	# Active Collocated FEM Monitors (same method designation as primary)
EQPM-0609-183	4: J.D. Smith, Green Valley, Sunrise Acres, and Jean	1	1	1, Collocated with FRM at Sunrise Acres

Appendix A of 40 CFR 58 requires 15% of PM<sub>2.5</sub> FRM and FEM samplers in a network to be collocated. For the PM<sub>2.5</sub> FRM network (method EQPM-0202-145), the collocated sampler is at the Jerome Mack (NCore) site. For the PM<sub>2.5</sub> FEM network (method EQPM-0609-183), the collocated sampler is at the Sunrise Acres site. This collocation arrangement meets the Appendix A requirement.

J.D. Smith, Green Valley, and Jean each has a PM<sub>2.5</sub> continuous FEM monitor that serves as the primary PM<sub>2.5</sub> monitor for the site.

#### 4.0 2014 SITE TABLES



**Figure 1: Apex**

The primary objective of the Apex site, located approximately 25 miles northeast of Las Vegas, is to monitor the ambient impacts of emissions from nearby processing facilities and power plants. Since the site is generally downwind from Las Vegas, it also serves as an indicator of pollutant transport flow out of the Las Vegas Valley. This site is the only Air Quality monitoring station in the Apex Valley. Apex is an EPA-approved seasonal O<sub>3</sub> monitoring site that operates between April and September.

Local Site Name (AQS ID)	Apex (32-003-0022)
GPS Coordinates (latitude, longitude)	+36.391111°, -114.907500°
Street Address	12101 U.S. Highway 93, Las Vegas, NV 89030
Distance to roadways (m)	U.S. Highway 93:108
Traffic counts (AADT, yr)	U.S. Highway 93: 2600 (2013)
Ground cover	Native desert
Representative statistical area name	Las Vegas-Paradise, NV MSA

<b>Pollutant, Parameter Occurrence Code (POC)</b>	<b>O<sub>3</sub>, 1</b>
Parameter code	44201
Basic monitoring objective(s)	NAAQS comparison
Site type(s)	Regional transport

Pollutant, Parameter Occurrence Code (POC)	O <sub>3</sub> , 1
Network affiliation	NA
Monitor type(s)	SLAMS
Primary, QA Collocated, or Other	Primary
Instrument manufacturer & model	TAPI 400 series
Method code	EQOA-0992-087
FRM/FEM/ARM/other	FEM
Collecting agency	DAQ
Analytical lab	NA
Reporting agency	DAQ
Spatial scale	Regional
Monitoring start date	01/01/1998
Current sampling frequency	Continuous, seasonal
Calculated sampling frequency	Continuous, seasonal
Sampling season	04/01-09/30
Probe height (m)	3.9
Distance from supporting structure (m)	1.4
Distance from obstructions on roof – horizontal distance (m)	NA
Distance from obstructions on roof – vertical height (m)	NA
Distance from obstructions not on roof – horizontal distance (m)	NA
Distance from obstructions not on roof – vertical height (m)	NA
Distance from trees (m)	NA
Distance to furnace or incinerator flue (m)	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA
Distance to nearest PM instrument (m)	NA
Unrestricted airflow (degrees)	360
Probe material for reactive gases	Teflon
Residence time for reactive gases (s)	2.2
Will there be changes within the next 18 months? (Y/N)	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	NA
Frequency of flow rate verification for manual PM samplers	NA
Frequency of flow rate verification for automated PM analyzers	NA
Frequency of one-point QC check for gaseous instruments	Daily
Last annual performance evaluation for gaseous parameters	09/22/2014
Last two semiannual flow rate audits for PM monitors	NA

Based on the March 8, 2012 EPA waiver to reduce the O<sub>3</sub> monitoring season at Apex (AQS ID: 32-003-0022) and Mesquite (AQS ID: 32-003-0023), and due to resource limitations, DAQ continues to utilize the ozone monitoring season waiver and requests a renewal of this waiver (see Appendix B).

Meteorological measurements at the Apex site include wind speed, wind direction, and ambient temperature.



**Figure 2: Boulder City.**

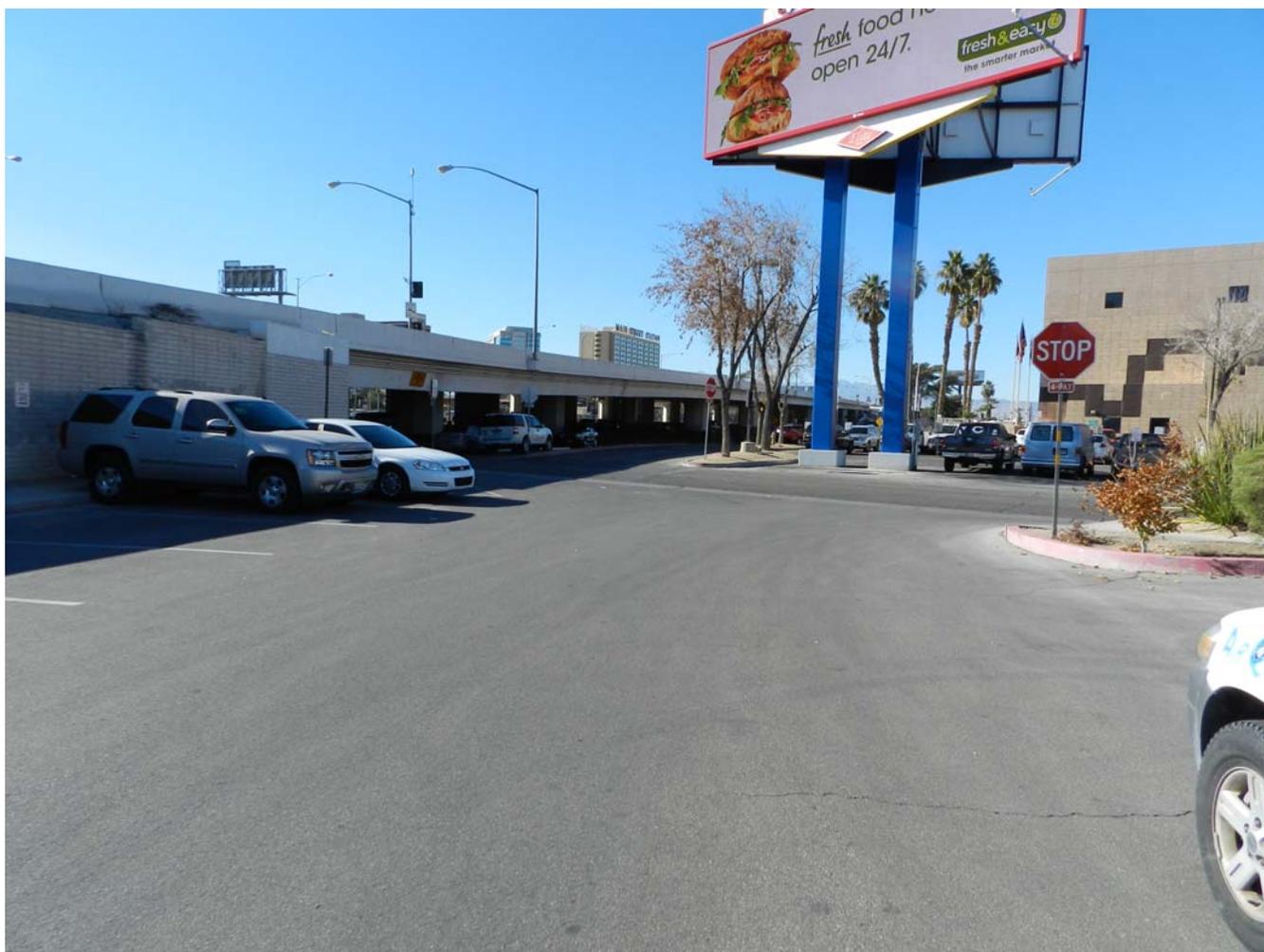
The Boulder City site, approximately 25 miles southeast of Las Vegas, was established at the request of Boulder City government officials and residents to serve as an indicator of population exposure to pollutants, particularly O<sub>3</sub> and PM<sub>10</sub>.

Local Site Name (AQS ID)	Boulder City (32-003-0601)
GPS Coordinates (latitude, longitude)	+35.978056°, -114.846389°
Street Address	1005 Industrial Rd., Boulder City, NV 89005
Distance to roadways (m)	Industrial Rd: 58; U.S. Highway 93: 96
Traffic counts (AADT, yr)	Industrial Rd: 1,700; U.S. Highway 93: 20,500 (2013)
Ground cover	Paved, native desert
Representative statistical area name	Las Vegas-Paradise, NV MSA

Pollutant, POC	PM10, 1	O3, 1
Parameter code	81102	44201
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison
Site type(s)	Population exposure	Population exposure, regional transport
Network affiliation	NA	NA
Monitor type(s)	SLAMS	SLAMS

<b>Pollutant, POC</b>	<b>PM10, 1</b>	<b>O3, 1</b>
Primary, QA Collocated, or Other	Primary	Primary
Instrument manufacturer & model	Thermo FH62C14	TAPI 400 series
Method code	EQPM-1102-150	EQOA-0992-087
FRM/FEM/ARM/other	FEM	FEM
Collecting agency	DAQ	DAQ
Analytical lab	NA	NA
Reporting agency	DAQ	DAQ
Spatial scale	Neighborhood	Urban
Monitoring start date	01/01/1998	07/01/1998
Current sampling frequency	Continuous	Continuous
Calculated sampling frequency	Continuous	Continuous
Sampling season	Year-round	Year-round
Probe height (m)	4.9	4.1
Distance from supporting structure (m)	2.1	1.6
Distance from obstructions on roof – horizontal distance (m)	NA	NA
Distance from obstructions on roof – vertical height (m)	NA	NA
Distance from obstructions not on roof – horizontal distance (m)	NA	NA
Distance from obstructions not on roof – vertical height (m)	NA	NA
Distance from trees (m)	NA	NA
Distance to furnace or incinerator flue (m)	NA	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA	NA
Distance to nearest PM instrument (m)	NA	NA
Unrestricted airflow (degrees)	360	360
Probe material for reactive gases	NA	Teflon
Residence time for reactive gases (s)	NA	3.0
Will there be changes within the next 18 months? (Y/N)	Y	Y
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	NA	NA
Frequency of flow rate verification for manual PM samplers	NA	NA
Frequency of flow rate verification for automated PM analyzers	Biweekly	NA
Frequency of one-point QC check for gaseous instruments	NA	Daily
Last annual performance evaluation for gaseous parameters	NA	9/23/2014
Last two semiannual flow rate audits for PM monitors	2/7/2014, 9/12/2014	NA

The monitoring shelter at the Boulder City site is being changed out in 2015. Meteorological measurements at the Boulder City site include barometric pressure.



**Figure 3: Central Fire Station: Near-Road Site 2.**

The Central Fire Station Near-Road site is located in the parking lot of the Central Fire Station, located southeast of E. Bonanza Road and N. Veterans Memorial Drive. This monitoring station is the second near-road site that DAQ is deploying in 2015, and it will initially measure NO<sub>2</sub>.

Local Site Name (AQS ID)	Central Fire Station (32-003-1502)
GPS Coordinates (latitude, longitude)	+36.174365°, -115.139770°
Street Address	500 N. Casino Center Boulevard, Las Vegas, NV
Distance to roadways (m)	U.S. Highway 93: 15; N. Casino Center Boulevard 120; Bonanza Road: 180
Traffic counts (AADT, yr)	U.S. Highway 93: 184,000; N. Casino Center Boulevard 3,400; Bonanza Road: 12,500 (2013)
Ground cover	Paved
Representative statistical area name	Las Vegas-Paradise, NV MSA

<b>Pollutant, POC</b>	<b>NO<sub>2</sub>, 1</b>
Parameter code	42602

Pollutant, POC	NO <sub>2</sub> , 1
Basic monitoring objective(s)	NAAQS comparison
Site type(s)	Highest concentration
Network affiliation	Near Road
Monitor type(s)	SLAMS
Primary, QA Collocated, or Other	Primary
Instrument manufacturer & model	TAPI 200 series
Method code	EQNA-0512-200
FRM/FEM/ARM/other	FEM
Collecting agency	DAQ
Analytical lab	NA
Reporting agency	DAQ
Spatial scale	Microscale
Monitoring start date	2015 (anticipated)
Current sampling frequency	Continuous
Calculated sampling frequency	Continuous
Sampling season	Year-round
Probe height (m)	4 (est.)
Distance from supporting structure (m)	1.2 (est.)
Distance from obstructions on roof – horizontal distance (m)	NA
Distance from obstructions on roof – vertical height (m)	NA
Distance from obstructions not on roof – horizontal distance (m)	3.0 (est.)
Distance from obstructions not on roof – vertical height (m)	1.0 (est.)
Does obstruction(s) not on roof impede flow	No
Obstruction height above probe (m)	NA
Distance from trees (m)	NA
Distance to furnace or incinerator flue (m)	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA
Distance to nearest PM instrument (m)	NA
Unrestricted airflow (degrees)	360
Probe material for reactive gases	Teflon
Residence time for reactive gases (s)	7.5 (est.)
Will there be changes within the next 18 months? (Y/N)	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	NA
Frequency of flow rate verification for manual PM samplers	NA
Frequency of flow rate verification for automated PM analyzers	NA
Frequency of one-point QC check for gaseous instruments	Daily
Last annual performance evaluation for gaseous parameters	2015
Last two semiannual flow rate audits for PM monitors	NA

The Central Fire Station Near-Road Site 2 was approved by EPA in 2014. DAQ plans to begin operations in 2015. Meteorological measurements at Near-Road Site 2 include wind speed, wind direction, ambient temperature, and barometric pressure.



**Figure 4: Green Valley.**

The Green Valley site in Henderson was established in response to citizen complaints about dust emissions from a gravel processing plant, and continues to monitor PM<sub>10</sub> and PM<sub>2.5</sub>. O<sub>3</sub> monitoring was established in 2015.

Local Site Name (AQS ID)	Green Valley (32-003-0298)
GPS Coordinates (latitude, longitude)	+36.048611°, -115.052778°
Street Address	298 Arroyo Grande Blvd., Henderson, NV 89014
Distance to roadways (m)	Santiago Drive: 18; Arroyo Grande Blvd: 198; North Stephanie: 533
Traffic counts (AADT, yr)	Santiago Drive: 3,500; Arroyo Grande Blvd: 10,500; North Stephanie: 32,000 (2014) (estimated)
Ground cover	Paved, gravel
Representative statistical area name	Las Vegas-Paradise, NV MSA

Pollutant, POC	PM <sub>10</sub> , 1	PM <sub>2.5</sub> (continuous), 3	O <sub>3</sub> , 1
Parameter code	81102	88101	44201
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	NAAQS comparison
Site type(s)	Population exposure	Population exposure	Population exposure, regional transport

<b>Pollutant, POC</b>	<b>PM<sub>10</sub>, 1</b>	<b>PM<sub>2.5</sub> (continuous), 3</b>	<b>O<sub>3</sub>, 1</b>
Network affiliation	NA	NA	NA
Monitor type(s)	SLAMS	SLAMS	SLAMS
Primary, QA Collocated, or Other	Primary	Primary	Primary
Instrument manufacturer & model	Thermo FH62C14	Thermo 5014i	TAPI 400 series
Method code	EQPM-1102-150	EQPM-0609-183	EQOA-0992-087
FRM/FEM/ARM/other	FEM	FEM	FEM
Collecting agency	DAQ	DAQ	DAQ
Analytical lab	NA	NA	NA
Reporting agency	DAQ	DAQ	DAQ
Spatial scale	Middle	Middle (area-wide)	Middle
Monitoring start date	01/01/1998	10/01/2013	2015
Current sampling frequency	Continuous	Continuous	Continuous
Calculated sampling frequency	Continuous	Continuous	Continuous
Sampling season	Year-round	Year-round	Year-round
Probe height (m)	4.8	4.8	4.0
Distance from supporting structure (m)	2.0	2.0	1.2
Distance from obstructions on roof – horizontal distance (m)	NA	NA	NA
Distance from obstructions on roof – vertical height (m)	NA	NA	NA
Distance from obstructions not on roof – horizontal distance (m)	NA	NA	NA
Distance from obstructions not on roof – vertical height (m)	NA	NA	NA
Distance from trees (m)	8.3	9.6	9.6
Distance to furnace or incinerator flue (m)	NA	NA	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA	NA	NA
Distance to nearest PM instrument (m)	1.8	1.8	NA
Unrestricted airflow (degrees)	360	360	360
Probe material for reactive gases	NA	NA	Teflon
Residence time for reactive gases (s)	NA	NA	3.0 (est.)
Will there be changes within the next 18 months? (Y/N)	N	N	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N	Y	NA
Frequency of flow rate verification for manual PM samplers	NA	NA	NA
Frequency of flow rate verification for automated PM analyzers	Biweekly	Biweekly	NA

<b>Pollutant, POC</b>	<b>PM<sub>10</sub>, 1</b>	<b>PM<sub>2.5</sub> (continuous), 3</b>	<b>O<sub>3</sub>, 1</b>
Frequency of one-point QC check for gaseous instruments	NA	NA	Daily
Last annual performance evaluation for gaseous parameters	NA	NA	2015
Last two semiannual flow rate audits for PM monitors	2/11/2014, 9/9/2014	2/11/2014, 9/9/2014	NA

Meteorological measurements at the Green Valley site include wind speed, wind direction, ambient temperature, and barometric pressure. Based on the 2014 Annual Network Plan approval, O<sub>3</sub> monitoring at the Green Valley site was established in 2015.



**Figure 5: J.D. Smith.**

The J.D. Smith site in North Las Vegas replaced the old McDaniel and Post Office PM sites. This site monitors gaseous (NO<sub>2</sub>, CO, and O<sub>3</sub>) and particulate (PM<sub>10</sub> and PM<sub>2.5</sub>) pollutants using continuous methods. This site also serves as an indicator of population exposure to pollutants.

Local Site Name (AQS ID)	J.D. Smith (32-003-2002)
GPS Coordinates (latitude, longitude)	+36.191111°, -115.123056°
Street Address	1301B Tonopah Ave., North Las Vegas, NV 89030
Distance to roadways (m)	Tonopah Ave: 84; Bruce Street: 175; Stanley Ave: 137
Traffic counts (AADT, yr)	Tonopah Ave: 7,400; Bruce Street: 7,400; Stanley Ave: 400 (2013) (estimated)
Ground cover	Paved, grass
Representative statistical area name	Las Vegas-Paradise, NV MSA

Pollutant, POC	PM <sub>10</sub> , 1	CO, 1	NO <sub>2</sub> , 1	O <sub>3</sub> , 1	PM <sub>2.5</sub> (continuous), 3
Parameter code	81102	42101	42602	44201	88101

<b>Pollutant, POC</b>	<b>PM<sub>10</sub>, 1</b>	<b>CO, 1</b>	<b>NO<sub>2</sub>, 1</b>	<b>O<sub>3</sub>, 1</b>	<b>PM<sub>2.5</sub> (continuous), 3</b>
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	NAAQS comparison	NAAQS comparison	NAAQS comparison
Site type(s)	Population exposure	Population exposure	Highest concentration	Population exposure	Population exposure
Network affiliation	NA	NA	NA	NA	NA
Monitor type(s)	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Primary, QA Collocated, or Other	Primary	Primary	Primary	Primary	Primary
Instrument manufacturer & model	Thermo 5014i	TAPI 300 series	TAPI 200 series	TAPI 400 series	Thermo 5014i
Method code	EQPM-1102-150	RFCA-1093-093	RFNA-1194-099	EQQA-0992-087	EQPM-0609-183
FRM/FEM/ARM/other	FEM	FRM	FRM	FEM	FEM
Collecting agency	DAQ	DAQ	DAQ	DAQ	DAQ
Analytical lab	NA	NA	NA	NA	NA
Reporting agency	DAQ	DAQ	DAQ	DAQ	DAQ
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	01/01/1998	01/10/1998	01/10/1998	01/10/1998	01/01/2013
Current sampling frequency	Continuous	Continuous	Continuous	Continuous	Continuous
Calculated sampling frequency	Continuous	Continuous	Continuous	Continuous	Continuous
Sampling season	Year-round	Year-round	Year-round	Year-round	Year-round
Probe height (m)	4.4	3.6	3.6	3.6	4.5
Distance from supporting structure (m)	2.1	1.2	1.2	1.2	2.2
Distance from obstructions on roof – horizontal distance (m)	NA	NA	NA	NA	NA
Distance from obstructions on roof – vertical height (m)	NA	NA	NA	NA	NA
Distance from obstructions not on roof – horizontal distance (m)	2.3	2.7	2.7	2.7	4.0
Distance from obstructions not on roof – vertical height (m)	6.4	6.0	6.0	6.0	6.3
Obstruction height above probe (m)	2.0	2.7	2.7	2.7	1.9
Distance from trees (m)	16.5	15.7	15.7	15.7	18.5
Distance to furnace or incinerator flue (m)	NA	NA	NA	NA	NA

<b>Pollutant, POC</b>	<b>PM<sub>10</sub>, 1</b>	<b>CO, 1</b>	<b>NO<sub>2</sub>, 1</b>	<b>O<sub>3</sub>, 1</b>	<b>PM<sub>2.5</sub> (continuous), 3</b>
Distance between monitors fulfilling QA collocation requirements (m)	NA	NA	NA	NA	NA
Distance to nearest PM instrument (m)	2.2	NA	NA	NA	2.2
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material for reactive gases	NA	Teflon	Teflon	Teflon	NA
Residence time for reactive gases (s)	NA	3.7	5.2	3.6	NA
Will there be changes within the next 18 months? (Y/N)	N	N	N	N	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N	N	N	N	Y
Frequency of flow rate verification for manual PM samplers	NA	NA	NA	NA	NA
Frequency of flow rate verification for automated PM analyzers	Biweekly	NA	NA	NA	Biweekly
Frequency of one-point QC check for gaseous instruments	NA	Daily	Daily	Daily	NA
Last annual performance evaluation for gaseous parameters	NA	12/23/2014	12/27/2013	10/24/2014	NA
Last two semiannual flow rate audits for PM monitors	5/9/2014, 10/24/2014	NA	NA	NA	5/9/2014, 10/24/2014

Meteorological measurements at the J.D. Smith site include wind speed, wind direction, ambient temperature, relative humidity, and barometric pressure.



**Figure 6: Jean.**

The Jean site is approximately 30 miles south of Las Vegas. This site was originally set up as an upwind background site, and it still serves this purpose for PM. The primary objective for O<sub>3</sub> monitoring is to measure transport from Southern California.

Local Site Name (AQS ID)	Jean (32-003-1019)
GPS Coordinates (latitude, longitude)	+35.785556°, -115.356944°
Street Address	1965 State Route 161, Jean, NV 89019
Distance to roadways (m)	State Route 161: 1,287
Traffic counts (AADT, yr)	State Route 161: 1,300 (2013)
Ground cover	Gravel, native desert
Representative statistical area name	Las Vegas-Paradise, NV MSA

Pollutant, POC	PM <sub>10</sub> , 1	O <sub>3</sub> , 1	PM <sub>2.5</sub> Primary (continuous), 3
Parameter code	81102	44201	88101
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	NAAQS comparison

<b>Pollutant, POC</b>	<b>PM<sub>10</sub>, 1</b>	<b>O<sub>3</sub>, 1</b>	<b>PM<sub>2.5</sub> Primary (continuous), 3</b>
Site type(s)	Upwind background	Regional transport	Upwind background
Network affiliation	NA	NA	NA
Monitor type(s)	SLAMS	SLAMS	SLAMS
Primary, QA Collocated, or Other	Primary	Primary	Primary
Instrument manufacturer & model	Thermo 5014i	API 400 series	Thermo 5014i
Method code	EQPM-1102-150	EQOA-0992-087	EQPM-0609-183
FRM/FEM/ARM/other	FEM	FEM	FEM
Collecting agency	DAQ	DAQ	DAQ
Analytical lab	NA	NA	NA
Reporting agency	DAQ	DAQ	DAQ
Spatial scale	Regional	Regional	Regional
Monitoring start date	01/01/1995	08/01/1998	04/01/2013
Current sampling frequency	Continuous	Continuous	Continuous
Calculated sampling frequency	Continuous	Continuous	Continuous
Sampling season	Year-round	Year-round	Year-round
Probe height (m)	4.7	3.9	4.9
Distance from supporting structure (m)	2.1	1.5	2.2
Distance from obstructions on roof – horizontal distance (m)	NA	NA	NA
Distance from obstructions on roof – vertical height (m)	NA	NA	NA
Distance from obstructions not on roof – horizontal distance (m)	NA	NA	NA
Distance from obstructions not on roof – vertical height (m)	NA	NA	NA
Distance from trees (m)	NA	NA	NA
Distance to furnace or incinerator flue (m)	NA	NA	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA	NA	NA
Distance to nearest PM instrument (m)	2.0	NA	2.0
Unrestricted airflow (degrees)	360	360	360
Probe material for reactive gases	NA	Teflon	NA
Residence time for reactive gases (s)	NA	4.0	NA
Will there be changes within the next 18 months? (Y/N)	N	N	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N	N	Y
Frequency of flow rate verification for manual PM samplers	NA	NA	NA
Frequency of flow rate verification for automated PM analyzers	Biweekly	NA	Biweekly
Frequency of one-point QC check for gaseous instruments	NA	Daily	NA

<b>Pollutant, POC</b>	<b>PM<sub>10</sub>, 1</b>	<b>O<sub>3</sub>, 1</b>	<b>PM<sub>2.5</sub> Primary (continuous), 3</b>
Last annual performance evaluation for gaseous parameters	NA	10/17/2014	NA
Last two semiannual flow rate audits for PM monitors	2/12/2014, 9/9/2014	NA	2/12/2014, 9/9/2014

Meteorological measurements at the Jean site include wind speed, wind direction, ambient temperature, and barometric pressure.



**Figure 7: Jerome Mack.**

The Jerome Mack site in east Las Vegas is the Clark County NCore site. Its primary objective is to monitor trace-level gaseous pollutants, PM parameters (including PM<sub>10</sub>, PM<sub>2.5</sub>, PM Coarse, and speciated PM parameters), and meteorological parameters as part of a nationwide network. In 2014, this site began operating the PM<sub>2.5</sub> QA collocated FRM sampler for the PM<sub>2.5</sub> FRM network.

Local Site Name (AQS ID)	Jerome Mack (32-003-0540)
GPS Coordinates (latitude, longitude)	+36.141944°, -115.078611°
Street Address	4250 Karen Avenue, Las Vegas, NV 89121
Distance to roadways (m)	Sahara: 244; Lamb: 351; Karen: 130
Traffic counts (AADT, yr)	Sahara: 23,000; Lamb: 26,000; Karen: 3,000 (est.) (2013)
Ground cover	Concrete, grass
Representative statistical area name	Las Vegas-Paradise, NV MSA

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Pollutant, POC	PM <sub>10</sub> , 3	PM <sub>2.5</sub> (continuous), 3	PM <sub>10-2.5</sub> (continuous), 3	PM <sub>2.5</sub> Primary (FRM), 1	PM <sub>2.5</sub> Collocated (FRM), 2	Speciation SASS, 5	Speciation URG, 5	O <sub>3</sub> , 1	NO <sub>y</sub> , 1	Trace CO, 1	Trace SO <sub>2</sub> , 1	Pb, 1
Parameter code	81102	88101	86101	88101	88101	88502	88355	44201	42600	42101	42401	14129
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	Research support	NAAQS comparison	NAAQS comparison	Research support	Research support	NAAQS comparison	Research support	Research support, NAAQS comparison	NAAQS comparison	NAAQS comparison
Site type(s)	Population exposure	Population exposure	Population exposure	Population exposure	Population exposure	Population exposure	Population exposure	Population exposure	Population exposure	Population exposure	Population exposure	Population exposure
Network affiliation	NCore	NCore	NCore	NCore	NCore	CSN Supplemental, NCore	CSN Supplemental, NCore	NCore	NCore	NCore	NCore	NCore
Monitor type(s)	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Primary, QA Collocated, or Other	Primary	Other	Primary	Primary	QA Collocated	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Instrument manufacturer & model	MetOne BAM 1020	MetOne BAM 1020	MetOne BAM 1020 (mathematical difference)	Thermo 2025i	Thermo 2025i	Met One SASS	URG 3000	TAPI 400 series	TAPI 200 series	TAPI 300 series	TAPI 100 series	American Ecotech HiVol 3000
Method code	EQPM-0798-122	EQPM-0308-170	EQPM-0709-185	EQPM-0202-145	EQPM-0202-145	NA	NA	EQQA-0992-087	RFNA-1194-099+600	RFCA-1093-093	EQSA-0495-100	EQL-0510-191
FRM/FEM/ARM/other	FEM	FEM	FEM	FRM Primary	FRM Collocated	Other	Other	FEM	Other	FRM	FEM	FEM
Collecting agency	DAQ	DAQ	DAQ	DAQ	DAQ	DAQ	DAQ	DAQ	DAQ	DAQ	DAQ	DAQ
Analytical lab	NA	NA	NA	Weigh	Weigh	RTI	RTI	NA	NA	NA	NA	RTI
Reporting agency	DAQ	DAQ	DAQ	DAQ	DAQ	RTI	RTI	DAQ	DAQ	DAQ	DAQ	DAQ
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Urban	Neighborhood	Neighborhood	Neighborhood

<b>Pollutant, POC</b>	<b>PM<sub>10</sub>, 3</b>	<b>PM<sub>2.5</sub> (continuous), 3</b>	<b>PM<sub>10-2.5</sub> (continuous), 3</b>	<b>PM<sub>2.5</sub> Primary (FRM), 1</b>	<b>PM<sub>2.5</sub> Collocated (FRM), 2</b>	<b>Speciation SASS, 5</b>	<b>Speciation URG, 5</b>	<b>O<sub>3</sub>, 1</b>	<b>NO<sub>y</sub>, 1</b>	<b>Trace CO, 1</b>	<b>Trace SO<sub>2</sub>, 1</b>	<b>Pb, 1</b>
Monitoring start date	01/01/2012	01/01/2012	01/01/2012	10/01/2013	01/01/2014	05/2010	05/2010	01/01/2011	01/01/2011	01/01/2011	01/01/2011	01/01/2012
Current sampling frequency	Continuous	Continuous	Continuous	1:3	1:6	1:3	1:3	Continuous	Continuous	Continuous	Continuous	1:6
Calculated sampling frequency	Continuous	Continuous	Continuous	1:3	1:6	1:3	1:3	Continuous	Continuous	Continuous	Continuous	1:6
Sampling season	Year-round	Year-round	Year-round	Year-round	Year-round	Year-round	Year-round	Year-round	Year-round	Year-round	Year-round	Year-round
Probe height (m)	5.2	5.2	5.2	3.0	3.0	3.1	3.3	4.3	7.0	4.3	4.3	2.6
Distance from supporting structure (m)	2.1	2.1	2.1	3.0	3.0	3.1	3.3	1.1	7.0	1.1	1.1	2.6
Distance from obstructions on roof – horizontal distance (m)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Distance from obstructions on roof – vertical height (m)	NA	NA	NA	5.9	8.4	5.6	4.0	NA	NA	NA	NA	7.7
Distance from obstructions not on roof – horizontal distance (m)	NA	NA	NA	4.4	3.1	7.4	5.3	NA	NA	NA	NA	7.2

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<b>Pollutant, POC</b>	<b>PM<sub>10</sub>, 3</b>	<b>PM<sub>2.5</sub> (continuous), 3</b>	<b>PM<sub>10-2.5</sub> (continuous), 3</b>	<b>PM<sub>2.5</sub> Primary (FRM), 1</b>	<b>PM<sub>2.5</sub> Collocated (FRM), 2</b>	<b>Speciation SASS, 5</b>	<b>Speciation URG, 5</b>	<b>O<sub>3</sub>, 1</b>	<b>NO<sub>y</sub>, 1</b>	<b>Trace CO, 1</b>	<b>Trace SO<sub>2</sub>, 1</b>	<b>Pb, 1</b>
Distance from obstructions not on roof – vertical height (m)	NA	NA	NA	3.1	3.1	3.1	3.1	NA	NA	NA	NA	3.1
Obstruction height above probe (m)	NA	NA	NA	0.1	0.1	0.7	0.1	NA	NA	NA	NA	0.6
Distance from trees (m)	20.3	20.5	NA	30.2	26.6	23.0	22.0	20.1	18.4	20.1	20.1	25.7
Distance to furnace or incinerator flue (m)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA	NA	NA	3.7	3.7	NA	NA	NA	NA	NA	NA	NA
Distance to nearest PM instrument (m)	2.8	2.8	NA	3.7	3.7	2.2	2.2	NA	NA	NA	NA	2.4 High-Vol
Unrestricted airflow (degrees)	360	360	360	360	360	360	360	360	360	360	360	360
Probe material for reactive gases	NA	NA	NA	NA	NA	NA	NA	Teflon	Teflon	Teflon	Teflon	NA

<b>Pollutant, POC</b>	<b>PM<sub>10</sub>, 3</b>	<b>PM<sub>2.5</sub> (continuous), 3</b>	<b>PM<sub>10-2.5</sub> (continuous), 3</b>	<b>PM<sub>2.5</sub> Primary (FRM), 1</b>	<b>PM<sub>2.5</sub> Collocated (FRM), 2</b>	<b>Speciation SASS, 5</b>	<b>Speciation URG, 5</b>	<b>O<sub>3</sub>, 1</b>	<b>NO<sub>y</sub>, 1</b>	<b>Trace CO, 1</b>	<b>Trace SO<sub>2</sub>, 1</b>	<b>Pb, 1</b>
Residence time for reactive gases (s)	NA	NA	NA	NA	NA	NA	NA	2.8	8.4	1.0	3.1	NA
Will there be changes within the next 18 months? (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N	Y	N	Y	Y	N	N	N	N	N	N	N
Frequency of flow rate verification for manual PM samplers	NA	NA	NA	Monthly	Monthly	Monthly	Monthly	NA	NA	NA	NA	Monthly
Frequency of flow rate verification for automated PM analyzers	Biweekly	Biweekly	Biweekly	NA	NA	NA	NA	NA	NA	NA	NA	NA
Frequency of one-point QC check for gaseous instruments	NA	NA	NA	NA	NA	NA	NA	Daily	Daily	Daily	Daily	NA

Pollutant, POC	PM <sub>10</sub> , 3	PM <sub>2.5</sub> (continuous), 3	PM <sub>10-2.5</sub> (continuous), 3	PM <sub>2.5</sub> Primary (FRM), 1	PM <sub>2.5</sub> Collocated (FRM), 2	Speciation SASS, 5	Speciation URG, 5	O <sub>3</sub> , 1	NO <sub>y</sub> , 1	Trace CO, 1	Trace SO <sub>2</sub> , 1	Pb, 1
Last annual performance evaluation for gaseous parameters	NA	NA	NA	NA	NA	NA	NA	10/28/2014	12/31/2013	12/26/2014	12/29/2014	NA
Last two semiannual flow rate audits for PM monitors	5/9/2014, 11/12/2014	5/9/2014, 11/12/2014	5/9/2014, 11/12/2014	2/14/2014, 5/2/2014, 9/3/2014, 10/3/2014	2/14/2014, 5/2/2014, 9/3/2014, 10/3/2014	2/14/2014, 5/1/2014, 7/9/2014, 11/12/2014	2/14/2014, 5/1/2014, 7/9/2014, 11/12/2014	NA	NA	NA	NA	2/14/2014, 5/1/2014, 7/9/2014, 11/21/2014

The Pb sampler is the only high volume sampler in the DAQ network. Meteorological measurements at this site include wind speed, wind direction, ambient temperature, relative humidity, precipitation, and barometric pressure.



**Figure 8: Joe Neal.**

The primary objectives of the Joe Neal site, located in northwest Las Vegas, are to monitor O<sub>3</sub> and its precursors in an area of high O<sub>3</sub> concentrations, and to support DAQ modeling efforts. The topography is such that the summertime loft brings higher O<sub>3</sub> and precursor levels toward this site from the east end of the Las Vegas Valley. PM<sub>10</sub> monitoring was initially deployed at this site due to population growth in the northwest, and the site now also serves as a high O<sub>3</sub> indicator. A NO<sub>x</sub> monitor was added in January 2008 to monitor for O<sub>3</sub> precursors.

Local Site Name (AQS ID)	Joe Neal (32-003-0075)
GPS Coordinates (latitude, longitude)	+36.270556°, -115.238333°
Street Address	6651 W. Azure Way, Las Vegas, NV 89130
Distance to roadways (m)	Rebecca: 12.6; Azure: 213; Tropical: 130
Traffic counts (AADT, yr)	Rebecca: 4,000 (est.); Azure 6,000 (est.); Tropical 6,000 (2014)
Ground cover	Gravel, grass, pavement
Representative statistical area name	Las Vegas-Paradise, NV MSA

<b>Pollutant, POC</b>	<b>PM<sub>10</sub>, 1</b>	<b>O<sub>3</sub>, 1</b>	<b>NO<sub>2</sub>, 1</b>
Parameter code	81102	44201	42602
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	Research support, NAAQS comparison
Site type(s)	Population exposure	Max. ozone concentration	Population exposure
Network affiliation	NA	NA	NA
Monitor type(s)	SLAMS	SLAMS	SLAMS
Primary, QA Collocated, or Other	Primary	Primary	Primary
Instrument manufacturer & model	Thermo 5014i	API 400 series	API 200 series
Method code	EQPM-1102-150	EQOA-0992-087	RFNA-1194-099
FRM/FEM/ARM/other	FEM	FEM	FRM
Collecting agency	DAQ	DAQ	DAQ
Analytical lab	NA	NA	NA
Reporting agency	DAQ	DAQ	DAQ
Spatial scale	Neighborhood	Neighborhood	Middle
Monitoring start date	01/01/2001	07/01/2000	01/01/2008
Current sampling frequency	Continuous	Continuous	Continuous
Calculated sampling frequency	Continuous	Continuous	Continuous
Sampling season	Year-round	Year-round	Year-round
Probe height (m)	4.6	3.8	3.8
Distance from supporting structure (m)	2.1	1.4	1.4
Distance from obstructions on roof – horizontal distance (m)	NA	NA	NA
Distance from obstructions on roof – vertical height (m)	NA	NA	NA
Distance from obstructions not on roof – horizontal distance (m)	NA	NA	NA
Distance from obstructions not on roof – vertical height (m)	NA	NA	NA
Distance from trees (m)	20.3	22.7	22.7
Distance to furnace or incinerator flue (m)	NA	NA	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA	NA	NA
Distance to nearest PM instrument (m)	NA	NA	NA
Unrestricted airflow (degrees)	360	360	360
Probe material for reactive gases	NA	Teflon	Teflon
Residence time for reactive gases (s)	NA	4.7	5.9
Will there be changes within the next 18 months? (Y/N)	N	N	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N	N	N
Frequency of flow rate verification for manual PM samplers	NA	NA	NA
Frequency of flow rate verification for automated PM analyzers	Biweekly	NA	NA

Pollutant, POC	PM <sub>10</sub> , 1	O <sub>3</sub> , 1	NO <sub>2</sub> , 1
Frequency of one-point QC check for gaseous instruments	NA	Daily	Daily
Last annual performance evaluation for gaseous parameters	NA	10/17/2014	12/24/2014
Last two semiannual flow rate audits for PM monitors	2/7/2014, 9/5/2014	NA	NA

Meteorological measurements at the Joe Neal site include wind speed, wind direction, ambient temperature, relative humidity, and barometric pressure.

In 2006, a revision of CFR Part 58 increased distance-to-roadway requirements for reactive gases. The Joe Neal site began operating in 2000, but NO<sub>x</sub> operations, which provide precursor measurements needed for modeling purposes, did not begin until 2008. This site is representative of the monitoring area as though the NO<sub>x</sub> siting criteria were fully met, and because it is also the highest SLAMS O<sub>3</sub> monitor in the network, relocating the site is not in the best interest of the DAQ O<sub>3</sub> network. Due to physical constraints (the shelter and footprint of the site) options of relocating the probe within the site will not satisfy the distance-to-roadway requirement. Because the Joe Neal site cannot meet the 2006 distance-to-roadway requirement for NO<sub>x</sub>, DAQ is hereby requesting a waiver based on 40 CFR 58, Appendix E, Section 10.



**Figure 9: Mesquite.**

The Mesquite site monitors O<sub>3</sub> and is approximately 70 miles north of Las Vegas. The site sits along a transport and exit corridor connecting jurisdictional boundaries, and serves as an indicator of population exposure of pollutants. Mesquite is an EPA-approved seasonal O<sub>3</sub> monitoring site that operates between April and September.

Local Site Name (AQS ID)	Mesquite (32-003-0023)
GPS Coordinates (latitude, longitude)	+36.807778°, -114.061389°
Street Address	465 E. Old Mill Rd., Mesquite, NV 89027
Distance to roadways (m)	7.8
Traffic counts (AADT, yr)	<1,000 (est.), 2014
Ground cover	Pavement, gravel
Representative statistical area name	Las Vegas-Paradise, NV MSA

<b>Pollutant, POC</b>	<b>O<sub>3</sub>, 1</b>
Parameter code	44201
Basic monitoring objective(s)	NAAQS comparison
Site type(s)	Population exposure
Network affiliation	NA
Monitor type(s)	SLAMS

Pollutant, POC	O <sub>3</sub> , 1
Primary, QA Collocated, or Other	Primary
Instrument manufacturer & model	API 400 series
Method code	EQOA-0992-087
FRM/FEM/ARM/other	FEM
Collecting agency	DAQ
Analytical lab	NA
Reporting agency	DAQ
Spatial scale	Middle
Monitoring start date	10/01/2001
Current sampling frequency	Continuous, seasonal
Calculated sampling frequency	Continuous, seasonal
Sampling season	04/01-09/30
Probe height (m)	3.6
Distance from supporting structure (m)	1.2
Distance from obstructions on roof – horizontal distance (m)	NA
Distance from obstructions on roof – vertical height (m)	NA
Distance from obstructions not on roof – horizontal distance (m)	NA
Distance from obstructions not on roof – vertical height (m)	NA
Distance from trees (m)	3.15 <sup>1</sup>
Distance to furnace or incinerator flue (m)	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA
Distance to nearest PM instrument (m)	NA
Unrestricted airflow (degrees)	360
Probe material for reactive gases	Teflon
Residence time for reactive gases (s)	2.5
Will there be changes within the next 18 months? (Y/N)	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N
Frequency of flow rate verification for manual PM samplers	NA
Frequency of flow rate verification for automated PM analyzers	NA
Frequency of one-point QC check for gaseous instruments	Daily
Last annual performance evaluation for gaseous parameters	09/22/2014
Last two semiannual flow rate audits for PM monitors	NA

<sup>1</sup> Tree is 0.65 meters above inlet.

Meteorological measurements at the Mesquite site include wind speed, wind direction, and ambient temperature.

Based on the March 8, 2012 EPA waiver to reduce the O<sub>3</sub> monitoring season at Apex (AQS ID: 32-003-0022) and Mesquite (AQS ID: 32-003-0023), and due to resource limitations, DAQ continues to utilize the ozone monitoring season waiver and requests a renewal of this waiver (see Appendix B).

Because the O<sub>3</sub> monitor at Mesquite does not meet distance-to-roadway siting requirements, DAQ is investigating an alternate location where O<sub>3</sub> and PM<sub>10</sub> can be effectively monitored in Mesquite.

With respect to current O<sub>3</sub> monitoring in Mesquite, DAQ will continue to conduct SLAMS O<sub>3</sub> monitoring at the site until a suitable replacement monitoring location is established. DAQ's interest in this continued monitoring is based on the negligible traffic count, historical NAAQS monitoring data, fulfilling the objective of population exposure, and the monitor being the only NAAQS O<sub>3</sub> monitor in the Virgin Valley air shed (Hydrographic Area 222).



**Figure 10: Palo Verde.**

The primary objective of the Palo Verde site in west Las Vegas is to monitor O<sub>3</sub>, but it also monitors PM<sub>10</sub>. The topography is such that the summertime loft brings higher O<sub>3</sub> and precursor levels toward this site from the east end of the Las Vegas Valley.

Local Site Name (AQS ID)	Palo Verde (32-003-0073)
GPS Coordinates (latitude, longitude)	+36.173333°, -115.332778°
Street Address	333 Pavilion Center Dr., Las Vegas, NV 89144
Distance to roadways (m)	Pavilion Center Dr: 14.7; Greenmoor Lane: 15.0
Traffic counts (AADT, yr)	Pavilion Center Dr: 7,000 (est.); Greenmoor Lane: 4,000 (est.) (2014)
Ground cover	Paved
Representative statistical area name	Las Vegas-Paradise, NV MSA

Pollutant, POC	PM <sub>10</sub> , 1	O <sub>3</sub> , 1
Parameter code	81102	44201
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison
Site type(s)	Population exposure	Population exposure
Network affiliation	NA	NA
Monitor type(s)	SLAMS	SLAMS

Pollutant, POC	PM <sub>10</sub> , 1	O <sub>3</sub> , 1
Primary, QA Collocated, or Other	Primary	Primary
Instrument manufacturer & model	Thermo FH62C14	API 400 series
Method code	EQPM-1102-150	EQOA-0992-087
FRM/FEM/ARM/other	FEM	FEM
Collecting agency	DAQ	DAQ
Analytical lab	NA	NA
Reporting agency	DAQ	DAQ
Spatial scale	Middle	Neighborhood
Monitoring start date	07/01/1998	07/01/1998
Current sampling frequency	Continuous	Continuous
Calculated sampling frequency	Continuous	Continuous
Sampling season	Year-round	Year-round
Probe height (m)	4.8	3.7
Distance from supporting structure (m)	2.3	1.4
Distance from obstructions on roof – horizontal distance (m)	NA	NA
Distance from obstructions on roof – vertical height (m)	NA	NA
Distance from obstructions not on roof – horizontal distance (m)	NA	NA
Distance from obstructions not on roof – vertical height (m)	NA	NA
Distance from trees (m)	3.8 <sup>1</sup>	1.3 <sup>1</sup>
Distance to furnace or incinerator flue (m)	NA	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA	NA
Distance to nearest PM instrument (m)	NA	NA
Unrestricted airflow (degrees)	360	360
Probe material for reactive gases	NA	Teflon
Residence time for reactive gases (s)	NA	
Will there be changes within the next 18 months? (Y/N)	N	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N	N
Frequency of flow rate verification for manual PM samplers	NA	NA
Frequency of flow rate verification for automated PM analyzers	Biweekly	NA
Frequency of one-point QC check for gaseous instruments	NA	Daily
Last annual performance evaluation for gaseous parameters	NA	10/24/2014
Last two semiannual flow rate audits for PM monitors	4/08/2014, 10/24/2014	NA

<sup>1</sup> Tree is 0.5 meters below PM<sub>10</sub> inlet and 0.6 meters above O<sub>3</sub> inlet.

Meteorological measurements at the Palo Verde site include wind speed, wind direction, ambient temperature, and barometric pressure.



**Figure 11: Paul Meyer.**

The primary objective of the Paul Meyer site in southwest Las Vegas is to monitor  $O_3$ , but it also monitors  $PM_{10}$ . The topography is such that the summertime loft brings higher  $O_3$  and precursor levels toward this site from the east end of the Las Vegas Valley.

Local Site Name (AQS ID)	Paul Meyer (32-003-0043)
GPS Coordinates (latitude, longitude)	+36.106389°, -115.253333°
Street Address	4525 New Forest Dr., Las Vegas, NV 89147
Distance to roadways (m)	New Forest Dr: 102; South Tenaya Way: 160
Traffic counts (AADT, yr)	New Forest Dr: 3,500 (est.); South Tenaya Way: 3,800 (2013)
Ground cover	Concrete, grass
Representative statistical area name	Las Vegas-Paradise, NV MSA

<b>Pollutant, POC</b>	<b>PM<sub>10</sub>, 1</b>	<b>O<sub>3</sub>, 1</b>
Parameter code	81102	44201
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison
Site type(s)	Population exposure	Population exposure
Network affiliation	NA	NA
Monitor type(s)	SLAMS	SLAMS
Primary, QA Collocated, or Other	Primary	Primary
Instrument manufacturer & model	Thermo FH62C14	API 400 series
Method code	EQPM-1102-150	EQOA-0992-087
FRM/FEM/ARM/other	FEM	FEM
Collecting agency	DAQ	DAQ
Analytical lab	NA	NA
Reporting agency	DAQ	DAQ
Spatial scale	Neighborhood	Neighborhood
Monitoring start date	01/01/1998	07/01/1998
Current sampling frequency	Continuous	Continuous
Calculated sampling frequency	Continuous	Continuous
Sampling season	Year-round	Year-round
Probe height (m)	4.8	4.3
Distance from supporting structure (m)	2.3	1.4
Distance from obstructions on roof – horizontal distance (m)	NA	NA
Distance from obstructions on roof – vertical height (m)	NA	NA
Distance from obstructions not on roof – horizontal distance (m)	NA	NA
Distance from obstructions not on roof – vertical height (m)	NA	NA
Distance from trees (m)	15.3	15.1
Distance to furnace or incinerator flue (m)	NA	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA	NA
Distance to nearest PM instrument (m)	NA	NA
Unrestricted airflow (degrees)	360	360
Probe material for reactive gases	NA	Teflon
Residence time for reactive gases (s)	NA	2.9
Will there be changes within the next 18 months? (Y/N)	N	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N	N
Frequency of flow rate verification for manual PM samplers	NA	NA
Frequency of flow rate verification for automated PM analyzers	Biweekly	NA
Frequency of one-point QC check for gaseous instruments	NA	Daily
Last annual performance evaluation for gaseous parameters	NA	09/23/14
Last two semiannual flow rate audits for PM monitors	02/11/14, 09/12/14	NA

Meteorological measurements at the Paul Meyer site include wind speed, wind direction, ambient temperature, and barometric pressure.



**Figure 12: Sunrise Acres.**

Monitoring at the Sunrise Acres site near the center of the Las Vegas Valley began as part of a CO study in the 1990s. All monitoring activities at the former East Charleston site were transferred to Sunrise Acres when the former lease was terminated. The primary objective of the Sunrise Acres site is to monitor CO, NO<sub>2</sub> (meeting the RA40 requirement), and PM. The site monitors PM<sub>10</sub> and PM<sub>2.5</sub> using both filter-based and continuous methodologies. The PM<sub>2.5</sub> FEM is the primary monitor at this site, and it is collocated with a PM<sub>2.5</sub> FRM.

Local Site Name (AQS ID)	Sunrise Acres (32-003-0561)
GPS Coordinates (latitude, longitude)	+36.163889°, -115.113889°
Street Address	2501 Sunrise Ave., Las Vegas, NV 89101
Distance to roadways (m)	Sunrise Ave: 128; Eastern Ave: 160
Traffic counts (AADT, yr)	Sunrise Ave: 4,000 (est.); Eastern Ave: 28,500 (2013)
Ground cover	Paved
Representative statistical area name	Las Vegas-Paradise, NV MSA

<b>Pollutant, POC</b>	<b>PM<sub>10</sub>, 1</b>	<b>CO, 1</b>	<b>PM<sub>2.5</sub> Collocated FRM, 1</b>	<b>PM<sub>2.5</sub> Primary FEM (continuous), 3</b>	<b>NO<sub>2</sub>, 1</b>
Parameter code	81102	42101	88101	88101	42602
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	NAAQS comparison	NAAQS comparison	NAAQS comparison
Site type(s)	Population exposure	Highest concentration	Highest concentration	Highest concentration	Population exposure
Network affiliation	NA	NA	NA	NA	NA
Monitor type(s)	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Primary, QA Collocated, or Other	Primary	Primary	QA Collocated	Primary	Primary
Instrument manufacturer & model	Thermo 5014i	API 300 series	Thermo 2025i	Thermo 5014i	TAPI 200 series
Method code	EQPM-1102-150	RFCA-1093-093	EQPM-0202-145	EQPM-0609-183	RFNA-1194-099
FRM/FEM/ARM/other	FEM	FRM	FRM	FEM	FRM
Collecting agency	DAQ	DAQ	DAQ	DAQ	DAQ
Analytical lab	NA	NA	Weigh	NA	NA
Reporting agency	DAQ	DAQ	DAQ	DAQ	DAQ
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	04/17/2004	10/01/1996	07/01/2012	10/01/2012	01/01/2013
Current sampling frequency	Continuous	Continuous	1:3	Continuous	Continuous
Calculated sampling frequency	Continuous	Continuous	1:3	Continuous	Continuous
Sampling season	Year-round	Year-round	Year-round	Year-round	Year-round
Probe height (m)	4.6	3.6	3.0	4.8	3.6
Distance from supporting structure (m)	2.1	1.2	2.1	2.2	1.2
Distance from obstructions on roof – horizontal distance (m)	NA	NA	NA	NA	NA
Distance from obstructions on roof – vertical height (m)	NA	NA	NA	NA	NA
Distance from obstructions not on roof – horizontal distance (m)	NA	NA	2.1	NA	NA
Distance from obstructions not on roof – vertical height (m)	NA	NA	0.5	NA	NA
Distance from trees (m)	NA	NA	NA	NA	NA
Distance to furnace or incinerator flue (m)	NA	NA	NA	NA	NA

Pollutant, POC	PM <sub>10</sub> , 1	CO, 1	PM <sub>2.5</sub> Collocated FRM, 1	PM <sub>2.5</sub> Primary FEM (continuous), 3	NO <sub>2</sub> , 1
Distance between monitors fulfilling QA collocation requirements (m)	NA	NA	Distance between PM <sub>2.5</sub> FRM and PM <sub>2.5</sub> FEM 4.6	Distance between PM <sub>2.5</sub> FRM and PM <sub>2.5</sub> FEM 4.6	NA
Distance to nearest PM instrument (m)	Distance to PM <sub>2.5</sub> FEM monitor 2.1	NA	5.4	Distance to PM <sub>10</sub> FEM monitor 2.4	NA
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material for reactive gases	NA	Teflon	NA	NA	Teflon
Residence time for reactive gases (s)	NA	2.7	NA	NA	3.8
Will there be changes within the next 18 months? (Y/N)	N	N	N	N	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N	N	Y	Y	N
Frequency of flow rate verification for manual PM samplers	NA	NA	Monthly	NA	NA
Frequency of flow rate verification for automated PM analyzers	Biweekly	NA	NA	Biweekly	NA
Frequency of one-point QC check for gaseous instruments	NA	Daily	NA	NA	Daily
Last annual performance evaluation for gaseous parameters	NA	12/30/2014	NA	NA	12/31/2014
Last two semiannual flow rate audits for PM monitors	04/07/14, 10/24/14	NA	2/14/14, 9/30/14	04/07/14, 10/24/14	NA

DAQ is conducting NO<sub>2</sub> monitoring to meet RA40 requirements outlined in 40 CFR 58, App. D, Sec. 4.3.4. Meteorological measurements at the Sunrise Acres site include wind speed, wind direction, ambient temperature, and barometric pressure.



**Figure 13: Teddy and Rancho: Near-Road Site 1.**

The Near-Road Site 1 monitoring station was approved by EPA in 2014 and began operation in January 2015. The site is at the southeast side of the intersection between South Rancho Drive and Teddy Drive in Las Vegas. This is the first near-road monitoring site that DAQ deployed.

Local Site Name (AQS ID)	Teddy and Rancho (32-003-1501)
GPS Coordinates (latitude, longitude)	+36.139822°, -115.175565°
Street Address	2755 S. Rancho Drive, Las Vegas, NV
Distance to roadways (m)	Interstate 15: 13; South Rancho Drive: 8; Teddy Drive: 31
Traffic counts (AADT, yr)	Interstate 15: 260,000; South Rancho Drive: 15,000 (est.); Teddy Drive: 10,000 (est.) (2013)
Ground cover	Unpaved
Representative statistical area name	Las Vegas-Paradise, NV MSA

<b>Pollutant, POC</b>	<b>NO<sub>2</sub>, 1</b>
Parameter code	42602
Basic monitoring objective(s)	NAAQS comparison
Site type(s)	Highest concentration
Network affiliation	Near Road
Monitor type(s)	SLAMS
Primary, QA Collocated, or Other	Primary
Instrument manufacturer & model	TAPI 200 series
Method code	EQNA-0512-200
FRM/FEM/ARM/other	FEM
Collecting agency	DAQ
Analytical lab	NA
Reporting agency	DAQ
Spatial scale	Microscale
Monitoring start date	2015
Current sampling frequency	Continuous
Calculated sampling frequency	Continuous
Sampling season	Year-round
Probe height (m)	4.2
Distance from supporting structure (m)	1.2
Distance from obstructions on roof – horizontal distance (m)	NA
Distance from obstructions on roof – vertical height (m)	NA
Distance from obstructions not on roof – horizontal distance (m)	NA
Distance from obstructions not on roof – vertical height (m)	NA
Distance from trees (m)	23
Distance to furnace or incinerator flue (m)	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA
Distance to nearest PM instrument (m)	NA
Unrestricted airflow (degrees)	360
Probe material for reactive gases	Teflon
Residence time for reactive gases (s)	4.0 (est.)
Will there be changes within the next 18 months? (Y/N)	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	NA
Frequency of flow rate verification for manual PM samplers	NA
Frequency of flow rate verification for automated PM analyzers	NA
Frequency of one-point QC check for gaseous instruments	Daily
Last annual performance evaluation for gaseous parameters	2015
Last two semiannual flow rate audits for PM monitors	NA

This Near-Road Site 1 began operation in 2015. Meteorological measurements at Near-Road Site 1 include wind speed, wind direction, ambient temperature, and barometric pressure.



**Figure 14: Walter Johnson.**

The primary objective of the Walter Johnson site, located on the west side of Las Vegas, is to monitor O<sub>3</sub>. The topography is such that the summertime loft brings high O<sub>3</sub> and precursor levels toward this site from the east end of the Las Vegas Valley.

Local Site Name (AQS ID)	Walter Johnson (32-003-0071)
GPS Coordinates (latitude, longitude)	+36.169722°, -115.263056°
Street Address	7701 Ducharme Ave., Las Vegas, NV 89145
Distance to roadways (m)	Villa Monterey Drive: 13.0; Ducharme Avenue: 46; South Buffalo Drive: 270
Traffic counts (AADT, yr)	Villa Monterey Drive: 3,000 (est.); Ducharme Avenue: 5,000 (est.); South Buffalo Drive: 26,000 (2013)
Ground cover	Concrete/asphalt, grass
Representative statistical area name	Las Vegas-Paradise, NV MSA

<b>Pollutant, POC</b>	<b>O<sub>3</sub>, 1</b>
Parameter code	44201
Basic monitoring objective(s)	NAAQS comparison
Site type(s)	Population exposure
Network affiliation	NA
Monitor type(s)	SLAMS
Primary, QA Collocated, or Other	Primary
Instrument manufacturer & model	API 400 series
Method code	EQOA-0992-087
FRM/FEM/ARM/other	FEM
Collecting agency	DAQ
Analytical lab	NA
Reporting agency	DAQ
Spatial scale	Neighborhood
Monitoring start date	08/01/1998
Current sampling frequency	Continuous
Calculated sampling frequency	Continuous
Sampling season	Year-round
Probe height (m)	4.3
Distance from supporting structure (m)	1.5
Distance from obstructions on roof – horizontal distance (m)	NA
Distance from obstructions on roof – vertical height (m)	NA
Distance from obstructions not on roof – horizontal distance (m)	NA
Distance from obstructions not on roof – vertical height (m)	NA
Distance from trees (m)	14.6
Distance to furnace or incinerator flue (m)	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA
Distance to nearest PM instrument (m)	NA
Unrestricted airflow (degrees)	360
Probe material for reactive gases	Teflon
Residence time for reactive gases (s)	3.0
Will there be changes within the next 18 months? (Y/N)	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N
Frequency of flow rate verification for manual PM samplers	NA
Frequency of flow rate verification for automated PM analyzers	NA
Frequency of one-point QC check for gaseous instruments	Daily
Last annual performance evaluation for gaseous parameters	09/23/2014
Last two semiannual flow rate audits for PM monitors	NA

Meteorological measurements at the Walter Johnson site include barometric pressure.



**Figure 15: Winterwood.**

The Winterwood site monitored O<sub>3</sub> and PM<sub>10</sub>, and was shut down in October 2014. This shutdown followed the process outlined in 40 CFR 58.14, and DAQ received approval for the shutdown as part of the 2014 network plan approval letter from EPA.

Local Site Name (AQS ID)	Winterwood (32-003-0538)
GPS Coordinates (latitude, longitude)	+36.143056°, -115.056389°
Street Address	5483 Club House Dr., Las Vegas, NV 89142
Distance to roadways (m)	42
Traffic counts (AADT, yr)	400 (2013) (estimated)
Ground cover	Grass, paving, gravel
Representative statistical area name	Las Vegas-Paradise, NV MSA

Pollutant, POC	CO, 1	O <sub>3</sub> , 2
Parameter code	42101	44201
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison
Site type(s)	Population exposure	Population exposure
Network affiliation	NA	NA
Monitor type(s)	SLAMS	SLAMS
Primary, QA Collocated, or Other	Primary	Primary

<b>Pollutant, POC</b>	<b>CO, 1</b>	<b>O<sub>3</sub>, 2</b>
Instrument manufacturer & model	API 300 series	API 400 series
Method code	RFCA-1093-093	EQOA-0992-087
FRM/FEM/ARM/other	FRM	FEM
Collecting agency	DAQ	DAQ
Analytical lab	NA	NA
Reporting agency	DAQ	DAQ
Spatial scale	Neighborhood	Neighborhood
Monitoring start date	01/01/1998	07/01/1979
Current sampling frequency	Continuous	Continuous
Calculated sampling frequency	Continuous	Continuous
Sampling season	Year-round	Year-round
Probe height (m)	3.8	3.8
Distance from supporting structure (m)	1.3	1.3
Distance from obstructions on roof – horizontal distance (m)	NA	NA
Distance from obstructions on roof – vertical height (m)	NA	NA
Distance from obstructions not on roof – horizontal distance (m)	4.6	4.6
Distance from obstructions not on roof – vertical height (m)	1.2	1.2
Distance from trees (m)	28.0	28.0
Distance to furnace or incinerator flue (m)	NA	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA	NA
Distance to nearest PM instrument (m)	NA	NA
Unrestricted airflow (degrees)	360	360
Probe material for reactive gases	Teflon	Teflon
Residence time for reactive gases (s)	3.5	3.1
Will there be changes within the next 18 months? (Y/N)	N	N
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	N	N
Frequency of flow rate verification for manual PM samplers	NA	NA
Frequency of flow rate verification for automated PM analyzers	NA	NA
Frequency of one-point QC check for gaseous instruments	Daily	Daily
Last annual performance evaluation for gaseous parameters	09/29/2014	09/25/2014
Last two semiannual flow rate audits for PM monitors	NA	NA

## 5.0 MAPS OF CRITERIA POLLUTANT MONITORING STATIONS IN 2014

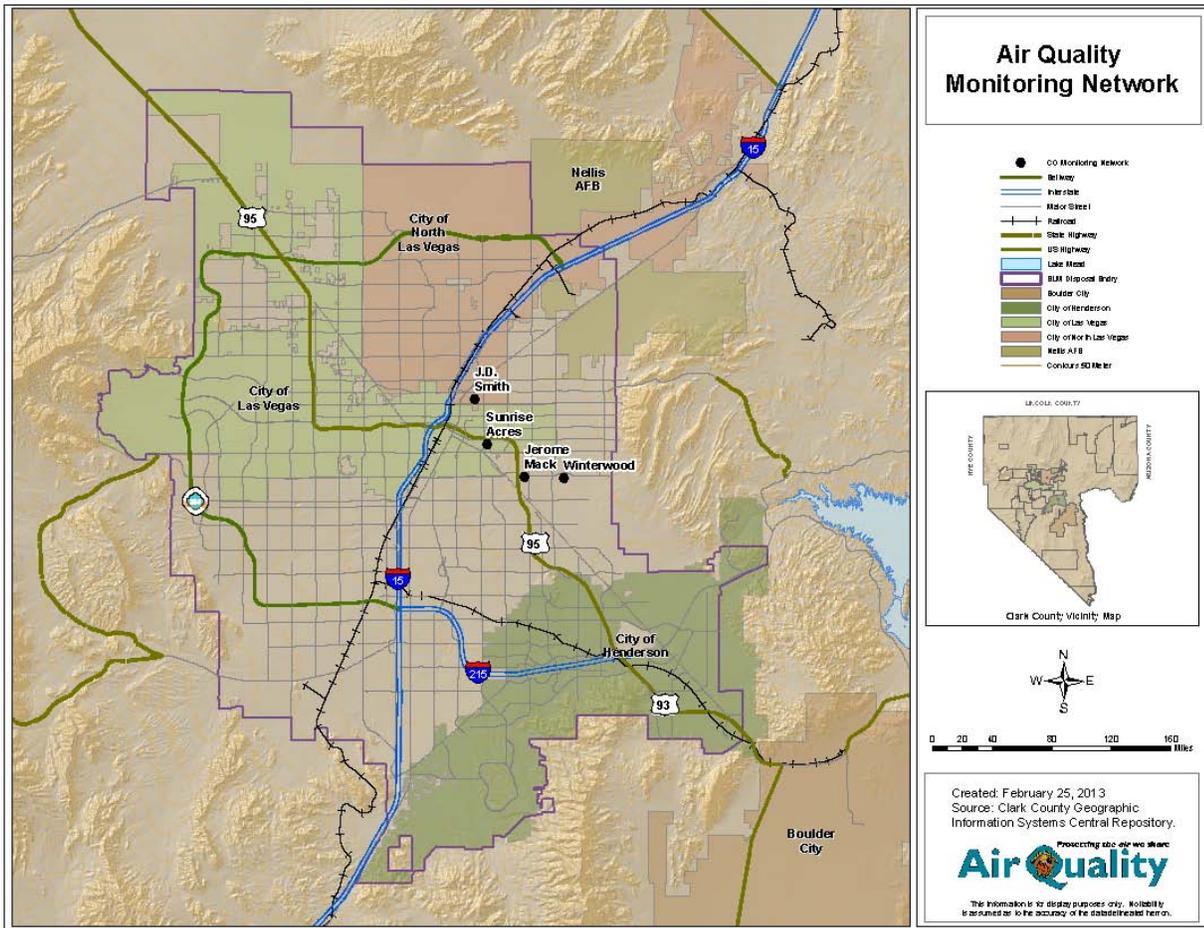


Figure 16: CO Monitors.

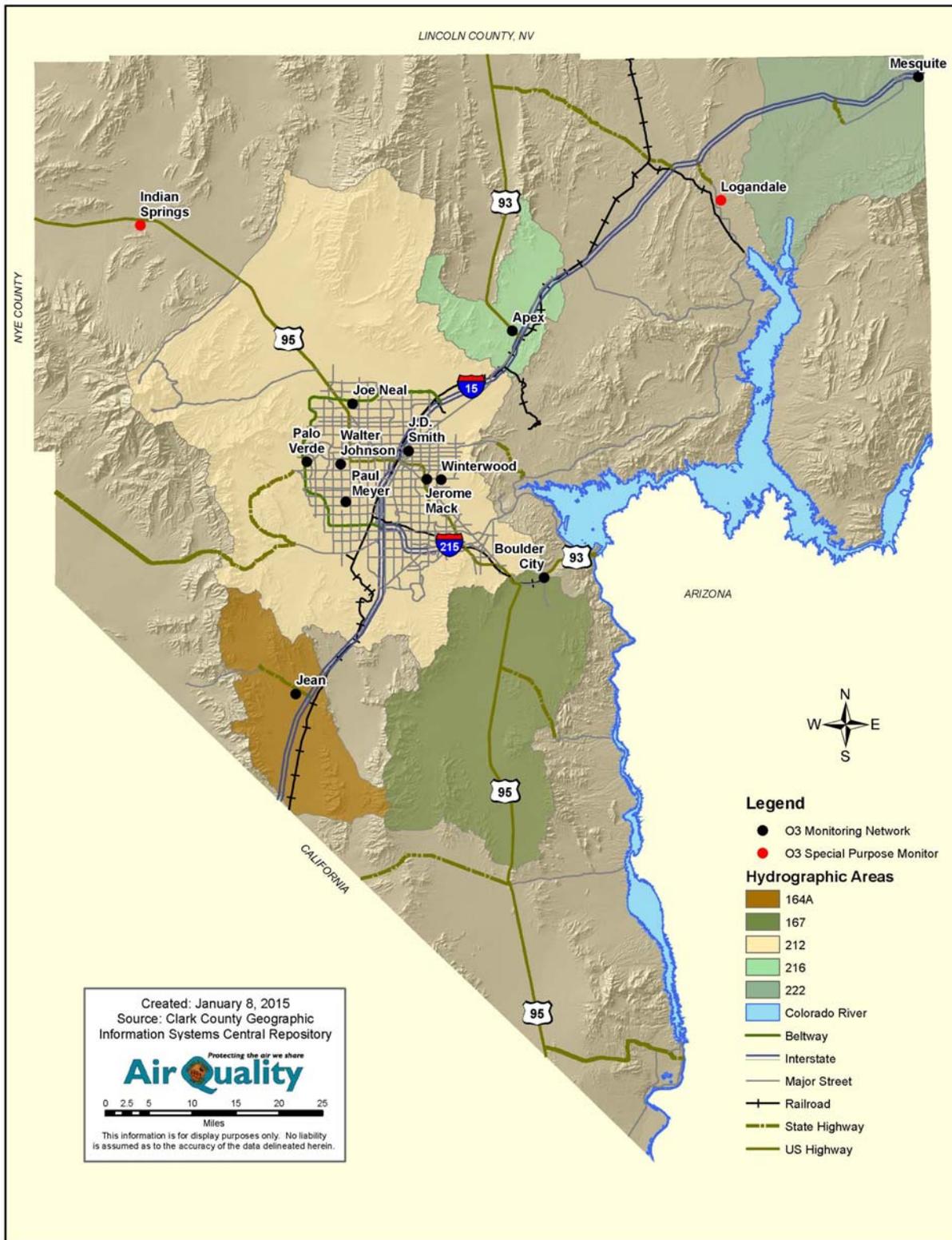


Figure 17: O<sub>3</sub> Monitors.

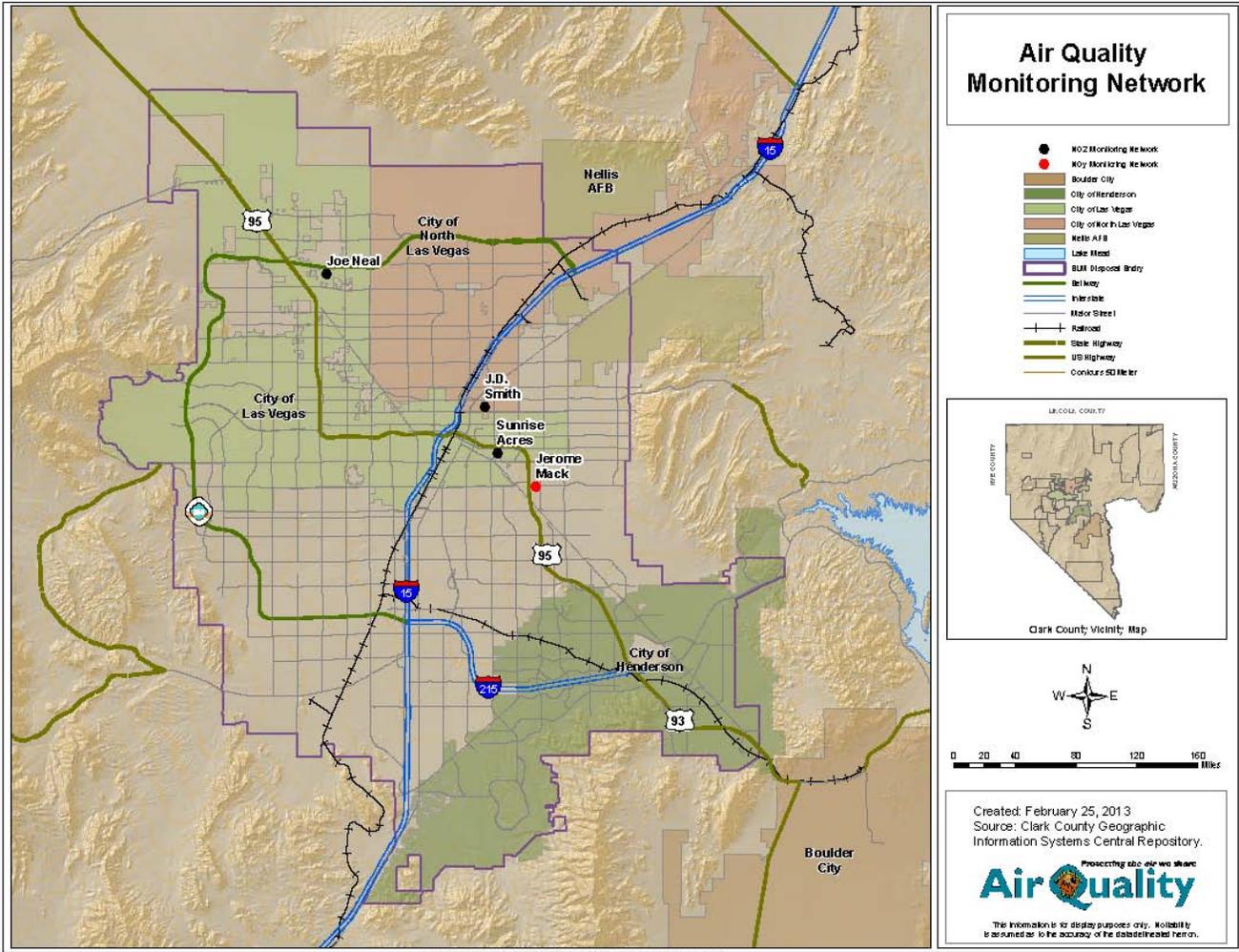


Figure 18: NO<sub>x</sub> Monitors.

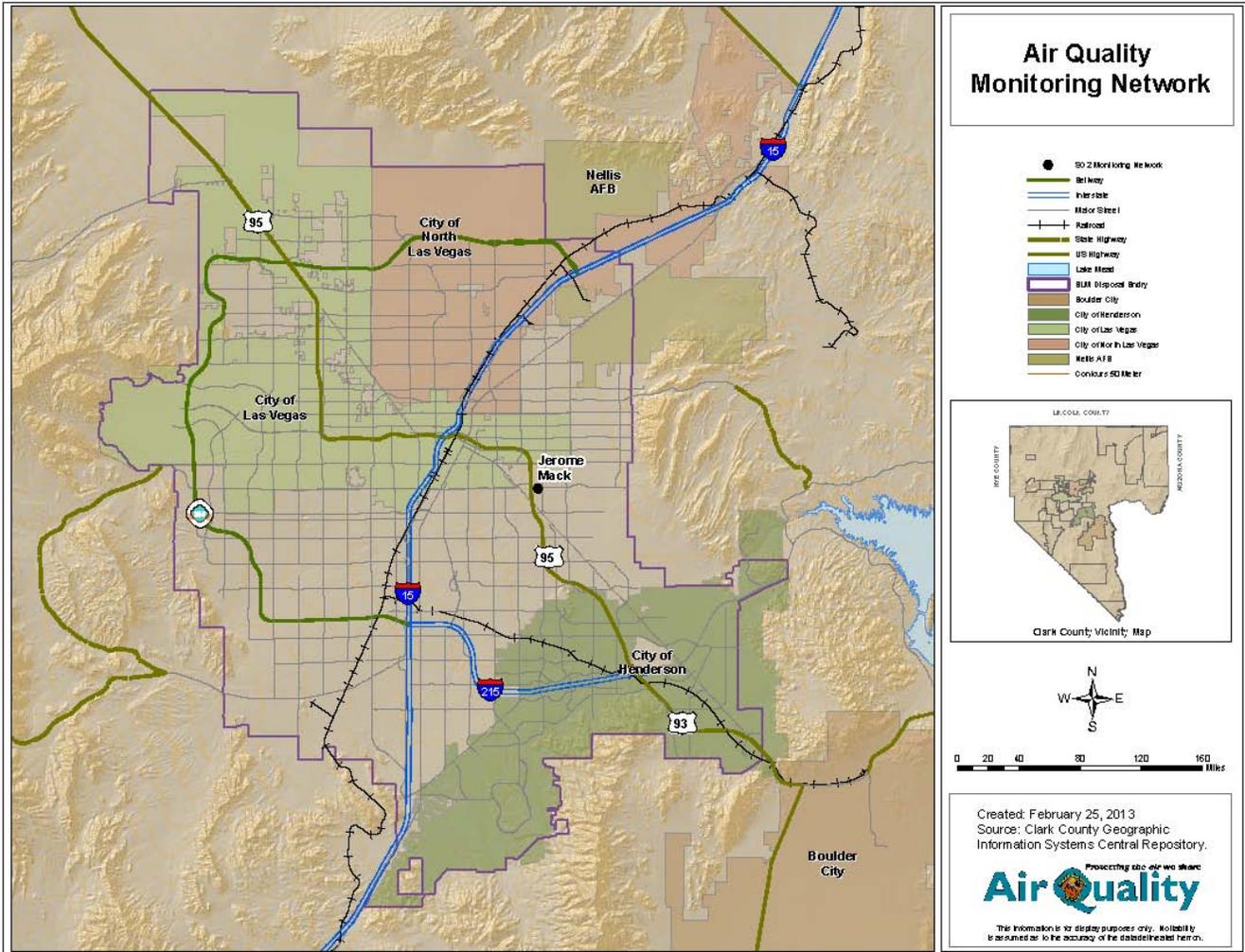


Figure 19: SO<sub>2</sub> Monitors.

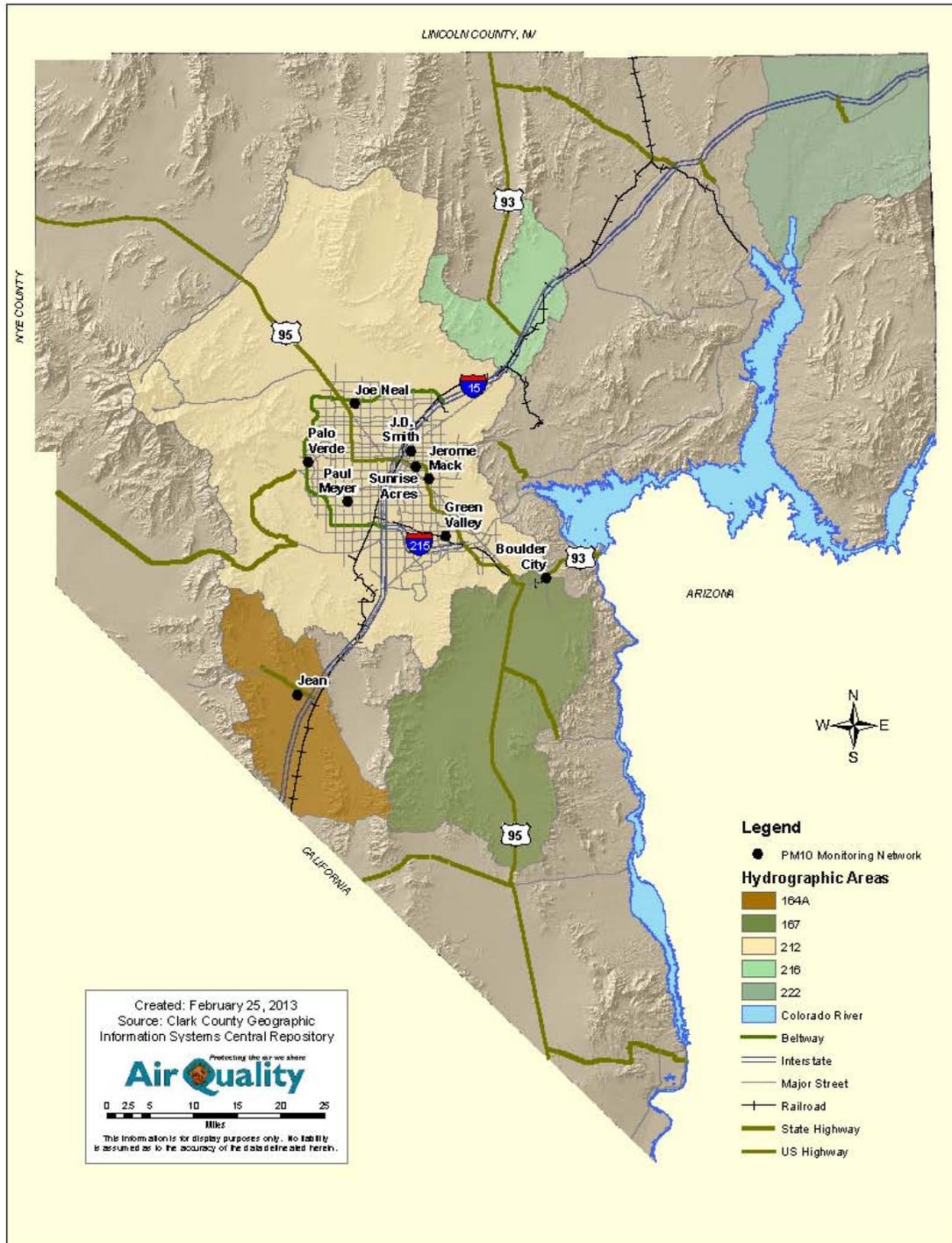


Figure 20: Continuous PM<sub>10</sub> Monitors.

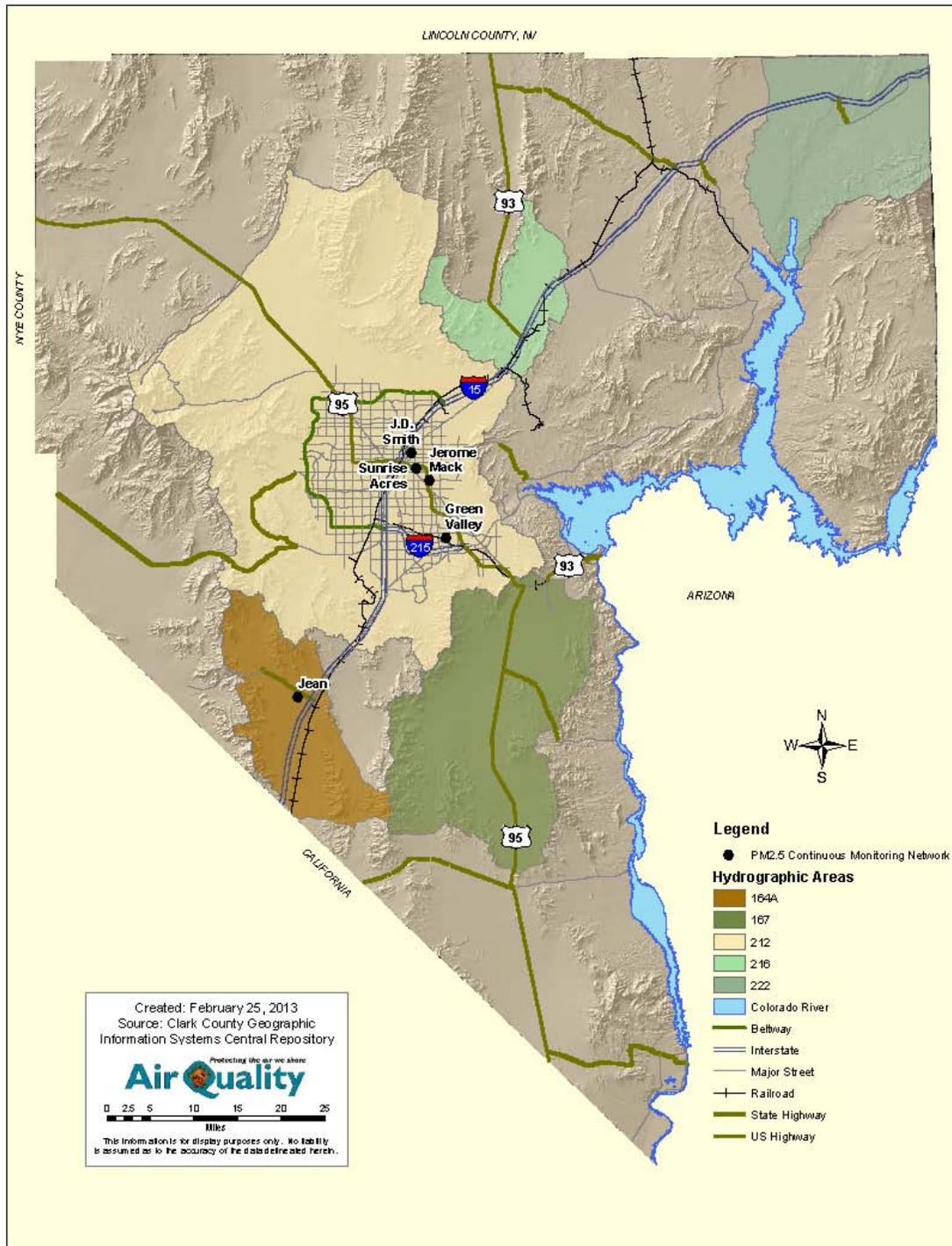


Figure 21: Continuous PM<sub>2.5</sub> Monitors.

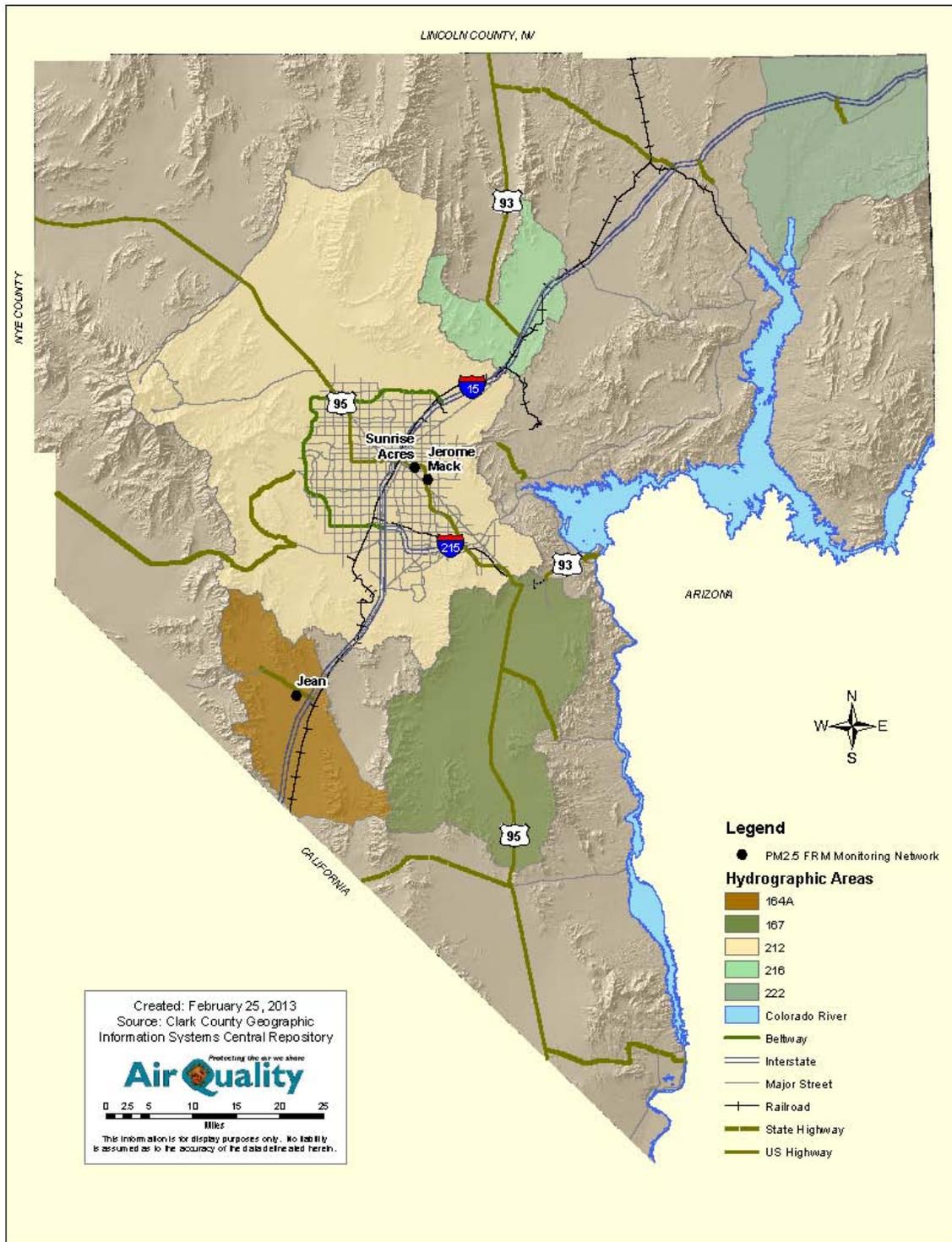


Figure 22: Filter-Based PM<sub>2.5</sub> Sampler.

## 6.0 NATIONAL PERFORMANCE AUDIT AND PERFORMANCE EVALUATION PROGRAMS

Each year EPA Region 9 contracts for the National Performance Audit Program (NPAP) Through-the-Probe (TTP) performance evaluation, which focuses on gaseous criteria pollutants. With the exception of an NO<sub>2</sub> evaluation at JD Smith on April 23, 2014, DAQ received a “Pass” on all 2014 NPAP/TTP performance evaluations. The low-end misalignment of the NO<sub>2</sub> instrument at JD Smith was corrected and re-verified through the corrective action process.

**Table 10. 2014 NPAP and TTP Evaluations**

Monitoring Station	Pollutant	Evaluation Date
Walter Johnson	O <sub>3</sub>	4/21/2014
Sunrise Acres	CO, NO <sub>2</sub>	4/22/2014
JD Smith	CO, O <sub>3</sub> , NO <sub>2</sub>	4/23/2014

Each year the PM<sub>2.5</sub> FRM sampling network undergoes a Performance Evaluation Program (PEP) audit. PEP audit results (in µg/m<sup>3</sup>) are generated and submitted to the AQS database. In 2014 and for the first time, a PM<sub>2.5</sub> FEM was audited. This audit took place at Sunrise Acres.

**Table 11. 2014 PEP Audit Activity**

Sampler Location	Pollutant	Audit Date
Jerome Mack, Sunrise Acres	PM <sub>2.5</sub> FRM	2/4/2014
Jean	PM <sub>2.5</sub> FRM	4/23/2014
Jerome Mack, Jean	PM <sub>2.5</sub> FRM	7/16/2014
Sunrise Acres	PM <sub>2.5</sub> FEM	10/18/2014 – 10/19/2014

## 7.0 NETWORK MODIFICATIONS

### 7.1 Completed Changes

DAQ has made the following network changes:

**Table 12. Summary of Network Modifications**

Action	Date	Explanation
Winterwood site shutdown	October 2014	This site, which monitored O <sub>3</sub> and PM <sub>10</sub> , was shut down following the process outlined in 40 CFR 58.14. DAQ received approval for this shutdown as part of the 2014 network plan approval letter from EPA.
O <sub>3</sub> Special Purpose Monitoring (SPM) at Logandale shutdown	October 2014	Enhanced summertime O <sub>3</sub> monitoring completed.
O <sub>3</sub> SPM at Indian Springs shutdown	October 2014	Enhanced summertime O <sub>3</sub> monitoring completed.
Removed PM <sub>2.5</sub> FRM at Jean. PM <sub>2.5</sub> FEM is now the primary PM <sub>2.5</sub> monitor	January 2015	No regulatory requirement for PM <sub>2.5</sub> FRM sampler at site, and resource optimization.
Near-Road Site 1: Teddy & Rancho	2015	EPA approval for Near-Road Site 1 was received in the 2014 network plan approval letter. DAQ began operation of this site in 2015.
Near-Road Site 2: Central Fire Station	2015	EPA approval for Near-Road Site 2 was received in the 2014 network plan approval letter. DAQ plans to begin operation of this site in 2015.
Discontinued O <sub>3</sub> SPMs at Arden Peak, Frenchman Mountain and Laughlin.	2012	Discontinued O <sub>3</sub> SPMs after completion of 2012 summer O <sub>3</sub> study.

### 7.2 Proposed Changes

This section, which describes anticipated and potential changes to the monitoring network over the next two years, constitutes Clark County's official request to Region 9 for approval of proposed changes.

**Table 13. Proposed Site and Equipment Changes, 2015-2016**

Site/Equipment Change	Date of Proposed Change	Explanation
Deploy PM <sub>10</sub> Monitor at Walter Johnson	June 2015	The PM <sub>10</sub> monitor was removed from Walter Johnson in March 2008 due to safety concerns. Because these concerns no longer exist, DAQ is proposing installation of a PM <sub>10</sub> Monitor in 2015. This monitor will provide greater spatial representation as outlined in the 5-Year Network Assessment. (See Section 4 for all site-specific information.)
Deploy SLAMS PM Monitoring in the South End of the Las Vegas Valley	June 2016	In an effort to improve PM monitoring spatial coverage, DAQ proposes to deploy SLAMS PM monitoring in the southern part of the Las Vegas Valley. A need to fill this spatial gap was identified in the 5-Year Network Assessment.

Redeploy O <sub>3</sub> Monitor in Indian Springs as SLAMS	June 2015	O <sub>3</sub> monitoring at Indian Springs was approved as part of the 2014 Network Plan. This monitor will help to identify high O <sub>3</sub> , characterize transport, and fill a spatial gap. Further purpose for this site is provided in the 5-Year Network Assessment. This location is approximately 45 miles northwest of Las Vegas and may provide high O <sub>3</sub> triangulation between Joe Neal and the Las Vegas Paiute Tribe.
Redeploy SPM O <sub>3</sub> Monitor at Spring Mountain Youth Camp	April 2015	This site will be run as SPM, and will help characterize upper elevation O <sub>3</sub> . More detailed discussion is contained later in this document.
Redeploy Upper Air Meteorological Monitoring at North Las Vegas Airport	June 2015	Upper air meteorological monitoring will be helpful in developing exceptional event demonstration packages and for air quality studies. More detailed discussion is contained later in this document.
Deploy a second O <sub>3</sub> and PM monitoring site in Boulder City	June 2016	The current Boulder City monitoring location is in a split-flow corridor, does not have neighborhood representation, and cannot properly accommodate meteorological measurements. The new site, which is slated to be at Garrett Junior High School, can address a number of these issues and is expected to be a good indicator of population exposure.
Redeploy O <sub>3</sub> SPM Monitor in Logandale	June 2015	DAQ intends to redeploy O <sub>3</sub> special purpose monitoring in Logandale. The proposed site is approximately 50 miles northeast of Las Vegas, and the monitor is expected to fill a spatial gap in the O <sub>3</sub> network and could provide insight into transport.
Close criteria pollutant monitoring at Sunrise Acres and JD Smith, and redeploy operations at a new location.	June 2016	Since Sunrise Acres and JD Smith are not optimally sited and may be subject to local pollution influences, a replacement site on Cecile Avenue is being proposed.

7.2.1 PM Monitoring in South Las Vegas Valley



**Figure 23: South Las Vegas Valley.**

Local Site Name (AQS ID)	South Las Vegas (TBD)
GPS Coordinates (latitude, longitude)	+36.013353°, -115.237265°
Street Address	6665 W Gary Ave. Las Vegas, NV
Distance to roadway (m)	120
Traffic count (AADT, yr)	< 1,000 (2015)
Ground cover	Native desert
Representative statistical area name	Las Vegas-Paradise, NV MSA

<b>Pollutant, POC</b>	<b>PM10, 1</b>
Parameter code	81102
Basic monitoring objective(s)	NAAQS comparison
Site type(s)	General/Background
Monitor type(s)	SLAMS
Instrument manufacturer & model	Thermo 5014i
Method code	EQPM-1102-150

<b>Pollutant, POC</b>	<b>PM10, 1</b>
FRM/FEM/ARM/other	FEM
Collecting agency	DAQ
Analytical lab	NA
Reporting agency	DAQ
Spatial scale	Urban
Monitoring start date	June 2016 (proposed)
Current sampling frequency	Continuous
Calculated sampling frequency	Continuous
Sampling season	Year-round
Probe height (m)	4.0 (anticipated)
Distance from supporting structure (m)	1.2 (anticipated)
Distance from obstructions on roof – horizontal distance (m)	NA
Distance from obstructions on roof – vertical height (m)	NA
Distance from obstructions not on roof – horizontal distance (m)	NA
Distance from obstructions not on roof – vertical height (m)	NA
Distance from trees (m)	200 (est.)
Distance to furnace or incinerator flue (m)	NA
Distance between collocated monitors (m)	NA
Unrestricted airflow (degrees)	360
Probe material for reactive gases	NA
Residence time for reactive gases (s)	NA
Will there be changes within the next 18 months? (Y/N)	Y (PM <sub>10</sub> installation)
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	NA
Frequency of flow rate verification for manual PM samplers	NA
Frequency of flow rate verification for automated PM analyzers	Biweekly
Frequency of one-point QC check for gaseous instruments	NA
Last annual performance evaluation for gaseous parameters	NA
Last two semiannual flow rate audits for PM monitors	NA

7.2.2 O<sub>3</sub> Monitoring at Indian Springs



**Figure 24: Indian Springs.**

Local Site Name (AQS ID)	Indian Springs (32-003-7772)
GPS Coordinates (latitude, longitude)	+36.569333°, -115.676651°
Street Address	668 Gretta Ln., Indian Springs, NV
Distance to roadway (m)	100
Traffic count (AADT, yr)	< 1,000 (2015)
Ground cover	Native desert
Representative statistical area name	Las Vegas-Paradise, NV MSA

<b>Pollutant, POC</b>	<b>O3, 1</b>
Parameter code	44201
Basic monitoring objective(s)	Research support
Site type(s)	Regional transport
Monitor type(s)	SLAMS
Instrument manufacturer & model	TAPI 400 series
Method code	EQOA-0992-087
FRM/FEM/ARM/other	FEM
Collecting agency	DAQ
Analytical lab	NA
Reporting agency	DAQ

Pollutant, POC	O3, 1
Spatial scale	Regional
Monitoring start date	2014
Current sampling frequency	NA
Calculated sampling frequency	NA
Sampling season	Year-round
Probe height (m)	5 (anticipated)
Distance from supporting structure (m)	2 (anticipated)
Distance from obstructions on roof – horizontal distance (m)	NA
Distance from obstructions on roof – vertical height (m)	NA
Distance from obstructions not on roof – horizontal distance (m)	5 estimated
Distance from obstructions not on roof – vertical height (m)	1 estimated
Distance from trees (m)	NA
Distance to furnace or incinerator flue (m)	NA
Distance between collocated monitors (m)	NA
Unrestricted airflow (degrees)	360
Probe material for reactive gases	Teflon
Residence time for reactive gases (s)	NA
Will there be changes within the next 18 months? (Y/N)	Y (O <sub>3</sub> installation)
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	NA
Frequency of flow rate verification for manual PM samplers	NA
Frequency of flow rate verification for automated PM analyzers	NA
Frequency of one-point QC check for gaseous instruments	Daily (anticipated)
Last annual performance evaluation for gaseous parameters	NA
Last two semiannual flow rate audits for PM monitors	NA

### 7.2.3 O<sub>3</sub> Monitoring at Spring Mountain Youth Camp

The proposed Spring Mountain Youth Camp (AQS 32-003-7771) site is approximately 30 miles northwest of Las Vegas. Previously run as an upper-elevation O<sub>3</sub> research site, it will be redeployed in 2015 and will be operated as an SPM pursuant to 40 CFR 58.20(a). As part of the 2014 Annual Network Plan approval, EPA Region 9 acknowledged DAQ's continued operation of this site as an SPM. Due to physical limitations and restrictive conditions, DAQ cannot operate this O<sub>3</sub> monitor in compliance with FRM or FEM requirements, and it will designate related data as nonregulatory.

One of the main FEM requirements is to comply with testing procedures for the specific pollutant (40 CFR 53.3(b)). For O<sub>3</sub>, the setup and startup of the test analyzer, test samplers, and reference method must be in strict accordance with the manufacturer's operation manuals. The regulation leaves no room for even minor deviations from the manual's specifications (40 CFR 53.32(d)(1)).

Many upper-elevation O<sub>3</sub> research sites cannot comply with FRM or FEM requirements because they require modified instrument configurations, operations outside instrument design specifications, deviations from QA and QC frequencies, and siting limitations. With regard to the Spring Mountain

Youth Camp site, some of these restrictions apply, including: siting/flow path obstruction; and instrument flow rate out of specification that cannot be corrected due to limitations of this equipment operating at such high altitude.

Because of these limitations, DAQ cannot fully comply with 40 CFR 58.11, 58.12, Appendix A, or Appendix E. DAQ intends to operate this and all future upper-elevation O<sub>3</sub> research instruments as SPM, non-FRM, and non-FEM.



**Figure 25: Spring Mountain Youth Camp (Proposed SPM Site).**

Local Site Name (AQS ID)	Spring Mountain Youth Camp (32-003-7771)
GPS Coordinates (latitude, longitude)	+ 36.318889 ° , - 115.585278 °
Street Address	2400 Angel Peak Place
Distance to roadway (m)	30
Traffic count (AADT, yr)	300 (2015)
Ground cover	Gravel, concrete
Representative statistical area name	Las Vegas-Paradise, NV MSA

<b>Pollutant, POC</b>	<b>O3, 1</b>
Parameter code	44201
Basic monitoring objective(s)	Research support
Site type(s)	Regional transport
Monitor type(s)	Special purpose
Instrument manufacturer & model	TAPI 400 series
Method code	EQOA-0992-087
FRM/FEM/ARM/other	other
Collecting agency	DAQ
Analytical lab	NA
Reporting agency	DAQ
Spatial scale	Regional
Monitoring start date	2015
Current sampling frequency	NA
Calculated sampling frequency	NA
Sampling season	Year-round
Probe height (m)	6 (anticipated)
Distance from supporting structure (m)	2 (anticipated)
Distance from obstructions on roof – horizontal distance (m)	NA
Distance from obstructions on roof – vertical height (m)	NA
Distance from obstructions not on roof – horizontal distance (m)	1 estimated
Distance from obstructions not on roof – vertical height (m)	2 estimated
Distance from trees (m)	NA
Distance to furnace or incinerator flue (m)	NA
Distance between collocated monitors (m)	NA
Unrestricted airflow (degrees)	360 <sup>1</sup>
Probe material for reactive gases	Teflon
Residence time for reactive gases (s)	NA
Will there be changes within the next 18 months? (Y/N)	Y (O <sub>3</sub> installation)
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	NA
Frequency of flow rate verification for manual PM samplers	NA
Frequency of flow rate verification for automated PM analyzers	NA
Frequency of one-point QC check for gaseous instruments	Daily (anticipated)
Last annual performance evaluation for gaseous parameters	NA
Last two semiannual flow rate audits for PM monitors	NA

<sup>1</sup>Open fetch, but air flow is limited by obstructions.

#### 7.2.4 Upper Air Meteorological Measurements at North Las Vegas Airport

In previous years, DAQ conducted upper air meteorological measurements at the North Las Vegas Airport. Measurement instruments included a radar wind profiler, a microwave radiometer, and Sodar technology. Due to equipment and budgetary issues, the site was temporarily discontinued on October 13, 2013. DAQ intends to reestablish measurements using the radar wind profiler and the microwave

radiometer, which delivers continuous temperature and humidity profiles with radiosonde-equivalent assimilation accuracy. These measurements will be helpful in developing exceptional event demonstration packages and for air quality studies.



**Figure 26: North Las Vegas Airport**

7.2.5 Boulder City (2<sup>nd</sup> Site at Garrett Junior High School)



**Figure 37: Boulder City (Garrett Junior High)**

Local Site Name (AQS ID)	Garrett Junior High (TBD)
GPS Coordinates (latitude, longitude)	+35.969848°, -114.835007°
Street Address	1200 Ave G , Boulder City, NV
Distance to roadways (m)	Adams Blvd: 50 (anticipated); Avenue G: 200 (anticipated)
Traffic counts (AADT, yr)	Adams Blvd: 5,100; Avenue G: 2,400: (2013)
Ground cover	Grass, unpaved, paved
Representative statistical area name	Las Vegas-Paradise, NV MSA

<b>Pollutant, POC</b>	<b>PM10, 1</b>	<b>O3, 1</b>
Parameter code	81102	44201
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison
Site type(s)	Population exposure	Population exposure
Network affiliation	NA	NA
Monitor type(s)	SLAMS	SLAMS
Primary, QA Collocated, or Other	Primary	Primary
Instrument manufacturer & model	Thermo 5014i	TAPI 400 series
Method code	EQPM-1102-150	EQOA-0992-087
FRM/FEM/ARM/other	FEM	FEM
Collecting agency	DAQ	DAQ
Analytical lab	NA	NA
Reporting agency	DAQ	DAQ
Spatial scale	Neighborhood	Neighborhood
Monitoring start date	2016 (anticipated)	2016 (anticipated)
Current sampling frequency	Continuous	Continuous
Calculated sampling frequency	Continuous	Continuous
Sampling season	Year-round	Year-round
Probe height (m)	5.0 (anticipated)	4.0 (anticipated)
Distance from supporting structure (m)	1.5 (anticipated)	1.2 (anticipated)
Distance from obstructions on roof – horizontal distance (m)	NA	NA
Distance from obstructions on roof – vertical height (m)	NA	NA
Distance from obstructions not on roof – horizontal distance (m)	NA	NA
Distance from obstructions not on roof – vertical height (m)	NA	NA
Distance from trees (m)	50 (anticipated)	50 (anticipated)
Distance to furnace or incinerator flue (m)	NA	NA
Distance between monitors fulfilling QA collocation requirements (m)	NA	NA
Distance to nearest PM instrument (m)	NA	NA
Unrestricted airflow (degrees)	360	360
Probe material for reactive gases	NA	Teflon
Residence time for reactive gases (s)	NA	NA
Will there be changes within the next 18 months? (Y/N)	Y (PM <sub>10</sub> installation)	Y (O <sub>3</sub> installation)
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	NA	NA
Frequency of flow rate verification for manual PM samplers	NA	NA
Frequency of flow rate verification for automated PM analyzers	Biweekly	NA

Pollutant, POC	PM10, 1	O3, 1
Frequency of one-point QC check for gaseous instruments	NA	Daily
Last annual performance evaluation for gaseous parameters	NA	NA
Last two semiannual flow rate audits for PM monitors	NA	NA

7.2.6 Logandale



**Figure 28: Logandale**

Local Site Name (AQS ID)	Logandale (TBD)
GPS Coordinates (latitude, longitude)	+36.605988°, -114.473948°
Street Address	3570 Lyman Street, Logandale, NV
Distance to roadway (m)	61
Traffic count (AADT, yr)	200 (2013)
Ground cover	Native desert
Representative statistical area name	Las Vegas-Paradise, NV MSA

Pollutant, POC	O3, 1
Parameter code	44201
Basic monitoring objective(s)	Research support
Site type(s)	Regional transport

Pollutant, POC	O3, 1
Monitor type(s)	Special purpose
Instrument manufacturer & model	TAPI 400 series
Method code	EQOA-0992-087
FRM/FEM/ARM/other	FEM
Collecting agency	DAQ
Analytical lab	NA
Reporting agency	DAQ
Spatial scale	Regional
Monitoring start date	2015
Current sampling frequency	Continuous
Calculated sampling frequency	Continuous
Sampling season	Year-round
Probe height (m)	5 (anticipated)
Distance from supporting structure (m)	2 (anticipated)
Distance from obstructions on roof – horizontal distance (m)	NA
Distance from obstructions on roof – vertical height (m)	NA
Distance from obstructions not on roof – horizontal distance (m)	7 estimated
Distance from obstructions not on roof – vertical height (m)	5 estimated
Distance from trees (m)	NA
Distance to furnace or incinerator flue (m)	NA
Distance between collocated monitors (m)	NA
Unrestricted airflow (degrees)	360
Probe material for reactive gases	Teflon
Residence time for reactive gases (s)	NA
Will there be changes within the next 18 months? (Y/N)	Y (O <sub>3</sub> installation)
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	NA
Frequency of flow rate verification for manual PM samplers	NA
Frequency of flow rate verification for automated PM analyzers	NA
Frequency of one-point QC check for gaseous instruments	Daily (anticipated)
Last annual performance evaluation for gaseous parameters	NA
Last two semiannual flow rate audits for PM monitors	NA

### 7.2.7 Criteria Pollutant Monitoring at Cecile Avenue Site

DAQ is proposing to shut down criteria pollutant monitoring the Sunrise Acres and J.D. Smith sites, combine the sites, and redeploy as one site at Cecile Avenue. Although historical monitoring data has been acceptable from both Sunrise Acres and JD Smith, DAQ notes that these sites are not optimally sited and may be subject to local pollution influences. Therefore, the replacement criteria pollutant monitoring site at Cecile Avenue is being proposed.



**Figure 29: Cecile Avenue.**

Local Site Name (AQS ID)	Cecile Avenue (TBD)
GPS Coordinates (latitude, longitude)	+ 36.214582°, -115.093097°
Street Address	3750 Cecile Avenue
Distance to roadway (m)	100
Traffic count (AADT, yr)	2,500 (2015)
Ground cover	Concrete, Grass
Representative statistical area name	Las Vegas-Paradise, NV MSA

Pollutant, POC	O3, 1	CO,1	NO2,1	PM10	PM2.5
Parameter code	44201	42101	42602	81102	88101
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	NAAQS comparison	NAAQS comparison	NAAQS comparison
Site type(s)	Population exposure	Highest concentration	Highest concentration	Population exposure	Population exposure
Monitor type(s)	SLAMS	SLAMS	SLAMS	SLAMS	SLAMS
Instrument manufacturer & model	TAPI 400 series	TAPI 300 series	TAPI 200 series	Thermo 5014i	Thermo 5014i
Method code	EQOA-0992-087	RFCA-1093-093	RFNA-1194-099	EQPM-1102-150	EQPM-0609-183

<b>Pollutant, POC</b>	<b>O3, 1</b>	<b>CO,1</b>	<b>NO2,1</b>	<b>PM10</b>	<b>PM2.5</b>
FRM/FEM/ARM/other	FEM	FRM	FRM	FEM	FEM
Collecting agency	DAQ	DAQ	DAQ	DAQ	DAQ
Analytical lab	NA	NA	NA	NA	NA
Reporting agency	DAQ	DAQ	DAQ	DAQ	DAQ
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	2016	2016	2016	2016	2016
Current sampling frequency	NA	NA	NA	NA	NA
Calculated sampling frequency	NA	NA	NA	NA	NA
Sampling season	Year-round	Year-round	Year-round	Year-round	Year-round
Probe height (m)	5 (anticipated)	5 (anticipated)	5 (anticipated)	5 (anticipated)	5 (anticipated)
Distance from supporting structure (m)	2 (anticipated)	2 (anticipated)	2 (anticipated)	2 (anticipated)	2 (anticipated)
Distance from obstructions on roof – horizontal distance (m)	NA	NA	NA	NA	NA
Distance from obstructions on roof – vertical height (m)	NA	NA	NA	NA	NA
Distance from obstructions not on roof – horizontal distance (m)	NA	NA	NA	NA	NA
Distance from obstructions not on roof – vertical height (m)	NA	NA	NA	NA	NA
Distance from trees (m)	30	30	30	30	30
Distance to furnace or incinerator flue (m)	NA	NA	NA	NA	NA
Distance between collocated monitors (m)	NA	NA	NA	NA	NA
Unrestricted airflow (degrees)	360	360	360	360	360
Probe material for reactive gases	Teflon	Teflon	Teflon	NA	NA
Residence time for reactive gases (s)	< 4 (anticipated)	< 4 (anticipated)	< 4 (anticipated)	NA	NA
Will there be changes within the next 18 months? (Y/N)	Y (installation)	Y (installation)	Y (installation)	Y (installation)	Y (installation)
Is it suitable for comparison against the annual PM <sub>2.5</sub> ? (Y/N)	NA	NA	NA	NA	Yes
Frequency of flow rate verification for manual PM samplers	NA	NA	NA	NA	NA
Frequency of flow rate verification for automated PM analyzers	NA	NA	NA	Biweekly	Biweekly

Pollutant, POC	O <sub>3</sub> , 1	CO,1	NO <sub>2</sub> ,1	PM <sub>10</sub>	PM <sub>2.5</sub>
Frequency of one-point QC check for gaseous instruments	Daily (anticipated)	Daily (anticipated)	Daily (anticipated)	NA	NA
Last annual performance evaluation for gaseous parameters	NA	NA	NA	NA	NA
Last two semiannual flow rate audits for PM monitors	NA	NA	NA	NA	NA

### 7.3 Review Process for Network Modifications

The annual network plan outlines all notices of proposed changes, in compliance with 40 CFR 58.10 (a)(2). DAQ will provide time for a public review when proposing to reduce any SLAMS monitoring. DAQ will post all notices and documents for public review on its website.

### 7.4 Near-Road Monitoring

In March 2013, EPA revised 40 CFR 58 to extend the deadline for commencement of near-road NO<sub>2</sub> monitoring to January 1, 2014. Using guidance in EPA's June 2012 *Near-Road Technical Assistance Document*, DAQ identified and proposed a location (outlined in the 2014 Annual Network Plan) at the southeast side of the intersection between S. Rancho Drive and Teddy Drive (Near-Road Site 1). The EPA provided approval of this location as part of the 2014 Annual Network Plan approval letter, which can be found in Appendix B of this document.

Agencies which serve CBSA's with a population of 2.5 million or more, or with a population of 500,000 or more and one or more roadway segments with AADT counts of 250,000 or above are required to establish a second near-road monitor and have it operational no later than January 1, 2015. Because Clark County meets the 500,000 population threshold and the AADT count, DAQ identified and proposed a location (as outlined in the 2014 Annual Network Plan) at the Central Fire Station (Near-Road Site 2). This location is off U.S. Highway 95 and Casino Center Blvd., and sits in one of the Valley's highest traffic areas where traffic is congested at least twice per day. The EPA provided an approval of this location as part of the 2014 Annual Network Plan approval letter, which can be found in Appendix B of this document.

40 CFR 58 requires one CO monitor and one PM<sub>2.5</sub> monitor to be placed at a near-road site, and DAQ anticipates having these monitors operational by January 1, 2017, as required.

### 7.5 Special Purpose Studies

DAQ plans to contribute to the goals of the Clean Air Act and the evolving science of air quality. DAQ's objectives include research of pollutants and precursor transport, identification of stratospheric intrusions and mixing heights, and model validation. A majority of this effort will be conducted during the O<sub>3</sub> season. All upper-elevation O<sub>3</sub> research monitors that are part of these studies will not be part of the regulatory monitoring network.

Other studies and efforts that DAQ has been involved in include the following: At the request of EPA's Office of Air Quality Planning and Standards, DAQ took part in the Sunset Elemental Carbon/Organic Carbon evaluation project. A semi-continuous carbon sampler was operated at the Jerome Mack NCore station, and data was loaded into AQS. In 2015, DAQ concluded this project.

Also, DAQ has been operating visibility cameras at North Las Vegas Airport and now plans to install visibility cameras at the M Resort, located on the south end of the Las Vegas Valley. These visibility cameras assist in documenting dust and transport events in the Las Vegas Valley.

Last, DAQ will continue filter-based chemical speciation sampling during special events such as New Year's Eve and Fourth of July when  $PM_{2.5}$  can reach exceedance levels, and where impacts from fireworks can be documented. Sampling for markers of Levoglucosan may also take place, which can be beneficial in developing  $O_3$  exceptional event demonstration packages where smoke from wildfires may be a significant factor.

## **7.6 Future Needs**

Through special studies, modeling, forecasting, and network assessments, DAQ has projected spatial gaps and other monitoring concerns in specific areas of Clark County. DAQ will explore the possibility of gaseous, particulate, or meteorological monitoring in the southeast part of the Las Vegas Valley, Laughlin, Primm, Coyote Springs, Overton, and will look into combining Sunrise Acres and JD Smith sites into one, well-sited, monitoring site. Special study sites will likely be started as SPM.

## 7.7 Temporary Site Shutdowns

During 2014 and 2015, DAQ temporarily shut down a number of sites to conduct needed safety-related improvements, reorganization, and standardization. The table below provides a synopsis of the sites, reasoning, and date range of shutdown.

**Table 14: Temporary Site Shutdowns**

Site	Reason for Temporary Shutdown	Date Range of Closure	Criteria Pollutant	Comments
Joe Neal	Safety improvements, cleaning, and reorganization	April 22, 2014- May 23, 2014	O <sub>3</sub> , NO <sub>2</sub> , PM <sub>10</sub>	No NAAQS exceedances recorded in the monitoring network during the shut-down.
JD Smith	Safety improvements, cleaning, and reorganization	September 16, 2014- October 7, 2014	CO, NO <sub>2</sub> , O <sub>3</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	Upgrade included PM <sub>10</sub> monitoring method replacement.
Jean	Safety improvements, cleaning, and reorganization	October 19, 2014- October 31, 2014	O <sub>3</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	No O <sub>3</sub> exceedances recorded in the monitoring network during the shutdown. This is the low/background PM site.
Walter Johnson	Problems with structural integrity of shelter. Replaced shelter and made safety improvements.	October 29, 2014- December 10, 2014	O <sub>3</sub>	No O <sub>3</sub> exceedances recorded in the monitoring network during the shutdown.
Green Valley	Problems with structural integrity of shelter. Replacing shelter and making safety improvements.	November 2, 2014- May 1, 2015 (anticipated)	PM <sub>10</sub> , PM <sub>2.5</sub>	No PM exceedances anticipated in the monitoring network during the shutdown.
Paul Meyer	Problems with structural integrity of shelter. Replaced shelter and made safety improvements.	October 29, 2014- January 24, 2014 for O <sub>3</sub> . October 29, 2014- March 19, 2015 for PM <sub>10</sub>	O <sub>3</sub> , PM <sub>10</sub>	No O <sub>3</sub> exceedances recorded in the monitoring network during the shutdown; no PM exceedances anticipated.
Boulder City	Problems with structural integrity of shelter. Replacing shelter and making safety improvements.	March 1, 2015- May 1, 2015 (both dates anticipated)	O <sub>3</sub> , PM <sub>10</sub>	Attempting to expedite upgrade in order to capture majority of summer O <sub>3</sub> monitoring.

Appendix A:  
DAQ Response to EPA on the 2014  
Network Plan Comments  
**Cross Reference Guide**

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Enclosure A

Item	Checklist	Issue	DAQ Response
Minimum monitoring requirement for single near-road NO <sub>2</sub> monitor (in CBSA 1 million) by 1/1/2014	51	Not meeting requirement	EPA approval for near-road site 1 was received in the 2014 network plan approval letter. DAQ began operation of this site in 2015. See Section 4 and 7 of the 2015 ANP.
PM <sub>2.5</sub> collocation	21	Insufficient to judge	Jerome Mack PM <sub>2.5</sub> FRM (2025i) is primary. Beginning January 2015 at Jean, PM <sub>2.5</sub> FEM (5014i) is primary. See Section 3 and 4 of the 2015 ANP.
Designation of a primary monitor	15	Insufficient to judge in some instances	If more than one like-pollutant is at a site, a primary monitor is identified. See Section 4 of the 2015 ANP.
Distance between collocated monitors	16	Insufficient to judge	Collocation distances, when measuring the same pollutant, are listed and include what the measure is for (i.e. FRM to FRM, FRM to FEM) See Section 4 of the 2015 ANP.
Distance of monitor from nearest road	69	Insufficient to judge in some instances	DAQ is investigating an alternate location for O <sub>3</sub> and PM <sub>10</sub> monitoring in Mesquite. For NO <sub>2</sub> at Joe Neal, DAQ changed monitor to Middle Scale. See Section 4 of the 2015 ANP.

Item	Checklist	Issue	DAQ Response
Scale of representativeness for each monitor	65	Insufficient to judge in some instances	<p>Distance to road for O<sub>3</sub> at Mesquite.</p> <ul style="list-style-type: none"> <li>• DAQ is investigating an alternate location for O<sub>3</sub> monitoring in Mesquite.</li> </ul> <p>Distance to road for NO<sub>2</sub> at Joe Neal</p> <ul style="list-style-type: none"> <li>• Changed to Middle Scale.</li> </ul> <p>Distance to road for O<sub>3</sub> at Green Valley</p> <ul style="list-style-type: none"> <li>• Shelter was moved to help meet siting criteria.</li> </ul> <p>Potential obstruction to flow for CO and O<sub>3</sub> at Winterwood</p> <ul style="list-style-type: none"> <li>• Winterwood site was shutdown per 2014 Network Plan approval</li> </ul> <p>See Section 4 of the 2015 ANP.</p>
Distance from supporting structure	73	Insufficient to judge in some instances	<p>All particulate matter inlets have been moved so they are greater than 2 meters from supporting structure.</p> <p>See Section 4 of the 2015 ANP.</p>
Distance from obstructions not on roof	75	Insufficient to judge	<p>Distance from obstruction to inlet, and obstruction height above probe are now included for JD Smith, Jerome Mack, and the 2<sup>nd</sup> near-road site. Winterwood site was shutdown per 2014 Network Plan approval.</p> <p>See Section 4 of the 2015 ANP.</p>

## Enclosure B

### DAQ Response in Blue text

- [Item 6] Please include a discussion about discontinuing SPMs at Arden Peak, Frenchman Mountain and Laughlin, or other SPMs, in your next ANP.
- [A discussion on SPMs and their shutdown is provided in Section 7.1 of the 2015 ANP.](#)
- [Item 9] Some of the information for the near road NO<sub>2</sub> sites needs to be updated or corrected for your next ANP. Please see enclosures D1 and D2 for more details.
- [DAQ responses to enclosures D1 and D2, related to the near-road NO<sub>2</sub> sites, are provided in Section 4 and Section 7 of the 2015 ANP, and in this attachment.](#)
- [Item 19] The minimum monitoring requirements for PM<sub>2.5</sub> are specified in 40 CFR 58 Appendix D 4.7.1(a): “State, and where applicable local, agencies must operate the minimum number of required PM<sub>2.5</sub> SLAMS sites listed in Table D-5 of this appendix.” In next year’s ANP checklist, EPA will clarify that this requirement is based on number of sites, not the number of monitors. In your next ANP, please correct Table 2 to reflect the number of SLAMS sites, rather than monitors (i.e. there are five SLAMS sites that monitor for PM<sub>2.5</sub>, which is more than the two that are required).
- [Section 2 of the 2015 ANP has been corrected to indicate the minimum number of sites for PM<sub>2.5</sub>.](#)
- [Item 20] There is a requirement for one continuous monitor per 40 CFR 58 Appendix D 4.7.2. Currently there are five sites with continuous PM<sub>2.5</sub> FEM monitors operating. Although there is information in this year’s ANP demonstrating the requirement is met, it doesn’t specifically discuss the requirement in 40 CFR 58 Appendix D 4.7.2, please consider adding this to next year’s plan, for example, in a footnote or paragraph following Table 2.
- [Footnote added to Table 2: Minimum Monitoring Requirements for PM<sub>2.5</sub>.](#)
- [Items 31 and 37] The EPA QA handbook suggests that the semi-annual flow rate audits for PM<sub>2.5</sub> and PM<sub>10</sub> be performed 5-7 months apart. The audits at some sites were four months or fewer apart; please try to meet the 5-7 month window for these audits in the future.
- [DAQ will work to improve with respect to semi-annual flow rate audit intervals as resources allow. Please see Section 4 of the 2015 ANP.](#)
- [Item 50] Ozone season waivers should be updated annually. In your next ANP, please include the information that continues to support a shortened ozone season and request a renewal of the ozone season waiver.
- [Waiver extension request included. Please see Section 4 of the 2015 ANP.](#)

- [Item 62] The monitoring objective for NO<sub>2</sub> at Joe Neal and CO at Jerome Mack should also include NAAQS comparison in addition to research support since they are FRMs operating as SLAMS.
- [NAAQS comparison additions have been included. Please see Section 4 of the 2015 ANP.](#)
- [Item 64] For your next year's plan, work with EPA to determine the appropriate monitor type for the O<sub>3</sub> at Mesquite, since it potentially should be an SPM due to the distance to the roadway.
- [SLAMS justification language has been provided. Please see Section 4 of the 2015 ANP.](#)

In 2014 EPA revised the allowed monitor types and removed QA Collocated and NCore from the list of monitor types (see <https://aqs.epa.gov/aqsweb/codes/data/MonitorTypes.html> for more details).

- [Updated monitor types. Please see Section 4 of the 2015 ANP.](#)

EPA also created an AQS field called network affiliation that includes NCore, near road, PAMS, NATTS, STN, etc. (<https://aqs.epa.gov/aqsweb/codes/data/MonitorNetworks.html>)

- [Included network affiliation for NCore, CSN \(formally STN\), and near road. Please see Section 4 of the 2015 ANP.](#)

In order to implement this change, the monitors at Jerome Mack should be SLAMS with a network affiliation of NCore. Also, PM<sub>2.5</sub> monitors intended to meet the collocation requirements of Appendix A should be listed as SLAMS, with the appropriate notes and dates in AQS on the "Collocation" tab on the Maintain Monitor form for precision calculations and on the Primary Monitor Periods tab on the Maintain Site form in AQS for correct design value calculations.

[Jerome Mack monitors have been changed to SLAMS with a network affiliation of NCore, PM<sub>2.5</sub> monitors intended to meet the collocation requirements of Appendix A are listed as SLAMS, and Collocation is properly setup in AQS.](#)

EPA will send additional information on how these changes should be reflected in ANPs.

- [Item 67] Please note that the method code for a Thermo 2025i PM<sub>2.5</sub> monitor should be 118 or 145 depending on whether the second stage impactor is a WINS impactor or a VSCC, and provide the appropriate method code in AQS and in your next ANP.
- [Method code corrections made. Please see Sections 3 and 4 of the 2015 ANP.](#)
- [Item 70] Please cite a source for your traffic information in your next ANP. If estimates are not available from an official source, please include a description of how the road counts were estimated.
- [Traffic count source and traffic count estimate techniques have been provided. Please see Section 1 of the 2015 ANP.](#)

- [Item 80] Please consider listing the residence time for the NO<sub>y</sub> instrument at Jerome Mack in your next ANP.
- NO<sub>y</sub> residence time has been provided. Please see Section 4 of the 2015 ANP.

## C. ANNUAL MONITORING NETWORK PLAN CHECKLIST

(Updated December 17, 2014)

Year: 2014

Agency: Clark County DAQ

40 CFR 58.10(a)(1) requires that each Annual Network Plan (ANP) include information regarding the following types of monitors: SLAMS monitoring stations including FRM, FEM, and ARM monitors that are part of SLAMS, NCore stations, STN stations, State speciation stations, SPM stations, and/or, in serious, severe and extreme ozone nonattainment areas, PAMS stations, and SPM monitoring stations.

40 CFR 58.10(a)(1) further directs that, “The plan shall include a statement of purposes for each monitor and evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of this part, where applicable.” On this basis, review of the ANPs is based on the requirements listed in 58.10 along with those in Appendices A, C, D, and E.

EPA Region 9 will not take action to approve or disapprove any item for which Part 58 grants approval authority to the Administrator rather than the Regional Administrators, but we will do a check to see if the required information is included and correct. The items requiring approval by the Administrator are: PAMS, NCore, and Speciation (STN/CSN).

Please note that this checklist summarizes many of the requirements of 40 CFR Part 58, but does not substitute for those requirements, nor do its contents provide a binding determination of compliance with those requirements. The checklist is subject to revision in the future and we welcome comments on its contents and structure.

Key:

White = meets the requirement.

Yellow = requirement is not met, or information is insufficient to make a determination. Action requested in next year’s plan or outside the ANP process. (items listed in Enclosure A)

Green = item requires attention in order to improve next year’s plan (items listed in Enclosure B)

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
<b>GENERAL PLAN REQUIREMENTS</b>						
1.	Submit plan by July 1 <sup>st</sup>	58.10 (a)(1)	Yes	Yes	Plan was received on June 3, 2014	Requirement satisfied.
2.	30-day public comment / inspection period <sup>5</sup>	58.10 (a)(1), 58.10 (a)(2)	Yes; transmittal letter	Yes	No comments were received.	Requirement satisfied.
3.	Modifications to SLAMS network – case when we are not approving system modifications	58.10 (a)(2) 58.10 (b)(5) 58.10(e) 58.14	Yes, page 24	No	EPA is not approving the waiver request for the ozone monitor at Mesquite (32-003-0023) as insufficient information was included. Please continue to work with EPA on this request. See Row 69 below.	SLAMS justification language has been provided. Please see Section 4 of the 2015 ANP.
4.	Modifications to SLAMS network – case when we are approving system modifications per 58.14	58.10 (a)(2) 58.10 (b)(5) 58.10(e) 58.14	Yes, Section 7, Winterwood closure request letter dated 9/17/2014	Yes	System modifications approved as part of this ANP approval: <ul style="list-style-type: none"> <li>Two near-road sites approved (Phase 1 – Rancho Drive at Teddy Drive; Phase 2 – 4<sup>th</sup> Street and Casino Center Drive)</li> <li>RA40 NO<sub>2</sub> at Sunrise Acres</li> <li>PM<sub>2.5</sub> FEMs at Jean, JD Smith and Green Valley</li> <li>New O<sub>3</sub> monitor at Green Valley (this monitor is not close enough to a roadway to require a siting waiver)</li> <li>Winterwood closure. See Row 6 below. *NOTE: Please include letters documenting this closure request and approval in next year's plan</li> </ul>	Requirement satisfied.
5.	Does plan include documentation		Yes, Appendix D	Yes	<ul style="list-style-type: none"> <li>PM<sub>10</sub> closure at E. Craig Rd (approved on 10/30/2013)</li> <li>O<sub>3</sub> closure at Craig Rd, Lone Mountain and Orr sites</li> </ul>	Requirement satisfied.

<sup>1</sup> Response options: NA (Not Applicable), Yes, No, Incomplete, Incorrect. The responses “Incomplete” and “Incorrect” assume that some information has been provided.

<sup>2</sup> To the best of our knowledge.

<sup>3</sup> Assuming the information is correct

<sup>4</sup> Response options: NA (Not Applicable) – [reason], Yes, No, Insufficient to Judge.

<sup>5</sup> The affected state or local agency must document the process for obtaining public comment and include any comments received through the public notification process within their submitted plan.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
	(e.g., attached approval letter) for system modifications that have been approved since last ANP approval?				(approved 10/23/2012) <ul style="list-style-type: none"> <li>• PM<sub>10</sub> closure at Lone Mountain and Orr sites and CO closure at Orr (approved 6/5/2013)</li> <li>• Waiver for shortened O<sub>3</sub> season (April 1 - Sept 30) at Apex and Mesquite (approved 3/8/2012)</li> <li>• Approval of NCore site at Jerome Mack (approved 3/27/2014)</li> <li>• Anticipated approval of 1<sup>st</sup> near road site (pending comments etc) (1/22/2014)</li> </ul>	
6.	Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal	58.10 (b)(5)	Yes, Section 4 site tables and section 7	Yes	ANP anticipated Winterwood closure >18 months. After ANP submittal circumstances changed and required closure sooner. The full request including information showing criteria in 58.14 were met was made available for public comment for 30 days, and then sent to EPA on September 17, 2014. No public comments on the closure were received.  Please include a discussion about discontinuing SPMs at Arden Peak, Frenchman Mountain and Laughlin, or other SPMs, in your next ANP.	Winterwood requirement satisfied.  A discussion on SPMs and their shutdown is provided in Section 7.1 of the 2015 ANP.
7.	<i>A plan for establishing a near-road PM<sub>2.5</sub> monitor (in CBSAs ≥ 2.5 million) by 1/1/2015</i>	58.10(a)(8)(i)	Yes; Page 55	Yes		Requirement satisfied.
8.	<i>A plan for establishing a near-road CO monitor (in CBSAs ≥ 2.5 million) by 1/1/2015</i>	58.10(a)(7) 58.13(e)(1)	Yes; Page 55	Yes		Requirement satisfied.
9.	<i>NO<sub>2</sub> plan for establishment of 2<sup>nd</sup> near-road monitor by</i>	58.10 (a)(5)(iv)	Yes	Yes	See attached near-road plan checklist for further comments.	Near-road NO <sub>2</sub> plans have been provided, see Sections 4 and 7

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect?<sup>2</sup></b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
	<i>1/1/2015</i>					of 2015 ANP.
10.	Precision/Accuracy reports submitted to AQS	58.16(a); App A, 1.3 and 5.1.1	Yes; Page 1	Yes		Requirement satisfied.
11.	Annual data certification submitted	58.15 App. A 1.3	Yes; Page 1	Yes		Requirement satisfied.
12.	SPMs operating an FRM/FEM/ARM that meet Appendix E also meet either Appendix A or an approved alternative.	58.11 (a) (2)	Yes; Pages 44-50, 55-56	Yes	Indian Springs and Logandale meet App A and E, Spring Mountain Youth Camp is not operating an FEM	Requirement satisfied.
13.	SPMs operating FRM/FEM/ARM monitors for over 24 months are listed as comparable to the NAAQS or the agency provided documentation that requirements from Appendices A, C, or E were not met. <sup>6</sup>	58.20(c)	Yes; Pages 44-50, 55-56	Yes	Indian Springs and Logandale only began operating in June 2014	Requirement satisfied.
14.	For agencies that share monitoring responsibilities in an MSA/CSA: this agency meets full	App D 2(e)	NA	NA		Requirement satisfied.

<sup>6</sup> This requirement only applies to monitors that are eligible for comparison to the NAAQS per 40 CFR §§58.11(e) and 58.30.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
	monitoring requirements or an agreement between the affected agencies and the EPA Regional Administrator is in place					

<b>GENERAL PARTICULATE MONITORING REQUIREMENTS (PM<sub>10</sub>, PM<sub>2.5</sub>, Pb-TSP, Pb-PM<sub>10</sub>)</b>
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15.	Designation of a primary monitor if there is more than one monitor for a pollutant at a site.	Need to determine collocation	Incomplete	Insufficient information to judge	<p>While the ANP lists the FEM as the primary PM<sub>2.5</sub> monitor at Sunrise Acres, there is no information about which PM<sub>2.5</sub> monitor is primary at the Jean or Jerome Mack sites.</p> <p>One way to include this information would be to include another row in the detailed site tables to indicate if a monitor is primary, meeting a collocation requirement for Appendix A, or an extra monitor.</p>	Jean and Jerome Mack have the primary PM <sub>2.5</sub> monitors and have been identified. Please see Sections 3 and 4 of the 2015 ANP.
16.	Distance between collocated monitors (Note: waiver request or the date of previous waiver approval must be included if the distance deviates from requirement.)	App. A 3.2.5.6 and 3.2.6.3	Incomplete	Insufficient information to judge	<p>The collocation distances listed for a sampler in the site tables in section 4 do not state what other sampler the distance is measured for.</p> <p>Samplers measuring the same pollutant intended to fulfill the QA collocation requirements should be between 1-4 meters apart (for low-volume samplers). In addition, any PM sampler (PM<sub>2.5</sub>, PM<sub>10</sub> or Pb) should not be closer than 1 meter for low-volume samplers, or than 2 meters if at least one of the monitors is a high-volume sampler.</p>	Collocation specifics have been provided. Please see Section 4 of the 2015 ANP.

<b>PM<sub>2.5</sub> –SPECIFIC MONITORING REQUIREMENTS</b>
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17.	Document how states and local agencies provide	58.10 (c)	Yes; Pages 44, 54	Yes		Requirement satisfied.
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	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
	for the review of changes to a PM <sub>2.5</sub> monitoring network that impact the location of a violating PM <sub>2.5</sub> monitor.					
18.	Identification of any PM <sub>2.5</sub> FEMs and/or ARMs not eligible to be compared to the NAAQS due to poor comparability to FRM(s) (Note 1: must include required data assessment.) (Note 2: Required SLAMS must monitor PM <sub>2.5</sub> with <u>NAAQS-comparable</u> monitor at the required sample frequency.)	58.10 (b)(13) 58.11 (e)	NA	NA	None requested	Requirement satisfied.
19.	Minimum # of monitors for PM <sub>2.5</sub> [Note 1: should be supported by MSA ID, MSA population, DV, # monitors, and # required monitors] [Note 2: Only monitors	App D, 4.7.1(a) and Table D-5	Yes, Page 2 See Note	Yes	The minimum monitoring requirements for PM <sub>2.5</sub> are specified in 40 CFR 58 Appendix D 4.7.1(a): “State, and where applicable local, agencies must operate the minimum number of required PM <sub>2.5</sub> SLAMS sites listed in Table D-5 of this appendix.” In next year’s ANP checklist, EPA will clarify that this requirement is based on number of sites, not the number of monitors.  In your next ANP, please correct Table 2 to reflect the number of SLAMS sites, rather than monitors (i.e. there are five	Section 2 has been corrected to indicate the minimum # of sites for PM <sub>2.5</sub>

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
	considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]				SLAMS sites that monitor for PM <sub>2.5</sub> , which is more than the two that are required).	
20.	Minimum monitoring requirements for continuous PM <sub>2.5</sub>	App D 4.7.2	Yes; Sections 3-4	Yes	There is a requirement for one continuous monitor per 40 CFR 58 Appendix D 4.7.2. Currently there are five sites with continuous PM <sub>2.5</sub> FEM monitors operating.  Although there is information in this year's ANP demonstrating the requirement is met, it doesn't specifically discuss the requirement in 40 CFR 58 Appendix D 4.7.2. Please consider adding this to next year's plan, for example, in a footnote or paragraph following Table 2.	Footnote added to Table 2: Minimum Monitoring Requirements for PM <sub>2.5</sub>
21.	PM <sub>2.5</sub> collocation	App A 3.2.5	Incomplete, Section 3, PM <sub>2.5</sub> sites in section 4	Insufficient information to judge	Tables 8 and 9 should only count the number of primary monitors to determine the number of required collocated sites (15%).  Cannot judge the collocation requirement without knowing which PM <sub>2.5</sub> monitor is primary at Jerome Mack and Jean.	Section 3 updated to only count the number of primary monitors.  Identified PM <sub>2.5</sub> primary monitor at Jerome Mack and Jean. Please see Section 4 of the 2015 ANP.
22.	PM <sub>2.5</sub> Chemical Speciation requirements for official STN sites	App D 4.7.4	NA	NA		Requirement satisfied.
23.	Identification of sites suitable and sites not suitable	58.10 (b)(7)	Yes, Pages 11, 13, 16, 19 and 30	Yes		Requirement satisfied.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
	for comparison to the annual PM <sub>2.5</sub> NAAQS as described in Part 58.30					
24.	Required PM <sub>2.5</sub> sites represent area-wide air quality	App D 4.7.1(b)	Yes, Section 4	Yes	Since the scale or representativeness of the PM <sub>2.5</sub> monitor at Green Valley is middle scale, please clarify if PM <sub>2.5</sub> concentrations there are considered area-wide (middle scale).	The PM <sub>2.5</sub> monitor is classified as area-wide. Please see Section 4 of the 2015 ANP.
25.	For PM <sub>2.5</sub> , at least one site at neighborhood or larger scale in an area of expected maximum concentration	App D 4.7.1(b)(1)	Yes, Section 4	Yes	Sunrise Acres is the maximum concentration site	Requirement satisfied.
26.	If additional SLAMS PM <sub>2.5</sub> is required, there is a site in an area of poor air quality	App D 4.7.1(b)(2)	Yes, Section 4	Yes	J.D. Smith and Jerome Mack fulfill this requirement	Requirement satisfied.
27.	States must have at least one PM <sub>2.5</sub> regional background and one PM <sub>2.5</sub> regional transport site.	App D 4.7.3	Yes, Section 4	Yes	Jean is a background and transport site	Requirement satisfied.
28.	Sampling schedule for PM <sub>2.5</sub> - applies to year-round and seasonal sampling schedules (note: date of waiver approval must be	58.10 (b)(4) 58.12(d) App D 4.7 EPA flowchart	Yes, Section 4	Yes		Requirement satisfied.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
	included if the sampling season deviates from requirement)					
29.	Frequency of flow rate verification for manual PM <sub>2.5</sub> monitors audit	App A 3.3.2	Yes, Section 4	Yes		Requirement satisfied.
30.	Frequency of flow rate verification for automated PM <sub>2.5</sub> monitors audit	App A 3.2.3	Yes, Section 4	Yes		Requirement satisfied.
31.	Dates of last two semi-annual flow rate audits for PM <sub>2.5</sub> monitors	App A, 3.2.4 and 3.3.3	Yes, Section 4	Yes	The EPA QA handbook suggests that the semi-annual flow rate audits be performed 5-7 months apart. The audits at J.D. Smith were less than four months apart; please try to meet the 5-7 month window for these audits in the future.	DAQ will work to improve in this area as resources allow. Please see Section 4 of the 2015 ANP.

<b>PM<sub>10</sub> –SPECIFIC MONITORING REQUIREMENTS</b>
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32.	Minimum # of monitors for PM <sub>10</sub>	App D, 4.6 (a) and Table D-4	Yes, Page 3	Yes	In next year's ANP checklist, EPA will clarify that this requirement is based on number of sites, not the number of monitors. Consider changing Table 3 to refer to SLAMS sites, not monitors.	Changed to reflect SLAMS sites, not monitors. Please see Section 2 of the 2015 ANP..
33.	Manual PM <sub>10</sub> method collocation (note: continuous PM <sub>10</sub> does not have this requirement)	App A 3.3.1	NA	NA	All PM <sub>10</sub> monitors are continuous	Requirement satisfied.
34.	Sampling schedule for PM <sub>10</sub>	58.10 (b)(4) 58.12(e) App D 4.6	Yes; Section 4, PM <sub>10</sub> site tables	Yes	All PM <sub>10</sub> monitors are continuous	Requirement satisfied.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
35.	Frequency of flow rate verification for manual PM <sub>10</sub> monitors audit	App A 3.3.2	NA	NA	All PM <sub>10</sub> monitors are continuous	Requirement satisfied.
36.	Frequency of flow rate verification for automated PM <sub>10</sub> monitors audit	App A 3.2.3	Yes; Section 4	Yes		Requirement satisfied.
37.	Dates of last two semi-annual flow rate audits for PM <sub>10</sub> monitors	App A, 3.2.4 and 3.3.3	Yes, Section 4	Yes	The EPA QA handbook suggests that the semi-annual flow rate audits be performed 5-7 months apart. The audits at Paul Meyer, Palo Verde, Joe Neal, Green Valley, Sunrise Acres, Boulder City and J.D. Smith were four or fewer months apart; please try to meet the 5-7 month window for these audits in the future.	DAQ will work to improve in this area as resources allow. Please see Section 4 of the 2015 ANP.

<b>Pb –SPECIFIC MONITORING REQUIREMENTS</b>						
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38.	Minimum # of monitors for non-NCore Pb [Note: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]	App D 4.5 58.13(a)	Yes, Page 4	Yes	None required	Requirement satisfied.
39.	Pb collocation: for non-NCore sites	App A 3.3.4.3	NA	NA		Requirement satisfied.
40.	Any source-oriented Pb site for which a waiver has been granted by EPA Regional Administrator	58.10 (b)(10)	NA	NA		Requirement satisfied.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect?<sup>2</sup></b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
41.	Any Pb monitor for which a waiver has been requested or granted by EPA Regional Administrator for use of Pb-PM <sub>10</sub> in lieu of Pb-TSP	58.10 (b)(11)	NA	NA	None requested	Requirement satisfied.
42.	Designation of any Pb monitors as either source-oriented or non-source-oriented	58.10 (b)(9)	Yes, Pages 4, 17-20	Yes	Only NCore Pb monitoring is required	Requirement satisfied.
43.	Sampling schedule for Pb	58.10 (b)(4) 58.12(b) App D 4.5	Yes, Page 18	Yes	1:6	Requirement satisfied.
44.	Frequency of one-point flow rate verification for Pb monitors audit	App A 3.3.4.1	Yes, Page 20	Yes	Performed monthly	Requirement satisfied.
45.	Dates of last two semi-annual flow rate audits for Pb monitors	App A 3.3.4.1	Yes, Page 20	Yes	One performed in each quarter of 2013	Requirement satisfied.
<b>GENERAL GASEOUS MONITORING REQUIREMENTS</b>						
46.	Frequency of one-point QC check (gaseous)	App. A 3.2.1	Yes, Section 4	Yes		Requirement satisfied.
47.	Date of last Annual Performance Evaluation (gaseous)	App. A 3.2.2	Yes, Section 4	Yes		Requirement satisfied.
<b>O<sub>3</sub> -SPECIFIC MONITORING REQUIREMENTS</b>						
48.	Minimum # of	App D,	Yes, Page 2	Yes	In next year's ANP checklist, EPA will clarify that this	Changed table to

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
	monitors for O <sub>3</sub> [Note: should be supported by MSA ID, MSA population, DV, # monitors, and # required monitors] (see footnote) <sup>7</sup>	4.1(a) and Table D-2			requirement is based on number of sites, not the number of monitors. Consider changing Table 1 to refer to SLAMS sites, not monitors.	reflect SLAMS sites, not monitors. Please see Section 2 in the 2015 ANP.
49.	Identification of maximum concentration O <sub>3</sub> monitor(s)	App D 4.1 (b)	Yes, Section 4	Yes	Joe Neal is the maximum concentration O <sub>3</sub> site	Requirement satisfied.
50.	Sampling season for O <sub>3</sub> (Note: date of waiver approval must be included if the sampling season deviates from requirement)	58.10 (b)(4) App D, 4.1(i)	Yes, Section 4 and Appendix D	Yes	Ozone season waiver letter from EPA dated March 8, 2012. The ozone season waivers should be updated annually. In your next ANP, please include the information that continues to support a shortened ozone season and request a renewal of the ozone season waiver.	Waiver extension request included. Please see Section 4 of the 2015 ANP.
<b>NO<sub>2</sub> –SPECIFIC MONITORING REQUIREMENTS</b>						
51.	Minimum monitoring requirement for single near-road NO <sub>2</sub> monitor (in CBSA ≥ 1 million) by 1/1/2014	App D 4.3.2	Yes	No	EPA approves the District's selection of the near-road site at Rancho Drive/Teddy Drive (aka Carmel Mt) per the site selection criteria of 40 CFR 58 Appendix D, section 4.3.2, however this requirement is not fully met until operation of monitor begins. See near-road checklist (Enclosure D1) for details.	EPA approval for near road monitoring was received in 2014 (see attached). Rancho Drive/Teddy site began operation in 2015. See Sections 4 and 7 of the 2015 ANP.

<sup>7</sup> Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements. In addition, ozone monitors that do not meet traffic count/distance requirements to be neighborhood scale (40 CFR 58 Appendix E, Table E-1) cannot be counted towards minimum monitoring requirements.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect?<sup>2</sup></b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
52.	Minimum monitoring requirements for area-wide NO <sub>2</sub> monitor in location of expected highest NO <sub>2</sub> concentrations representing neighborhood or larger scale (operation required by January 1, 2013)	App D 4.3.3	Yes, Page 3	Yes	One required, fulfilled by J.D. Smith and Sunrise Acres	Requirement satisfied.
53.	Minimum monitoring requirements for susceptible and vulnerable populations monitoring (aka RA40) NO <sub>2</sub> (operation required by January 1, 2013)	App D 4.3.4	Yes, Page 3	Yes	One required, fulfilled by Sunrise Acres	Requirement satisfied.
54.	Identification of required NO <sub>2</sub> monitors as either near-road, area-wide, <i>or</i> vulnerable and susceptible population (aka RA40)	58.10 (b)(12)	Yes, Pages 3, 51-55	Yes		Requirement satisfied.

<b>SO<sub>2</sub> –SPECIFIC MONITORING REQUIREMENTS</b>
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	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
55.	Minimum monitoring requirements for SO <sub>2</sub> [Note: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]	App D 4.4	Yes, Page 3	Yes		Requirement satisfied.
<b>NCORE –SPECIFIC MONITORING REQUIREMENTS</b>						
56.	NCore site and all required parameters operational	58.10 (a)(3); Pb collocation App. A 3.3.4.3; PM <sub>10-2.5</sub> minimum monitoring App. D 4.8; PM <sub>10-2.5</sub> sampling schedule 58.10 (b)(4) 58.12(f) App D 4.8; PM <sub>10-2.5</sub> collocation App. A 3.3.6	Yes; Pages 17-20	Yes		Requirement satisfied.
<b>SITE OR MONITOR - SPECIFIC REQUIREMENTS (OFTEN INCLUDED IN DETAILED SITE INFORMATION TABLES)</b>						
57.	AQS site identification	58.10 (b)(1)	Yes; Section 4	Yes		Requirement satisfied.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
	number for each site					
58.	Location of each site: street address and geographic coordinates	58.10 (b)(2)	Yes; Section 4	Yes		Requirement satisfied.
59.	MSA, CBSA, CSA or other area represented by the monitor	58.10 (b)(8)	Yes; Section 4	Yes		Requirement satisfied.
60.	Parameter occurrence code for each monitor	Needed to determine if other requirements (e.g., min # and collocation) are met	Yes; Section 4	Yes		Requirement satisfied.
61.	Statement of purpose for each monitor	58.10 (a)(1)	Yes; Section 4	Yes		Requirement satisfied.
62.	Basic monitoring objective for each monitor	App D 1.1 58.10 (b)(6)	Yes; Section 4	Yes	The monitoring objective for NO <sub>2</sub> at Joe Neal and CO at Jerome Mack should also include NAAQS comparison in addition to research support since they are FRMs operating as SLAMS.	NAAQS comparison additions included. Please see Section 4 of the 2015 ANP.
63.	Site type for each monitor	App D 1.1.1	Yes; Section 4	Yes		Requirement satisfied.
64.	Monitor type for each monitor	Needed to determine if other requirements (e.g., min # and	Yes; Section 4	Yes	For your next year's plan, work with EPA to determine the appropriate monitor type for the O <sub>3</sub> at Mesquite, since it potentially should be an SPM due to road distance.  In 2014 EPA revised the allowed monitor types and removed QA Collocated and NCore from the list of monitor types (see	SLAMS justification language provided for Mesquite O <sub>3</sub> . Please see

	ANP requirement	Citation within 40 CFR 58	Was the information submitted? <sup>1</sup> If yes, page #s. Flag if incorrect? <sup>2</sup>	Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup>	Notes	DAQ Response
		collocation) are met			<p><a href="https://aqs.epa.gov/aqsweb/codes/data/MonitorTypes.html">https://aqs.epa.gov/aqsweb/codes/data/MonitorTypes.html</a> for more details). EPA also created an AQS field called network affiliation that includes NCore, near road, PAMS, NATTS, STN, etc. (<a href="https://aqs.epa.gov/aqsweb/codes/data/MonitorNetworks.html">https://aqs.epa.gov/aqsweb/codes/data/MonitorNetworks.html</a>)</p> <p>In order to implement this change, the monitors at Jerome Mack should be SLAMS with a network affiliation of NCore. Also, PM<sub>2.5</sub> monitors intended to meet the collocation requirements of Appendix A should be listed as SLAMS, with the appropriate notes and dates in AQS on the “Collocation” tab on the Maintain Monitor form for precision calculations and on the Primary Monitor Periods tab on the Maintain Site form in AQS for correct design value calculations.</p> <p>EPA will send additional information on how these changes should be reflected in ANPs.</p>	<p>Section 4 of the 2015 ANP.</p> <p>Updated monitor types. Please see Section 4 of the 2015 ANP.</p> <p>Included network affiliation for NCore, CSN (formally STN), and near road. Please see Section 4 of the 2015 ANP.</p> <p>Jerome Mack monitors changed to SLAMS with a network affiliation of NCore, PM2.5 monitors intended to meet the collocation requirements of Appendix A are listed as SLAMS, and Collocation is properly setup in AQS.</p>

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
65.	Scale of representativeness for each monitor as defined in Appendix D	58.10(b)(6); App D	Yes; Section 4	Insufficient information to judge	<p>The following monitors have siting issues identified elsewhere that may warrant a change in the scale of representativeness of the monitor. Please work with EPA to determine the appropriate scale before your next ANP for the following monitors:</p> <ul style="list-style-type: none"> <li>• Distance to road for O<sub>3</sub> at Mesquite</li> <li>• Distance to road for NO<sub>2</sub> at Joe Neal</li> <li>• Distance to road for O<sub>3</sub> at Green Valley (anticipated)</li> <li>• Potential obstruction to flow for CO and O<sub>3</sub> at Winterwood</li> </ul>	<p>Spatial scale updated for Mesquite O<sub>3</sub>, Joe Neal NO<sub>2</sub>, and Green Valley O<sub>3</sub>.</p> <p>With respect to NO<sub>2</sub> at Joe Neal, according to Table E-1 of Appendix E of 40 Part 58, the O<sub>3</sub> and NO<sub>2</sub> monitor meets distance-to-road criteria.</p> <p>Winterwood shutdown.</p> <p>Please see Section 4 of the 2015 ANP.</p>
66.	Parameter code for each monitor	Needed to determine if other requirements (e.g., min # and collocation) are met	Yes; Section 4	Yes		Requirement satisfied.
67.	Method code and description (e.g., manufacturer & model) for each	58.10 (b)(3); App C 2.4.1.2	Yes; Section 4	Yes	Please note that the method code for a Thermo 2025i PM <sub>2.5</sub> monitor should be 118 or 145 depending on whether the second stage impactor is a WINS impactor or a VSCC.	Method code corrections made. Please see Sections 3 and 4

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
	monitor					of the 2015 ANP.
68.	Sampling start date for each monitor	Needed to determine if other requirements (e.g., min # and collocation) are met	Yes; Section 4	Yes		Requirement satisfied.
69.	Distance of monitor from nearest road	App E 6	Yes; Section 4	Insufficient information to judge	<p>The following monitors are too close to the roadway for the given scale:</p> <ul style="list-style-type: none"> <li>• O<sub>3</sub> at Mesquite</li> <li>• NO<sub>2</sub> at Joe Neal (began operation after 2006)</li> </ul> <p>Your request for a waiver for the siting requirement for an ozone monitor at Mesquite (page 24) did not include enough information supporting the representativeness of the site or the physical constraints at the site, and therefore EPA cannot act on the request at this time. Please continue to work with EPA on this request.</p>	<p>O<sub>3</sub> at Mesquite: DAQ is looking for a suitable replacement.</p> <p>NO<sub>2</sub> at Joe Neal: Changed to Middle Scale, and according to Table E-1 of Appendix E of 40 Part 58, the O<sub>3</sub> and NO<sub>2</sub> monitors meet distance-to-road criteria.</p> <p>Please see Section 4 of the 2015 ANP.</p>
70.	Traffic count of nearest road	App E	Yes; Section 4	Yes	Please cite a source for your traffic information in your next ANP. If estimates are not available from an official source, please include a description of how the road counts were estimated.	Traffic count source and traffic count estimate

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
						techniques provided. Please see Section 1 of the 2015 ANP.
71.	Groundcover	App E 3(a)	Yes; Section 4	Yes		Requirement satisfied.
72.	Probe height	App E 2	Yes; Section 4	Yes		Requirement satisfied.
73.	Distance from supporting structure	App E 2	Yes; Section 4	Insufficient information to judge	PM instruments should be greater than 2 meters from any supporting structure. The following sites have PM monitors less than 2 meters away from the supporting structure: Paul Meyer, Green Valley, Jerome Mack, and Boulder City.	Inlet heights have been corrected. Please see Section 4 of the 2015 ANP.
74.	Distance from obstructions on roof	App E 4(b)	Yes; Section 4	Yes		Requirement satisfied.
75.	Distance from obstructions not on roof	App E 4(a)	Yes; Section 4	Insufficient information to judge	It is unclear whether the heights given for obstructions not on the roof are the height of the object above the probe or inlet in question, and therefore EPA cannot judge whether they would be an obstructions to flow at the following sites: J.D. Smith, Jerome Mack, Winterwood, and the second near road site. Please provide the height above probe level in your next ANP.	Obstruction height above probe provided for J.D. Smith, Jerome Mack, and near road site 2. Winterwood has been shut down. Please see Section 4 of the 2015 ANP.
76.	Distance from trees	App E 5	Yes; Section 4	Yes		Requirement satisfied.
77.	Distance to furnace or incinerator flue	App E 3(b)	Yes; Section 4	Yes		Requirement satisfied.
78.	Unrestricted airflow	App E, 4(a) and 4(b)	Yes; Section 4	Yes		Requirement satisfied.
79.	Probe material	App E 9	Yes; Section 4	Yes		Requirement

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
	(NO <sub>x</sub> , SO <sub>2</sub> , O <sub>3</sub> )					satisfied.
80.	Residence time (NO <sub>x</sub> , SO <sub>2</sub> , O <sub>3</sub> )	App E 9	Yes; Section 4	Yes	Please consider listing the residence time for the NO <sub>v</sub> instrument at Jerome Mack in your next ANP.	NO <sub>y</sub> residence time provided. Please see Section 4 of the 2015 ANP.

**D1. Region 9 Near-road Plan review checklist- Rancho Drive at Teddy Drive**  
**Checklist Version date:** September 30, 2014

Agency: Clark County DAQ  
CBSA: Las Vegas-Paradise, NV; Phase 1 (required by January 1, 2014)

This checklist is intended to clarify those elements that EPA will be looking for during the review of proposed near-road monitoring sites. Please note that this checklist is based on near-road site selection criteria specified in 40 CFR Part 58 Appendix D section 4.3.2, but does not substitute for those requirements, nor do its contents provide a binding determination of compliance with those requirements. The checklist is subject to revision in the future and we welcome comments on its contents and structure.

Key:

White = meets the requirement.

**Yellow** = Requirement is not met, or information is insufficient to make a determination. Action requested in next year's plan or outside the ANP process.

**Green** = item requires attention in order to improve next year's plan.

**COMPLETENESS CHECK:** Based on 40 CFR 58 requirements.

Network Plan requirements (40 CFR 58.10)-						
No.	Near-road plan requirement	Citation	Info submitted? <sup>1</sup> If yes, page #s.	Requirement met? <sup>2</sup>	Notes	DAQ Response
1	A plan for establishing near-road NO <sub>2</sub> monitoring site(s)	40 CFR 58.10(a)(5)	Yes Pages 51-52, 54-55	Yes	Original near-road NO <sub>2</sub> plan for this site was submitted in 2013 ANP, additional information requested with 2014 ANP submittal. EPA approves selection of this near-road site.	Requirement satisfied.
2	Evidence of public comment on proposed site(s), no changes subsequent to proposal, and submittal of any received comments	40 CFR 58.10(a)(2)	Yes, Submittal letter and Page 54	Yes		Requirement satisfied.
3	Operation start date	40 CFR 58.10(a)(5)	Incorrect, Page 52, D-153	No	Site was required to begin operation by January 1, 2014. DAQ notes construction for the site is anticipated mid-2014. This site was not operational as of September 2014.	The site began operation in 2015. Please see Sections 4 and 7 of the 2015 ANP.
4	AQS site identification number	40 CFR 58.10(b)(1)	No – TBD	Insufficient to judge	Please include this in next year's ANP.	AQS site ID provided. Please see Section 4 of the 2015 ANP.
5	Location (street address & geographical coordinates)	40 CFR 58.10(b)(2)	Yes, Page 51	Yes		Requirement satisfied.
6	Sampling and analysis method (method code)	40 CFR 58.10(b)(3)	Yes, Page 51-52	Yes		Requirement satisfied.

<sup>1</sup> Response options: N/A (Not Applicable), Yes, No, Incomplete, Incorrect. The responses "Incomplete" and "Incorrect" assume that some information has been provided.

<sup>2</sup> Response options: N/A (Not Applicable) – [reason], Yes, No, Insufficient to Judge. Assumes information submitted is correct.

<b>Network Plan requirements (40 CFR 58.10)-</b>						
<b>No.</b>	<b>Near-road plan requirement</b>	<b>Citation</b>	<b>Info submitted?<sup>3</sup> If yes, page #s.</b>	<b>Requirement met?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
7	Operation Schedule (Season & sampling frequency)	40 CFR 58.10(b)(4)	Yes, Page 52	Yes		Requirement satisfied.
8	Any proposal to remove or move the monitor within a period of 18 months following plan submittal	40 CFR 58.10(b)(5)	Yes, Page 52	Yes		Requirement satisfied.
9	Monitoring objective & spatial scale of representativeness	40 CFR 58.10(b)(6)	Yes, Page 51-52	Yes		Requirement satisfied.
10	CBSA represented by the monitor	40 CFR 58.10(b)(8)	Yes, Page 51	Yes		Requirement satisfied.
<b>Network Design requirements (40 CFR 58, Appendix D, Section 4.3.2)</b>						
11	CBSA population & year	40 CFR 58, App.D 4.3.2(a)	Yes, Page 3	Yes		Requirement satisfied.
12	Maximum AADT counts & year for the CBSA(s)	40 CFR 58, App.D 4.3.2(a)	Yes, Pages 3, 51, C-1, C-5-C-6	Yes		Requirement satisfied.
13	Correct # of required near-road NO <sub>2</sub> monitors for the CBSA(s)	40 CFR 58, App.D 4.3.2(a)	Yes, Pages 3, 54-55	Yes		Requirement satisfied.
14	Were all road segments within the CBSA ranked by AADT?	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-5	Yes		Requirement satisfied.

<sup>3</sup> Response options: N/A (Not Applicable), Yes, No, Incomplete, Incorrect. The responses “Incomplete” and “Incorrect” assume that some information has been provided.

<sup>4</sup> Response options: N/A (Not Applicable) – [reason], Yes, No, Insufficient to Judge. Assumes information submitted is correct.

Network Plan requirements (40 CFR 58.10)-						
No.	Near-road plan requirement	Citation	Info submitted? <sup>5</sup> If yes, page #s.	Requirement met? <sup>6</sup>	Notes	DAQ Response
15	Discussion of how fleet mix is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-1, C-5	Yes		Requirement satisfied.
16	Discussion of how roadway design is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Pages C-1 – C-2	Yes		Requirement satisfied.
17	Discussion of how congestion is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Pages C-1 – C-2, C-5	Yes		Requirement satisfied.
18	Discussion of how terrain is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-1 - C-2	Yes		Requirement satisfied.
19	Discussion of how meteorology is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Pages A-19 – A-20 C-1 - C-2	Yes		Requirement satisfied.
20	After above factors considered, if multiple candidate sites where max concentrations expected: Discussion of how population exposure is considered?	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-1	Yes	The top FE-AADT site where peak concentrations are expected was selected. Assessment of nearby population exposure centers provided.	Requirement satisfied.

<sup>5</sup> Response options: N/A (Not Applicable), Yes, No, Incomplete, Incorrect. The responses “Incomplete” and “Incorrect” assume that some information has been provided.

<sup>6</sup> Response options: N/A (Not Applicable) – [reason], Yes, No, Insufficient to Judge. Assumes information submitted is correct.

<b>Network Plan requirements (40 CFR 58.10)-</b>						
<b>No.</b>	<b>Near-road plan requirement</b>	<b>Citation</b>	<b>Info submitted?<sup>7</sup> If yes, page #s.</b>	<b>Requirement met?<sup>8</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
21	Where the site proposed is the 2 <sup>nd</sup> in the CBSA: Discussion of differing factors compared to first site (i.e. fleet mix; congestion; terrain; geographic area within CBSA; or different route, interstate, or freeway designation).	40 CFR 58, App.D 4.3.2(a)(1)	N/A	N/A		Requirement satisfied.
<b>Siting criteria requirements (40 CFR 58, Appendix E)-</b>						
22	Distance from target road segment as near as practicable (TAD recommendation is within 20 meters) & no more than 50 meters?	40 CFR 58, App.E 6.4(a)	Yes, Page 51	Yes		Requirement satisfied.
23	Vertical inlet placement between 2-7 meters?	40 CFR 58, App.E 2	Yes, Page 52	Yes		Requirement satisfied.
24	Probe distance from supporting structures is at least 1 meter away vertically or horizontally?	40 CFR 58, App.E 2	Yes, Page 52	Yes		Requirement satisfied.

<sup>7</sup> Response options: N/A (Not Applicable), Yes, No, Incomplete, Incorrect. The responses “Incomplete” and “Incorrect” assume that some information has been provided.

<sup>8</sup> Response options: N/A (Not Applicable) – [reason], Yes, No, Insufficient to Judge. Assumes information submitted is correct.

Network Plan requirements (40 CFR 58.10)-						
No.	Near-road plan requirement	Citation	Info submitted? <sup>9</sup> If yes, page #s.	Requirement met? <sup>10</sup>	Notes	DAQ Response
25	Is air flow unobstructed between the probe and the outside nearest edge of the targeted road segment?	40 CFR 58, App.E 4(d)	Yes, Page 52	Yes		Requirement satisfied.

**SUPPORTING/ADDITIONAL INFORMATION:** Based on Near-road NO<sub>2</sub> monitoring TAD and experience.

Check	(Yes, No, N/A) If yes, page #s.	Comments	DAQ Response
If top FE-AADT segment not selected, is adequate justification provided for higher ranks not selected?	N/A	Top FE-AADT segment selected.	Requirement satisfied.
If similar top FE-AADT candidate sites available, was most congested segment selected?	N/A	Most congested segment selected.	Requirement satisfied.
Is candidate site selected downwind of target road segment?	Yes, Pages A-19—A-20, D-155—D-157	Light and variable winds expected for a majority of the time, site is relatively downwind of predominant wind direction.	Requirement satisfied.
Are wind roses included to show predominant wind patterns?	Yes, Pages A-19 – A-20		Requirement satisfied.
Are physical attributes (roadway design, roadside structures, or terrain) desirable according to Table 4-2 of the Near-road NO <sub>2</sub> TAD (see below)?	Yes, Pages C-1 – C-2		Requirement satisfied.

<sup>9</sup> Response options: N/A (Not Applicable), Yes, No, Incomplete, Incorrect. The responses “Incomplete” and “Incorrect” assume that some information has been provided.

<sup>10</sup> Response options: N/A (Not Applicable) – [reason], Yes, No, Insufficient to Judge. Assumes information submitted is correct.

Check	(Yes, No, N/A) If yes, page #s.	Comments	DAQ Response
If physical attributes (roadway design, roadside structures, or terrain) NOT desirable according to Table 4-2 of the Near-road NO <sub>2</sub> TAD, are they TYPICAL for the area?	N/A, Pages C-1 – C-2		Requirement satisfied.
Was population exposure correctly considered as an additional factor AFTER consideration of primary factors (FE-AADT, congestion, roadway design, terrain, meteorology) and IF multiple max concentration candidate sites identified?	Yes, Pages C-1 – C-2	See item 20 above.	Requirement satisfied.
Will this be a multi-pollutant site? If so, list additional parameters planned in Comments.	N/A, Page 55	No additional parameters specified at the site. ANP notes PM <sub>2.5</sub> and CO to be monitored near-road as required by January 1, 2017.	Requirement satisfied.
Does agency ensure candidate selection is NOT in a “unique” location? (See Near-road NO <sub>2</sub> TAD section 13.2 included below)	No	Although the agency does not specify in the ANP that this is not a unique location, based on the information presented in the plan and per the definition noted below, EPA does not consider this to be a unique location.	N/A Requirement satisfied.

**Table 4-2.** Summary of physical considerations for candidate near-road sites.

Physical Site Component	Impact on Site Selection	Desirable Attributes	Least Desirable Attributes	Potential Information Sources
Roadway design or configuration	Feasibility of monitor placements; affects pollutant transport and dispersion.	At-grade or nearly at-grade with immediate surrounding terrain.	Deep cut-sections/significantly below grade; significantly above grade (fill or bridge); above grade (bridge).	Field reconnaissance; satellite imagery
Roadside Structures	Feasibility of monitor placement; affects pollutant transport and dispersion.	present other than low (<2 m in height) vegetation or safety features such as guardrails.	Presence of sound walls, mature (high and thick) vegetation, obstructive buildings.	Field reconnaissance; satellite imagery
Terrain	Affects pollutant dispersion, local atmospheric stability.	Flat or gentle terrain, within a valley, or along a road grade.	Along mountain ridges or peaks, hillsides, or other naturally windswept areas.	Field reconnaissance; digital elevation models and vegetation files; satellite imagery.
Meteorology	Affects pollutant transport and dispersion.	Relative downwind locations; winds from road to monitor.	Strongly predominant upwind positions.	Local data; National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service (NWS); EPA's Air Quality System (AQS).

### **13.2 Unique Locations and Background Source Influences**

In the evaluation process, state and local air agencies may encounter situations where certain road segments of interest have characteristics that make the location a unique near-road location that has elevated pollutant concentrations. In such cases, the pollutant concentrations are not representative of other near-road locations across the CBSA. The unique characteristics of these locations could be due to the close proximity of a substantial stationary source, non-road mobile sources, or roadway design features (such as tunnel entrances and exits or toll plazas). In situations where a state or local air agency has a choice between road segments that otherwise have similar potential for peak NO<sub>2</sub> concentrations, the air agencies should place a higher weight on sites that are most influenced by typical roadway activity rather than those that are heavily influenced by unique sources or features. This approach increases the probability that the chosen site can represent a larger population exposure within and across CBSAs.

The EPA recognizes that state and local air agencies will likely have a good understanding of whether candidate near-road NO<sub>2</sub> monitoring sites have unique characteristics that do or do not represent the CBSA that those sites are within. The EPA encourages state and local air agencies to use their local knowledge in site selection and to engage the EPA Regional staff for assistance in evaluating such a situation as necessary.

**D2. Region 9 Near-road Plan review checklist- 4<sup>th</sup> St and Casino Center Drive**  
**Checklist Version date:** September 30, 2014

Agency: Clark County DAQ

CBSA: Las Vegas-Paradise, NV; Phase 2: (required by January 1, 2015)

This checklist is intended to clarify those elements that EPA will be looking for during the review of proposed near-road monitoring sites. Please note that this checklist is based on near-road site selection criteria specified in 40 CFR Part 58 Appendix D section 4.3.2, but does not substitute for those requirements, nor do its contents provide a binding determination of compliance with those requirements. The checklist is subject to revision in the future and we welcome comments on its contents and structure.

Key:

White = meets the requirement.

Yellow = Requirement is not met, or information is insufficient to make a determination. Action requested in next year's plan or outside the ANP process.

Green = item requires attention in order to improve next year's plan.

**COMPLETENESS CHECK:** Based on 40 CFR 58 requirements.

Network Plan requirements (40 CFR 58.10)-						
No.	Near-road plan requirement	Citation	Info submitted? <sup>1</sup> If yes, page #s.	Requirement met? <sup>2</sup>	Notes	DAQ Response
1	A plan (submitted by July 1, 2014) for establishing near-road NO2 monitoring site(s)	40 CFR 58.10(a)(5)	Yes Pages 53-55	Yes	EPA approves selection of this near-road site.	Requirement satisfied.
2	Evidence of public comment on proposed site(s), no changes subsequent to proposal, and submittal of any received comments	40 CFR 58.10(a)(2)	Yes, Submittal letter and Page 54	Yes		Requirement satisfied.
3	Anticipated operation start date	40 CFR 58.10(a)(5)	Yes, Page 54	Yes	DAQ notes 2015 as the anticipated monitoring start date. Deadline to commence monitoring is by January 1, 2015. Please indicate exact operation start date in next year's ANP.	The site began operation in 2015. Please see Sections 4 and 7 of the 2015 ANP.
4	AQS site identification number	40 CFR 58.10(b)(1)	No – TBD	Insufficient to judge	Please include this in next year's ANP.	AQS site ID provided. Please see Section 4 of the 2015 ANP.
5	Location (street address & geographical coordinates)	40 CFR 58.10(b)(2)	Yes, Page 53	Yes		Requirement satisfied.
6	Sampling and analysis method (method code)	40 CFR 58.10(b)(3)	Yes, Page 53	Yes		Requirement satisfied.

<sup>1</sup> Response options: N/A (Not Applicable), Yes, No, Incomplete, Incorrect. The responses "Incomplete" and "Incorrect" assume that some information has been provided.

<sup>2</sup> Response options: N/A (Not Applicable) – [reason], Yes, No, Insufficient to Judge. Assumes information submitted is correct.

<b>Network Plan requirements (40 CFR 58.10)-</b>						
<b>No.</b>	<b>Near-road plan requirement</b>	<b>Citation</b>	<b>Info submitted?<sup>3</sup> If yes, page #s.</b>	<b>Requirement met?<sup>4</sup></b>	<b>Notes</b>	<b>DAQ Response</b>
7	Operation Schedule (Season & sampling frequency)	40 CFR 58.10(b)(4)	Yes, Page 54	Yes		Requirement satisfied.
8	Any proposal to remove or move the monitor within a period of 18 months following plan submittal	40 CFR 58.10(b)(5)	Yes, Page 54	Yes		Requirement satisfied.
9	Monitoring objective & spatial scale of representativeness	40 CFR 58.10(b)(6)	Yes, Page 53	Yes		Requirement satisfied.
10	CBSA represented by the monitor	40 CFR 58.10(b)(8)	Yes, Page 53	Yes		Requirement satisfied.
<b>Network Design requirements (40 CFR 58, Appendix D, Section 4.3.2)</b>						
11	CBSA population & year	40 CFR 58, App.D 4.3.2(a)	Yes, Page 3	Yes		Requirement satisfied.
12	Maximum AADT counts & year for the CBSA(s)	40 CFR 58, App.D 4.3.2(a)	Yes, Pages 3, 53, C-3, C-5 - C-6	Yes		Requirement satisfied.
13	Correct # of required near-road NO <sub>2</sub> monitors for the CBSA(s)	40 CFR 58, App.D 4.3.2(a)	Yes, Pages 3, 54-55	Yes		Requirement satisfied.
14	Were all road segments within the CBSA ranked by AADT?	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-5	Yes		Requirement satisfied.

<sup>3</sup> Response options: N/A (Not Applicable), Yes, No, Incomplete, Incorrect. The responses “Incomplete” and “Incorrect” assume that some information has been provided.

<sup>4</sup> Response options: N/A (Not Applicable) – [reason], Yes, No, Insufficient to Judge. Assumes information submitted is correct.

Network Design requirements (40 CFR 58, Appendix D, Section 4.3.2)						
No.	Near-road plan requirement	Citation	Info submitted? <sup>5</sup> If yes, page #s.	Requirement met? <sup>6</sup>	Notes	DAQ Response
15	Discussion of how fleet mix is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-3, C-5	Yes		Requirement satisfied.
16	Discussion of how roadway design is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-3 - C-4	Yes		Requirement satisfied.
17	Discussion of how congestion is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-3 - C-5	Yes		Requirement satisfied.
18	Discussion of how terrain is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-3 - C-4	Yes		Requirement satisfied.
19	Discussion of how meteorology is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Pages B-9, C-3 - C-4	Yes		Requirement satisfied.

<sup>5</sup> Response options: N/A (Not Applicable), Yes, No, Incomplete, Incorrect. The responses “Incomplete” and “Incorrect” assume that some information has been provided.

<sup>6</sup> Response options: N/A (Not Applicable) – [reason], Yes, No, Insufficient to Judge. Assumes information submitted is correct.

Network Design requirements (40 CFR 58, Appendix D, Section 4.3.2)						
No.	Near-road plan requirement	Citation	Info submitted? <sup>7</sup> If yes, page #s.	Requirement met? <sup>8</sup>	Notes	DAQ Response
20	After above factors considered, if multiple candidate sites where max concentrations expected: Discussion of how population exposure is considered?	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C- 3 – C- 4	Yes	After considering above factors, next highest available ranked segment selected other than I-15 segments. Highest ranked I-15 segment was selected for Phase 1 implementation.  Population information given is identical to the Phase 1 site. Please revisit to ensure this is accurate and provide any updates as needed in next year’s ANP.	Network plan population information was obtained through the Clark County Department of Comprehensive Planning and is based on the MSA. Please see Section 2 of the 2015 ANP.
21	Where the site proposed is the 2 <sup>nd</sup> in the CBSA: Discussion of differing factors compared to first site (i.e. fleet mix; congestion; terrain; geographic area within CBSA; or different route, interstate, or freeway designation).	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-3 - C-6	Yes	Site collocated along a different freeway with a different fleet mix.	Requirement satisfied.

<sup>7</sup> Response options: N/A (Not Applicable), Yes, No, Incomplete, Incorrect. The responses “Incomplete” and “Incorrect” assume that some information has been provided.

<sup>8</sup> Response options: N/A (Not Applicable) – [reason], Yes, No, Insufficient to Judge. Assumes information submitted is correct.

Siting criteria requirements (40 CFR 58, Appendix E) -						
No.	Near-road plan requirement	Citation	Info submitted? <sup>9</sup> If yes, page #s.	Requirement met? <sup>10</sup>	Notes	DAQ Response
22	Distance from target road segment as near as practicable (TAD recommendation is within 20 meters) & no more than 50 meters?	40 CFR 58, App.E 6.4(a)	Yes, Page 53	Yes		Requirement satisfied.
23	Vertical inlet placement between 2-7 meters?	40 CFR 58, App.E 2	Yes, Page 54	Yes		Requirement satisfied.
24	Probe distance from supporting structures is at least 1 meter away vertically or horizontally?	40 CFR 58, App.E 2	Yes, Page 54	Yes		Requirement satisfied.
25	Is air flow unobstructed between the probe and the outside nearest edge of the targeted road segment?	40 CFR 58, App.E 4(d)	Yes, Page 54	Yes	Please clarify in next year's ANP that the obstruction not on the roof listed in the site table in section 7 does not impede flow. See Enclosure C, row 75 for more details.	Clarification provided. Please see Section 4 of the 2015 ANP.

<sup>9</sup> Response options: N/A (Not Applicable), Yes, No, Incomplete, Incorrect. The responses "Incomplete" and "Incorrect" assume that some information has been provided.

<sup>10</sup> Response options: N/A (Not Applicable) – [reason], Yes, No, Insufficient to Judge. Assumes information submitted is correct.

**SUPPORTING/ADDITIONAL INFORMATION:** Based on Near-road NO<sub>2</sub> monitoring TAD and experience.

Check	(Yes, No, N/A) If yes, page #s.	Comments	DAQ Response
If top FE-AADT segment not selected, is adequate justification provided for higher ranks not selected?	Yes, Page C-5	Top FE-AADT site along I-15 was selected for Phase 1 implementation. This site presented an FE-AADT rank of 12, along with the next highest overall rank (7) for a segment different than the I-15.	Requirement satisfied.
If similar top FE-AADT candidate sites available, was most congested segment selected?	Yes, Page C-5	Most congested segment along US95 was selected. #3 highest overall congestion ranking for roads in Las Vegas CBSA.	Requirement satisfied.
Is candidate site selected downwind of target road segment?	Yes, Pages B-9 & C-3	Light and variable winds expected for a majority of the time, site is downwind of predominant wind direction.	Requirement satisfied.
Are wind roses included to show predominant wind patterns?	Yes, Page B-9		Requirement satisfied.
Are physical attributes (roadway design, roadside structures, or terrain) desirable according to Table 4-2 of the Near-road NO <sub>2</sub> TAD (see below)?	Yes, Pages C-3 – C-4	Sloping, slightly elevated road.	Requirement satisfied.
If physical attributes (roadway design, roadside structures, or terrain) NOT desirable according to Table 4-2 of the Near-road NO <sub>2</sub> TAD, are they TYPICAL for the area?	N/A, Pages C-3 – C-4		Requirement satisfied.
Was population exposure correctly considered as an additional factor AFTER consideration of primary factors (FE-AADT, congestion, roadway design, terrain, meteorology) and IF multiple max concentration candidate sites identified?	Yes, Pages C-3 – C-4		Requirement satisfied.

<b>Check</b>	<b>(Yes, No, N/A) If yes, page #s.</b>	<b>Comments</b>	<b>DAQ Response</b>
Will this be a multi-pollutant site? If so, list additional parameters planned in Comments.	N/A, Page 55	No additional parameters specified at the site. ANP notes PM2.5 and CO to be monitored near-road as required by January 1, 2017.	Requirement satisfied.
Does agency ensure candidate selection is NOT in a “unique” location? (See Near-road NO <sub>2</sub> TAD section 13.2 included below)	No	Although the agency does not specify in the ANP that this is not a unique location, based on the information presented in the plan and per the definition noted below, EPA does not consider this to be a unique location.	N/A Requirement satisfied.

**Table 4-2.** Summary of physical considerations for candidate near-road sites.

Physical Site Component	Impact on Site Selection	Desirable Attributes	Least Desirable Attributes	Potential Information Sources
Roadway design or configuration	Feasibility of monitor placements; affects pollutant transport and dispersion.	At-grade or nearly at-grade with immediate surrounding terrain.	Deep cut-sections/significantly below grade; significantly above grade (fill or bridge); above grade (bridge).	Field reconnaissance; satellite imagery
Roadside Structures	Feasibility of monitor placement; affects pollutant transport and dispersion.	present other than low (<2 m in height) vegetation or safety features such as guardrails.	Presence of sound walls, mature (high and thick) vegetation, obstructive buildings.	Field reconnaissance; satellite imagery
Terrain	Affects pollutant dispersion, local atmospheric stability.	Flat or gentle terrain, within a valley, or along a road grade.	Along mountain ridges or peaks, hillsides, or other naturally windswept areas.	Field reconnaissance; digital elevation models and vegetation files; satellite imagery.
Meteorology	Affects pollutant transport and dispersion.	Relative downwind locations; winds from road to monitor.	Strongly predominant upwind positions.	Local data; National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service (NWS); EPA's Air Quality System (AQS).

### **13.2 Unique Locations and Background Source Influences**

In the evaluation process, state and local air agencies may encounter situations where certain road segments of interest have characteristics that make the location a unique near-road location that has elevated pollutant concentrations. In such cases, the pollutant concentrations are not representative of other near-road locations across the CBSA. The unique characteristics of these locations could be due to the close proximity of a substantial stationary source, non-road mobile sources, or roadway design features (such as tunnel entrances and exits or toll plazas). In situations where a state or local air agency has a choice between road segments that otherwise have similar potential for peak NO<sub>2</sub> concentrations, the air agencies should place a higher weight on sites that are most influenced by typical roadway activity rather than those that are heavily influenced by unique sources or features. This approach increases the probability that the chosen site can represent a larger population exposure within and across CBSAs.

The EPA recognizes that state and local air agencies will likely have a good understanding of whether candidate near-road NO<sub>2</sub> monitoring sites have unique characteristics that do or do not represent the CBSA that those sites are within. The EPA encourages state and local air agencies to use their local knowledge in site selection and to engage the EPA Regional staff for assistance in evaluating such a situation as necessary.



# Appendix B: EPA Approval Documents

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

OCT 28 2014

Mr. Phil Wiker  
Manager, Air Quality Monitoring  
Clark County Department of Air Quality  
4701 West Russell Road, Suite 200  
Las Vegas, Nevada 89118

Dear Mr. Wiker:

Thank you for your submission of the Clark County Department of Air Quality's (DAQ's) 2014 Annual Monitoring Network Plan Report in June 2014. We have reviewed the submitted document based on the requirements set forth under 40 CFR 58. Based on the information provided in the plan, the U.S. Environmental Protection Agency (EPA) approves all portions of the network plan except those specifically identified below. With this plan approval, we also formally approve the following system modifications: your two proposed near-road NO<sub>2</sub> sites (Rancho Drive/Teddy Drive, and 4<sup>th</sup> Street/Casino Center Drive), the establishment of an "RA40" monitor at Sunrise Acres, new SLAMS PM<sub>2.5</sub> monitoring at Green Valley, Jean and J.D. Smith, new SLAMS O<sub>3</sub> monitoring at Green Valley, and the discontinuation of O<sub>3</sub> and CO monitoring at Winterwood. More information about these approvals is in enclosures C, D1, D2, and E.

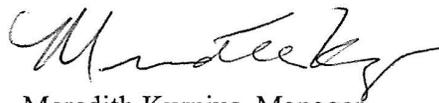
Please note that we cannot approve portions of the annual network plan for which the information in the plan is insufficient to judge whether the requirement has been met, or for which the information, as described, does not meet the requirements as specified in 40 CFR 58.10 and the associated appendices. EPA Region 9 also cannot approve portions of the plan for which the EPA Administrator has not delegated approval authority to the regional offices. Accordingly, the first enclosure (*A. Annual Monitoring Network Plan Items where EPA is Not Taking Action*) provides a listing of specific items of your agency's annual monitoring network plan where EPA is not taking action. The second enclosure (*B. Additional Items Requiring Attention*) is a listing of additional items in the plan that EPA wishes to bring to your agency's attention.

The third enclosure (*C. Annual Monitoring Network Plan Checklist*) is the checklist EPA used to review your plan for overall items that are required to be included in the annual network plan along with our assessment of whether the plan submitted by your agency addresses those requirements. The fourth enclosure (*D. Region 9 Near-road Plan Review Checklist*) is the checklist EPA used to review those elements of your annual monitoring network plan that deal specifically with near-road NO<sub>2</sub> monitoring. D1 and D2 relate specifically to the Rancho Drive/Teddy Drive and the 4<sup>th</sup> Street/Casino Center Drive sites, respectively. The fifth and final

enclosure (*E. EPA approval of the site closure request for Winterwood*) documents EPA's approval of the Winterwood site closure, as requested in your letter dated September 17, 2014.

The first two enclosures highlight a subset of the more extensive list of items reviewed in the third and fourth enclosure. All comments conveyed via this letter (and enclosures) should be addressed (through corrections within the plan, additional information being included, or discussion) in next year's annual monitoring network plan. If you have any questions regarding this letter or the enclosed comments, please feel free to contact me at (415) 947-4534 or Katherine Hoag at (415) 972-3970.

Sincerely,



Meredith Kurpius, Manager  
Air Quality Analysis Office

Enclosures:

- A. Annual Monitoring Network Plan Items where EPA is Not Taking Action
- B. Additional Items Requiring Attention
- C. Annual Monitoring Network Plan Checklist
- D. Region 9 Near-road Plan Review Checklists:
  - D1. Region 9 Near-road Plan Review Checklist – Rancho Drive/Teddy Drive
  - D2. Region 9 Near-road Plan Review Checklist – 4<sup>th</sup> Street/Casino Center Drive
- E. EPA approval of the site closure request for Winterwood

cc (via email): Yousaf Hameed, DAQ

**A. Annual Monitoring Network Plan Items where EPA is Not Taking Action**

We are not acting on the portions of annual network plans where either EPA Region 9 lacks the authority to approve specific items of the plan, or EPA has determined that a requirement is either not met or information in the plan is insufficient to judge whether the requirement has been met.

- Per 40 CFR 58.11(c), NCore network design and changes are subject to approval of the EPA Administrator. Therefore, we are not acting on these items.
- DAQ requested a waiver for the siting requirement for the minimum distance to a roadway for the ozone monitor at Mesquite (AQS ID 32-003-0023). The request did not include enough information supporting the representativeness of the site or the physical constraints at the site, and therefore EPA cannot act on the request at this time. Please continue to work with EPA on this request. See Row 3 of Enclosure C for more details.
- EPA identified items in your agency’s annual monitoring network plan where a requirement was not being met or information in the plan was insufficient to judge whether the requirement was being met based on 40 CFR 58.10 and the associated appendices. Therefore, we are not acting on the following items:

Item	Checklist Row	Issue
Minimum monitoring requirement for single near-road NO <sub>2</sub> monitor (in CBSA ≥ 1 million) by 1/1/2014	51	Not meeting requirement
PM <sub>2.5</sub> collocation	21	Insufficient to judge
Designation of a primary monitor	15	Insufficient to judge in some instances
Distance between collocated monitors	16	Insufficient to judge
Distance of monitor from nearest road	69	Insufficient to judge in some instances
Scale of representativeness for each monitor	65	Insufficient to judge in some instances
Distance from supporting structure	73	Insufficient to judge in some instances
Distance from obstructions not on roof	75	Insufficient to judge

Additional information for each of these items may be found for the row listed in column 2, in the third enclosure (*C. Annual Monitoring Network Plan Checklist*).

## B. Additional Items Requiring Attention

- [Item 6] Please include a discussion about discontinuing SPMs at Arden Peak, Frenchman Mountain and Laughlin, or other SPMs, in your next ANP.
- [Item 9] Some of the information for the near road NO<sub>2</sub> sites needs to be updated or corrected for your next ANP. Please see enclosures D1 and D2 for more details.
- [Item 19] The minimum monitoring requirements for PM<sub>2.5</sub> are specified in 40 CFR 58 Appendix D 4.7.1(a): “State, and where applicable local, agencies must operate the minimum number of required PM<sub>2.5</sub> SLAMS sites listed in Table D-5 of this appendix.” In next year’s ANP checklist, EPA will clarify that this requirement is based on number of sites, not the number of monitors. In your next ANP, please correct Table 2 to reflect the number of SLAMS sites, rather than monitors (i.e. there are five SLAMS sites that monitor for PM<sub>2.5</sub>, which is more than the two that are required).
- [Item 20] There is a requirement for one continuous monitor per 40 CFR 58 Appendix D 4.7.2. Currently there are five sites with continuous PM<sub>2.5</sub> FEM monitors operating. Although there is information in this year’s ANP demonstrating the requirement is met, it doesn’t specifically discuss the requirement in 40 CFR 58 Appendix D 4.7.2, please consider adding this to next year’s plan, for example, in a footnote or paragraph following Table 2.
- [Items 31 and 37] The EPA QA handbook suggests that the semi-annual flow rate audits for PM<sub>2.5</sub> and PM<sub>10</sub> be performed 5-7 months apart. The audits at some sites were four months or fewer apart; please try to meet the 5-7 month window for these audits in the future.
- [Item 50] Ozone season waivers should be updated annually. In your next ANP, please include the information that continues to support a shortened ozone season and request a renewal of the ozone season waiver.
- [Item 62] The monitoring objective for NO<sub>2</sub> at Joe Neal and CO at Jerome Mack should also include NAAQS comparison in addition to research support since they are FRMs operating as SLAMS.
- [Item 64] For your next year’s plan, work with EPA to determine the appropriate monitor type for the O<sub>3</sub> at Mesquite, since it potentially should be an SPM due to the distance to the roadway.

In 2014 EPA revised the allowed monitor types and removed QA Collocated and NCore from the list of monitor types (see <https://aqs.epa.gov/aqsweb/codes/data/MonitorTypes.html> for more details). EPA also created an AQS field called network affiliation that includes NCore, near road, PAMS, NATTS, STN, etc. (<https://aqs.epa.gov/aqsweb/codes/data/MonitorNetworks.html>)

In order to implement this change, the monitors at Jerome Mack should be SLAMS with a network affiliation of NCore. Also, PM<sub>2.5</sub> monitors intended to meet the collocation requirements of Appendix A should be listed as SLAMS, with the appropriate notes and dates in AQS on the “Collocation” tab on the Maintain Monitor form for precision calculations and on the Primary Monitor Periods tab on the Maintain Site form in AQS for correct design value calculations.

EPA will send additional information on how these changes should be reflected in ANPs.

- [Item 67] Please note that the method code for a Thermo 2025i PM<sub>2.5</sub> monitor should be 118 or 145 depending on whether the second stage impactor is a WINS impactor or a VSCC, and provide the appropriate method code in AQS and in your next ANP.
- [Item 70] Please cite a source for your traffic information in your next ANP. If estimates are not available from an official source, please include a description of how the road counts were estimated.
- [Item 80] Please consider listing the residence time for the NO<sub>y</sub> instrument at Jerome Mack in your next ANP.

## C. ANNUAL MONITORING NETWORK PLAN CHECKLIST

(Updated March 11, 2014)

Year: 2014

Agency: Clark County DAQ

40 CFR 58.10(a)(1) requires that each Annual Network Plan (ANP) include information regarding the following types of monitors: SLAMS monitoring stations including FRM, FEM, and ARM monitors that are part of SLAMS, NCore stations, STN stations, State speciation stations, SPM stations, and/or, in serious, severe and extreme ozone nonattainment areas, PAMS stations, and SPM monitoring stations.

40 CFR 58.10(a)(1) further directs that, "The plan shall include a statement of purposes for each monitor and evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of this part, where applicable." On this basis, review of the ANPs is based on the requirements listed in 58.10 along with those in Appendices A, C, D, and E.

EPA Region 9 will not take action to approve or disapprove any item for which Part 58 grants approval authority to the Administrator rather than the Regional Administrators, but we will do a check to see if the required information is included and correct. The items requiring approval by the Administrator are: PAMS, NCore, and Speciation (STN/CSN).

Please note that this checklist summarizes many of the requirements of 40 CFR Part 58, but does not substitute for those requirements, nor do its contents provide a binding determination of compliance with those requirements. The checklist is subject to revision in the future and we welcome comments on its contents and structure.

### Key:

White = meets the requirement.

Yellow = requirement is not met, or information is insufficient to make a determination. Action requested in next year's plan or outside the ANP process. (items listed in Enclosure A)

Green = item requires attention in order to improve next year's plan (items listed in Enclosure B)

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>
<b>GENERAL PLAN REQUIREMENTS</b>					
1.	Submit plan by July 1 <sup>st</sup>	58.10 (a)(1)	Yes	Yes	Plan was received on June 3, 2014
2.	30-day public comment / inspection period <sup>5</sup>	58.10 (a)(1), 58.10 (a)(2)	Yes; transmittal letter	Yes	No comments were received.
3.	Modifications to SLAMS network – case when we are not approving system modifications	58.10 (a)(2) 58.10 (b)(5) 58.10(e) 58.14	Yes, page 24	No	EPA is not approving the waiver request for the ozone monitor at Mesquite (32-003-0023) as insufficient information was included. Please continue to work with EPA on this request. See Row 69 below.
4.	Modifications to SLAMS network – case when we are approving system modifications per 58.14	58.10 (a)(2) 58.10 (b)(5) 58.10(e) 58.14	Yes, Section 7, Winterwood closure request letter dated 9/17/2014	Yes	System modifications approved as part of this ANP approval: <ul style="list-style-type: none"> <li>• Two near-road sites approved (Phase 1 – Rancho Drive at Teddy Drive; Phase 2 – 4<sup>th</sup> Street and Casino Center Drive)</li> <li>• RA40 NO<sub>2</sub> at Sunrise Acres</li> <li>• PM<sub>2.5</sub> FEMs at Jean, JD Smith and Green Valley</li> <li>• New O<sub>3</sub> monitor at Green Valley (this monitor is not close enough to a roadway to require a siting waiver)</li> <li>• Winterwood closure. See Row 6 below.</li> </ul> *NOTE: Please include letters documenting this closure request and approval in next year’s plan
5.	Does plan include documentation (e.g., attached approval letter) for system modifications that have been approved since last ANP approval?		Yes, Appendix D	Yes	<ul style="list-style-type: none"> <li>• PM<sub>10</sub> closure at E. Craig Rd (approved on 10/30/2013)</li> <li>• O<sub>3</sub> closure at Craig Rd, Lone Mountain and Orr sites (approved 10/23/2012)</li> </ul>

<sup>1</sup> Response options: NA (Not Applicable), Yes, No, Incomplete, Incorrect. The responses “Incomplete” and “Incorrect” assume that some information has been provided.

<sup>2</sup> To the best of our knowledge.

<sup>3</sup> Assuming the information is correct

<sup>4</sup> Response options: NA (Not Applicable) – [reason], Yes, No, Insufficient to Judge.

<sup>5</sup> The affected state or local agency must document the process for obtaining public comment and include any comments received through the public notification process within their submitted plan.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>
					<ul style="list-style-type: none"> <li>• PM<sub>10</sub> closure at Lone Mountain and Orr sites and CO closure at Orr (approved 6/5/2013)</li> <li>• Waiver for shortened O<sub>3</sub> season (April 1 - Sept 30) at Apex and Mesquite (approved 3/8/2012)</li> <li>• Approval of NCore site at Jerome Mack (approved 3/27/2014)</li> <li>• Anticipated approval of 1<sup>st</sup> near road site (pending comments etc) (1/22/2014)</li> </ul>
6.	Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal	58.10 (b)(5)	Yes, Section 4 site tables and section 7	Yes	<p>ANP anticipated Winterwood closure &gt;18 months. After ANP submittal circumstances changed and required closure sooner. The full request including information showing criteria in 58.14 were met was made available for public comment for 30 days, and then sent to EPA on September 17, 2014. No public comments on the closure were received.</p> <p>Please include a discussion about discontinuing SPMs at Arden Peak, Frenchman Mountain and Laughlin, or other SPMs, in your next ANP.</p>
7.	<i>A plan for establishing a near-road PM<sub>2.5</sub> monitor (in CBSAs ≥ 2.5 million) by 1/1/2015</i>	58.10(a)(8)(i)	Yes; Page 55	Yes	
8.	<i>A plan for establishing a near-road CO monitor (in CBSAs ≥ 2.5 million) by 1/1/2015</i>	58.10(a)(7) 58.13(e)(1)	Yes; Page 55	Yes	
9.	<i>NO<sub>2</sub> plan for establishment of 2<sup>nd</sup> near-road monitor by 1/1/2015</i>	58.10 (a)(5)(iv)	Yes	Yes	See attached near-road plan checklist for further comments.
10.	Precision/Accuracy reports submitted to AQS	58.16(a); App A, 1.3 and 5.1.1	Yes; Page 1	Yes	
11.	Annual data certification submitted	58.15 App. A 1.3	Yes; Page 1	Yes	
12.	SPMs operating an FRM/FEM/ARM that meet Appendix E also meet either Appendix A or an approved alternative.	58.11 (a) (2)	Yes; Pages 44-50, 55-56	Yes	Indian Springs and Logandale meet App A and E, Spring Mountain Youth Camp is not operating an FEM
13.	SPMs operating FRM/FEM/ARM monitors for over 24 months are listed as comparable to the NAAQS or the agency provided documentation that	58.20(c)	Yes; Pages 44-50, 55-56	Yes	Indian Springs and Logandale only began operating in June 2014

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>
	requirements from Appendices A, C, or E were not met. <sup>6</sup>				
14.	For agencies that share monitoring responsibilities in an MSA/CSA: this agency meets full monitoring requirements or an agreement between the affected agencies and the EPA Regional Administrator is in place	App D 2(e)	NA	NA	

**GENERAL PARTICULATE MONITORING REQUIREMENTS (PM<sub>10</sub>, PM<sub>2.5</sub>, Pb-TSP, Pb-PM<sub>10</sub>)**

15.	Designation of a primary monitor if there is more than one monitor for a pollutant at a site.	Need to determine collocation	Incomplete	Insufficient information to judge	While the ANP lists the FEM as the primary PM <sub>2.5</sub> monitor at Sunrise Acres, there is no information about which PM <sub>2.5</sub> monitor is primary at the Jean or Jerome Mack sites.  One way to include this information would be to include another row in the detailed site tables to indicate if a monitor is primary, meeting a collocation requirement for Appendix A, or an extra monitor.
16.	Distance between collocated monitors (Note: waiver request or the date of previous waiver approval must be included if the distance deviates from requirement.)	App. A 3.2.5.6 and 3.2.6.3	Incomplete	Insufficient information to judge	The collocation distances listed for a sampler in the site tables in section 4 do not state what other sampler the distance is measured for.  Samplers measuring the same pollutant intended to fulfill the QA collocation requirements should be between 1-4 meters apart (for low-volume samplers). In addition, any PM sampler (PM <sub>2.5</sub> , PM <sub>10</sub> or Pb) should not be closer than 1 meter for low-volume samplers, or than 2 meters if at least one of the monitors is a high-volume sampler.

**PM<sub>2.5</sub>-SPECIFIC MONITORING REQUIREMENTS**

<sup>6</sup> This requirement only applies to monitors that are eligible for comparison to the NAAQS per 40 CFR §§58.11(e) and 58.30.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>
17.	Document how states and local agencies provide for the review of changes to a PM <sub>2.5</sub> monitoring network that impact the location of a violating PM <sub>2.5</sub> monitor.	58.10 (c)	Yes; Pages 44, 54	Yes	
18.	Identification of any PM <sub>2.5</sub> FEMs and/or ARMs not eligible to be compared to the NAAQS due to poor comparability to FRM(s) (Note 1: must include required data assessment.) (Note 2: Required SLAMS must monitor PM <sub>2.5</sub> with <u>NAAQS-comparable</u> monitor at the required sample frequency.)	58.10 (b)(13) 58.11 (e)	NA	NA	None requested
19.	Minimum # of monitors for PM <sub>2.5</sub> [Note 1: should be supported by MSA ID, MSA population, DV, # monitors, and # required monitors] [Note 2: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]	App D, 4.7.1(a) and Table D-5	Yes, Page 2 See Note	Yes	The minimum monitoring requirements for PM <sub>2.5</sub> are specified in 40 CFR 58 Appendix D 4.7.1(a): “State, and where applicable local, agencies must operate the minimum number of required PM <sub>2.5</sub> SLAMS sites listed in Table D-5 of this appendix.” In next year’s ANP checklist, EPA will clarify that this requirement is based on number of sites, not the number of monitors.  In your next ANP, please correct Table 2 to reflect the number of SLAMS sites, rather than monitors (i.e. there are five SLAMS sites that monitor for PM <sub>2.5</sub> , which is more than the two that are required).
20.	Minimum monitoring requirements for continuous PM <sub>2.5</sub>	App D 4.7.2	Yes; Sections 3-4	Yes	There is a requirement for one continuous monitor per 40 CFR 58 Appendix D 4.7.2. Currently there are five sites with continuous PM <sub>2.5</sub> FEM monitors operating.  Although there is information in this year’s ANP demonstrating the requirement is met, it doesn’t specifically discuss the requirement in 40 CFR 58 Appendix D 4.7.2. Please consider adding this to next year’s plan, for example, in a footnote or paragraph following Table 2.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>
21.	PM <sub>2.5</sub> collocation	App A 3.2.5	Incomplete, Section 3, PM <sub>2.5</sub> sites in section 4	Insufficient information to judge	Tables 8 and 9 should only count the number of primary monitors to determine the number of required collocated sites (15%).  Cannot judge the collocation requirement without knowing which PM <sub>2.5</sub> monitor is primary at Jerome Mack and Jean.
22.	PM <sub>2.5</sub> Chemical Speciation requirements for official STN sites	App D 4.7.4	NA	NA	
23.	Identification of sites suitable and sites not suitable for comparison to the annual PM <sub>2.5</sub> NAAQS as described in Part 58.30	58.10 (b)(7)	Yes, Pages 11, 13, 16, 19 and 30	Yes	
24.	Required PM <sub>2.5</sub> sites represent area-wide air quality	App D 4.7.1(b)	Yes, Section 4	Yes	Since the scale or representativeness of the PM <sub>2.5</sub> monitor at Green Valley is middle scale, please clarify if PM <sub>2.5</sub> concentrations there are considered area-wide (middle scale).
25.	For PM <sub>2.5</sub> , at least one site at neighborhood or larger scale in an area of expected maximum concentration	App D 4.7.1(b)(1)	Yes, Section 4	Yes	Sunrise Acres is the maximum concentration site
26.	If additional SLAMS PM <sub>2.5</sub> is required, there is a site in an area of poor air quality	App D 4.7.1(b)(2)	Yes, Section 4	Yes	J.D. Smith and Jerome Mack fulfill this requirement
27.	States must have at least one PM <sub>2.5</sub> regional background and one PM <sub>2.5</sub> regional transport site.	App D 4.7.3	Yes, Section 4	Yes	Jean is a background and transport site
28.	Sampling schedule for PM <sub>2.5</sub> - applies to year-round and seasonal sampling schedules (note: date of waiver approval must be included if the sampling season deviates from requirement)	58.10 (b)(4) 58.12(d) App D 4.7 EPA flowchart	Yes, Section 4	Yes	
29.	Frequency of flow rate verification for manual PM <sub>2.5</sub> monitors audit	App A 3.3.2	Yes, Section 4	Yes	
30.	Frequency of flow rate verification for automated PM <sub>2.5</sub> monitors audit	App A 3.2.3	Yes, Section 4	Yes	
31.	Dates of last two semi-annual flow rate audits for PM <sub>2.5</sub> monitors	App A, 3.2.4 and 3.3.3	Yes, Section 4	Yes	The EPA QA handbook suggests that the semi-annual flow rate audits be performed 5-7 months apart. The audits at J.D. Smith were less than four months apart; please try to meet the 5-7 month window for these audits in the future.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>
<b>PM<sub>10</sub>–SPECIFIC MONITORING REQUIREMENTS</b>					
32.	Minimum # of monitors for PM <sub>10</sub>	App D, 4.6 (a) and Table D-4	Yes, Page 3	Yes	In next year's ANP checklist, EPA will clarify that this requirement is based on number of sites, not the number of monitors. Consider changing Table 3 to refer to SLAMS sites, not monitors.
33.	Manual PM <sub>10</sub> method collocation (note: continuous PM <sub>10</sub> does not have this requirement)	App A 3.3.1	NA	NA	All PM <sub>10</sub> monitors are continuous
34.	Sampling schedule for PM <sub>10</sub>	58.10 (b)(4) 58.12(e) App D 4.6	Yes; Section 4, PM <sub>10</sub> site tables	Yes	All PM <sub>10</sub> monitors are continuous
35.	Frequency of flow rate verification for manual PM <sub>10</sub> monitors audit	App A 3.3.2	NA	NA	All PM <sub>10</sub> monitors are continuous
36.	Frequency of flow rate verification for automated PM <sub>10</sub> monitors audit	App A 3.2.3	Yes; Section 4	Yes	
37.	Dates of last two semi-annual flow rate audits for PM <sub>10</sub> monitors	App A, 3.2.4 and 3.3.3	Yes, Section 4	Yes	The EPA QA handbook suggests that the semi-annual flow rate audits be performed 5-7 months apart. The audits at Paul Meyer, Palo Verde, Joe Neal, Green Valley, Sunrise Acres, Boulder City and J.D. Smith were four or fewer months apart; please try to meet the 5-7 month window for these audits in the future.
<b>Pb–SPECIFIC MONITORING REQUIREMENTS</b>					
38.	Minimum # of monitors for non-NCore Pb [Note: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]	App D 4.5 58.13(a)	Yes, Page 4	Yes	None required
39.	Pb collocation: for non-NCore sites	App A 3.3.4.3	NA	NA	
40.	Any source-oriented Pb site for which a waiver has been granted by EPA Regional Administrator	58.10 (b)(10)	NA	NA	
41.	Any Pb monitor for which a waiver has been requested or granted by EPA Regional Administrator for use of Pb-PM <sub>10</sub> in lieu of Pb-TSP	58.10 (b)(11)	NA	NA	None requested
42.	Designation of any Pb monitors as either source-oriented or non-source-oriented	58.10 (b)(9)	Yes, Pages 4, 17-20	Yes	Only NCore Pb monitoring is required
43.	Sampling schedule for Pb	58.10 (b)(4)	Yes, Page 18	Yes	1:6

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>
		58.12(b) App D 4.5			
44.	Frequency of one-point flow rate verification for Pb monitors audit	App A 3.3.4.1	Yes, Page 20	Yes	Performed monthly
45.	Dates of last two semi-annual flow rate audits for Pb monitors	App A 3.3.4.1	Yes, Page 20	Yes	One performed in each quarter of 2013
<b>GENERAL GASEOUS MONITORING REQUIREMENTS</b>					
46.	Frequency of one-point QC check (gaseous)	App. A 3.2.1	Yes, Section 4	Yes	
47.	Date of last Annual Performance Evaluation (gaseous)	App. A 3.2.2	Yes, Section 4	Yes	
<b>O<sub>3</sub> –SPECIFIC MONITORING REQUIREMENTS</b>					
48.	Minimum # of monitors for O <sub>3</sub> [Note: should be supported by MSA ID, MSA population, DV, # monitors, and # required monitors] (see footnote) <sup>7</sup>	App D, 4.1(a) and Table D-2	Yes, Page 2	Yes	In next year's ANP checklist, EPA will clarify that this requirement is based on number of sites, not the number of monitors. Consider changing Table 1 to refer to SLAMS sites, not monitors.
49.	Identification of maximum concentration O <sub>3</sub> monitor(s)	App D 4.1 (b)	Yes, Section 4	Yes	Joe Neal is the maximum concentration O <sub>3</sub> site
50.	Sampling season for O <sub>3</sub> (Note: date of waiver approval must be included if the sampling season deviates from requirement)	58.10 (b)(4) App D, 4.1(i)	Yes, Section 4 and Appendix D	Yes	Ozone season waiver letter from EPA dated March 8, 2012. The ozone season waivers should be updated annually. In your next ANP, please include the information that continues to support a shortened ozone season and request a renewal of the ozone season waiver.
<b>NO<sub>2</sub> –SPECIFIC MONITORING REQUIREMENTS</b>					
51.	Minimum monitoring requirement for single near-road NO <sub>2</sub> monitor (in CBSA ≥ 1 million) by 1/1/2014	App D 4.3.2	Yes	No	EPA approves the District's selection of the near-road site at Rancho Drive/Teddy Drive (aka Carmel Mt) per the site selection criteria of 40 CFR 58 Appendix D, section 4.3.2, however this requirement is not fully met until operation of monitor begins. See near-road checklist (Enclosure D1) for details.

<sup>7</sup> Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements. In addition, ozone monitors that do not meet traffic count/distance requirements to be neighborhood scale (40 CFR 58 Appendix E, Table E-1) cannot be counted towards minimum monitoring requirements.

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>
52.	Minimum monitoring requirements for area-wide NO <sub>2</sub> monitor in location of expected highest NO <sub>2</sub> concentrations representing neighborhood or larger scale (operation required by January 1, 2013)	App D 4.3.3	Yes, Page 3	Yes	One required, fulfilled by J.D. Smith and Sunrise Acres
53.	Minimum monitoring requirements for susceptible and vulnerable populations monitoring (aka RA40) NO <sub>2</sub> (operation required by January 1, 2013)	App D 4.3.4	Yes, Page 3	Yes	One required, fulfilled by Sunrise Acres
54.	Identification of required NO <sub>2</sub> monitors as either near-road, area-wide, or vulnerable and susceptible population (aka RA40)	58.10 (b)(12)	Yes, Pages 3, 51-55	Yes	
<b>SO<sub>2</sub> –SPECIFIC MONITORING REQUIREMENTS</b>					
55.	Minimum monitoring requirements for SO <sub>2</sub> [Note: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]	App D 4.4	Yes, Page 3	Yes	
<b>NCORE –SPECIFIC MONITORING REQUIREMENTS</b>					
56.	NCore site and all required parameters operational	58.10 (a)(3); Pb collocation App. A 3.3.4.3; PM <sub>10-2.5</sub> minimum monitoring App. D 4.8; PM <sub>10-2.5</sub> sampling schedule 58.10 (b)(4) 58.12(f) App D 4.8; PM <sub>10-2.5</sub> collocation App. A 3.3.6	Yes; Pages 17-20	Yes	

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>
<b>SITE OR MONITOR - SPECIFIC REQUIREMENTS (OFTEN INCLUDED IN DETAILED SITE INFORMATION TABLES)</b>					
57.	AQS site identification number for each site	58.10 (b)(1)	Yes; Section 4	Yes	
58.	Location of each site: street address and geographic coordinates	58.10 (b)(2)	Yes; Section 4	Yes	
59.	MSA, CBSA, CSA or other area represented by the monitor	58.10 (b)(8)	Yes; Section 4	Yes	
60.	Parameter occurrence code for each monitor	Needed to determine if other requirements (e.g., min # and collocation) are met	Yes; Section 4	Yes	
61.	Statement of purpose for each monitor	58.10 (a)(1)	Yes; Section 4	Yes	
62.	Basic monitoring objective for each monitor	App D 1.1 58.10 (b)(6)	Yes; Section 4	Yes	The monitoring objective for NO <sub>2</sub> at Joe Neal and CO at Jerome Mack should also include NAAQS comparison in addition to research support since they are FRMs operating as SLAMS.
63.	Site type for each monitor	App D 1.1.1	Yes; Section 4	Yes	
64.	Monitor type for each monitor	Needed to determine if other requirements (e.g., min # and collocation) are met	Yes; Section 4	Yes	For your next year's plan, work with EPA to determine the appropriate monitor type for the O <sub>3</sub> at Mesquite, since it potentially should be an SPM due to road distance  In 2014 EPA revised the allowed monitor types and removed QA Collocated and NCore from the list of monitor types (see <a href="https://aqs.epa.gov/aqsweb/codes/data/MonitorTypes.html">https://aqs.epa.gov/aqsweb/codes/data/MonitorTypes.html</a> for more details). EPA also created an AQS field called network affiliation that includes NCore,

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>
					<p>near road, PAMS, NATTS, STN, etc. (<a href="https://aqs.epa.gov/aqsweb/codes/data/MonitorNetworks.html">https://aqs.epa.gov/aqsweb/codes/data/MonitorNetworks.html</a>)</p> <p>In order to implement this change, the monitors at Jerome Mack should be SLAMS with a network affiliation of NCore. Also, PM<sub>2.5</sub> monitors intended to meet the collocation requirements of Appendix A should be listed as SLAMS, with the appropriate notes and dates in AQS on the “Collocation” tab on the Maintain Monitor form for precision calculations and on the Primary Monitor Periods tab on the Maintain Site form in AQS for correct design value calculations.</p> <p>EPA will send additional information on how these changes should be reflected in ANPs.</p>
65.	Scale of representativeness for each monitor as defined in Appendix D	58.10(b)(6); App D	Yes; Section 4	Insufficient information to judge	<p>The following monitors have siting issues identified elsewhere that may warrant a change in the scale of representativeness of the monitor. Please work with EPA to determine the appropriate scale before your next ANP for the following monitors:</p> <ul style="list-style-type: none"> <li>• Distance to road for O<sub>3</sub> at Mesquite</li> <li>• Distance to road for NO<sub>2</sub> at Joe Neal</li> <li>• Distance to road for O<sub>3</sub> at Green Valley (anticipated)</li> <li>• Potential obstruction to flow for CO and O<sub>3</sub> at Winterwood</li> </ul>
66.	Parameter code for each monitor	Needed to determine if other requirements (e.g., min # and	Yes; Section 4	Yes	

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>
		collocation) are met			
67.	Method code and description (e.g., manufacturer & model) for each monitor	58.10 (b)(3); App C 2.4.1.2	Yes; Section 4	Yes	Please note that the method code for a Thermo 2025i PM <sub>2.5</sub> monitor should be 118 or 145 depending on whether the second stage impactor is a WINS impactor or a VSCC.
68.	Sampling start date for each monitor	Needed to determine if other requirements (e.g., min # and collocation) are met	Yes; Section 4	Yes	
69.	Distance of monitor from nearest road	App E 6	Yes; Section 4	Insufficient information to judge	The following monitors are too close to the roadway for the given scale: <ul style="list-style-type: none"> <li>• O<sub>3</sub> at Mesquite</li> <li>• NO<sub>2</sub> at Joe Neal (began operation after 2006)</li> </ul> Your request for a waiver for the siting requirement for an ozone monitor at Mesquite (page 24) did not include enough information supporting the representativeness of the site or the physical constraints at the site, and therefore EPA cannot act on the request at this time. Please continue to work with EPA on this request.
70.	Traffic count of nearest road	App E	Yes; Section 4	Yes	Please cite a source for your traffic information in your next ANP. If estimates are not available from an official source, please include a description of how the road counts were estimated.
71.	Groundcover	App E 3(a)	Yes; Section 4	Yes	
72.	Probe height	App E 2	Yes; Section 4	Yes	
73.	Distance from supporting structure	App E 2	Yes; Section 4	Insufficient information to judge	PM instruments should be greater than 2 meters from any supporting structure. The following sites have PM monitors less than 2 meters away from the

	<b>ANP requirement</b>	<b>Citation within 40 CFR 58</b>	<b>Was the information submitted?<sup>1</sup> If yes, page #s. Flag if incorrect<sup>2</sup>?</b>	<b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b>	<b>Notes</b>
					supporting structure: Paul Meyer, Green Valley, Jerome Mack, and Boulder City.
74.	Distance from obstructions on roof	App E 4(b)	Yes; Section 4	Yes	
75.	Distance from obstructions not on roof	App E 4(a)	Yes; Section 4	Insufficient information to judge	It is unclear whether the heights given for obstructions not on the roof are the height of the object above the probe or inlet in question, and therefore EPA cannot judge whether they would be an obstructions to flow at the following sites: J.D. Smith, Jerome Mack, Winterwood, and the second near road site. Please provide the height above probe level in your next ANP.
76.	Distance from trees	App E 5	Yes; Section 4	Yes	
77.	Distance to furnace or incinerator flue	App E 3(b)	Yes; Section 4	Yes	
78.	Unrestricted airflow	App E, 4(a) and 4(b)	Yes; Section 4	Yes	
79.	Probe material (NO <sub>x</sub> , SO <sub>2</sub> , O <sub>3</sub> )	App E 9	Yes; Section 4	Yes	
80.	Residence time (NO <sub>x</sub> , SO <sub>2</sub> , O <sub>3</sub> )	App E 9	Yes; Section 4	Yes	Please consider listing the residence time for the NO <sub>y</sub> instrument at Jerome Mack in your next ANP.

### Public Comments on Annual Network Plan

Were comments submitted to the S/L/T agency during the public comment period?

No

If no, skip the remaining questions.

If yes:

- Were any of the comments substantive?
  - If yes, which ones?
  - Explain basis for determination if any comments were considered not substantive:
- Did the agency respond to the substantive comments?
  - If yes, was the response adequate?
- Do the substantive comments require separate EPA response (i.e., agency response wasn't adequate)?
- Are the sections of the annual network plan that received substantive comments approvable after consideration of comments?
  - If yes, provide rationale:

**D1. Region 9 Near-road Plan review checklist- Rancho Drive at Teddy Drive**  
**Checklist Version date: September 30, 2014**

Agency: Clark County DAQ  
CBSA: Las Vegas-Paradise, NV; Phase 1 (required by January 1, 2014)

This checklist is intended to clarify those elements that EPA will be looking for during the review of proposed near-road monitoring sites. Please note that this checklist is based on near-road site selection criteria specified in 40 CFR Part 58 Appendix D section 4.3.2, but does not substitute for those requirements, nor do its contents provide a binding determination of compliance with those requirements. The checklist is subject to revision in the future and we welcome comments on its contents and structure.

**Key:**

White = meets the requirement.

**Yellow** = Requirement is not met, or information is insufficient to make a determination. Action requested in next year's plan or outside the ANP process.

**Green** = item requires attention in order to improve next year's plan.

**COMPLETENESS CHECK:** Based on 40 CFR 58 requirements.

Network Plan requirements (40 CFR 58.10)-					
No.	Near-road plan requirement	Citation	Info submitted? <sup>1</sup> If yes, page #s.	Requirement met? <sup>2</sup>	Notes
1	A plan for establishing near-road NO <sub>2</sub> monitoring site(s)	40 CFR 58.10(a)(5)	Yes Pages 51-52, 54-55	Yes	Original near-road NO <sub>2</sub> plan for this site was submitted in 2013 ANP, additional information requested with 2014 ANP submittal. EPA approves selection of this near-road site.
2	Evidence of public comment on proposed site(s), no changes subsequent to proposal, and submittal of any received comments	40 CFR 58.10(a)(2)	Yes, Submittal letter and Page 54	Yes	
3	Operation start date	40 CFR 58.10(a)(5)	Incorrect, Page 52, D-153	No	Site was required to begin operation by January 1, 2014. DAQ notes construction for the site is anticipated mid-2014. This site was not operational as of September 2014.
4	AQS site identification number	40 CFR 58.10(b)(1)	No – TBD	Insufficient to judge	Please include this in next year's ANP.
5	Location (street address & geographical coordinates)	40 CFR 58.10(b)(2)	Yes, Page 51	Yes	
6	Sampling and analysis method (method code)	40 CFR 58.10(b)(3)	Yes, Page 51-52	Yes	
7	Operation Schedule (Season & sampling frequency)	40 CFR 58.10(b)(4)	Yes, Page 52	Yes	
8	Any proposal to remove or move the monitor within a period of 18 months following plan submittal	40 CFR 58.10(b)(5)	Yes, Page 52	Yes	
9	Monitoring objective & spatial scale of representativeness	40 CFR 58.10(b)(6)	Yes, Page 51-52	Yes	

<sup>1</sup> Response options: N/A (Not Applicable), Yes, No, Incomplete, Incorrect. The responses "Incomplete" and "Incorrect" assume that some information has been provided.

<sup>2</sup> Response options: N/A (Not Applicable) – [reason], Yes, No, Insufficient to Judge. Assumes information submitted is correct.

10	CBSA represented by the monitor	40 CFR 58.10(b)(8)	Yes, Page 51	Yes	
<b>Network Design requirements (40 CFR 58, Appendix D, Section 4.3.2)</b>					
11	CBSA population & year	40 CFR 58, App.D 4.3.2(a)	Yes, Page 3	Yes	
12	Maximum AADT counts & year for the CBSA(s)	40 CFR 58, App.D 4.3.2(a)	Yes, Pages 3, 51, C-1, C-5-C-6	Yes	
13	Correct # of required near-road NO <sub>2</sub> monitors for the CBSA(s)	40 CFR 58, App.D 4.3.2(a)	Yes, Pages 3, 54-55	Yes	
14	Were all road segments within the CBSA ranked by AADT?	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-5	Yes	
15	Discussion of how fleet mix is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-1, C-5	Yes	
16	Discussion of how roadway design is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Pages C-1 – C-2	Yes	
17	Discussion of how congestion is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Pages C-1 – C-2, C-5	Yes	
18	Discussion of how terrain is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-1 - C-2	Yes	
19	Discussion of how meteorology is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Pages A-19 – A-20 C-1 - C-2	Yes	
20	After above factors considered, if multiple candidate sites where max concentrations expected: Discussion of how population exposure is considered?	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-1	Yes	The top FE-AADT site where peak concentrations are expected was selected. Assessment of nearby population exposure centers provided.

21	Where the site proposed is the 2 <sup>nd</sup> in the CBSA: Discussion of differing factors compared to first site (i.e. fleet mix; congestion; terrain; geographic area within CBSA; or different route, interstate, or freeway designation).	40 CFR 58, App.D 4.3.2(a)(1)	N/A	N/A	
<b>Siting criteria requirements (40 CFR 58, Appendix E)-</b>					
22	Distance from target road segment as near as practicable (TAD recommendation is within 20 meters) & no more than 50 meters?	40 CFR 58, App.E 6.4(a)	Yes, Page 51	Yes	
23	Vertical inlet placement between 2-7 meters?	40 CFR 58, App.E 2	Yes, Page 52	Yes	
24	Probe distance from supporting structures is at least 1 meter away vertically or horizontally?	40 CFR 58, App.E 2	Yes, Page 52	Yes	
25	Is air flow unobstructed between the probe and the outside nearest edge of the targeted road segment?	40 CFR 58, App.E 4(d)	Yes, Page 52	Yes	

**SUPPORTING/ADDITIONAL INFORMATION:** Based on Near-road NO<sub>2</sub> monitoring TAD and experience.

Check	(Yes, No, N/A) If yes, page #s.	Comments
If top FE-AADT segment not selected, is adequate justification provided for higher ranks not selected?	N/A	Top FE-AADT segment selected.
If similar top FE-AADT candidate sites available, was most congested segment selected?	N/A	Most congested segment selected.
Is candidate site selected downwind of target road segment?	Yes, Pages A-19—A-20, D-155—D-157	Light and variable winds expected for a majority of the time, site is relatively downwind of predominant wind direction.
Are wind roses included to show predominant wind patterns?	Yes, Pages A-19 – A-20	
Are physical attributes (roadway design, roadside structures, or	Yes, Pages C-1	

terrain) desirable according to Table 4-2 of the Near-road NO <sub>2</sub> TAD (see below)?	– C-2	
If physical attributes (roadway design, roadside structures, or terrain) NOT desirable according to Table 4-2 of the Near-road NO <sub>2</sub> TAD, are they TYPICAL for the area?	N/A, Pages C-1 – C-2	
Was population exposure correctly considered as an additional factor AFTER consideration of primary factors (FE-AADT, congestion, roadway design, terrain, meteorology) and IF multiple max concentration candidate sites identified?	Yes, Pages C-1 – C-2	See item 20 above.
Will this be a multi-pollutant site? If so, list additional parameters planned in Comments.	N/A, Page 55	No additional parameters specified at the site. ANP notes PM2.5 and CO to be monitored at one of the near-road sites as required by January 1, 2017.
Does agency ensure candidate selection is NOT in a “unique” location? (See Near-road NO <sub>2</sub> TAD section 13.2 included below)	No	Although the agency does not specify in the ANP that this is not a unique location, based on the information presented in the plan and per the definition noted below, EPA does not consider this to be a unique location.

**Table 4-2.** Summary of physical considerations for candidate near-road sites.

Physical Site Component	Impact on Site Selection	Desirable Attributes	Least Desirable Attributes	Potential Information Sources
Roadway design or configuration	Feasibility of monitor placements; affects pollutant transport and dispersion.	At-grade or nearly at-grade with immediate surrounding terrain.	Deep cut-sections/significantly below grade; significantly above grade (fill or bridge); above grade (bridge).	Field reconnaissance; satellite imagery
Roadside Structures	Feasibility of monitor placement; affects pollutant transport and dispersion.	present other than low (<2 m in height) vegetation or safety features such as guardrails.	Presence of sound walls, mature (high and thick) vegetation, obstructive buildings.	Field reconnaissance; satellite imagery
Terrain	Affects pollutant dispersion, local atmospheric stability.	Flat or gentle terrain, within a valley, or along a road grade.	Along mountain ridges or peaks, hillsides, or other naturally windswept areas.	Field reconnaissance; digital elevation models and vegetation files; satellite imagery.
Meteorology	Affects pollutant transport and dispersion.	Relative downwind locations; winds from road to monitor.	Strongly predominant upwind positions.	Local data; National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service (NWS); EPA's Air Quality System (AQS).

### **13.2 Unique Locations and Background Source Influences**

In the evaluation process, state and local air agencies may encounter situations where certain road segments of interest have characteristics that make the location a unique near-road location that has elevated pollutant concentrations. In such cases, the pollutant concentrations are not representative of other near-road locations across the CBSA. The unique characteristics of these locations could be due to the close proximity of a substantial stationary source, non-road mobile sources, or roadway design features (such as tunnel entrances and exits or toll plazas). In situations where a state or local air agency has a choice between road segments that otherwise have similar potential for peak NO<sub>2</sub> concentrations, the air agencies should place a higher weight on sites that are most influenced by typical roadway activity rather than those that are heavily influenced by unique sources or features. This approach increases the probability that the chosen site can represent a larger population exposure within and across CBSAs.

The EPA recognizes that state and local air agencies will likely have a good understanding of whether candidate near-road NO<sub>2</sub> monitoring sites have unique characteristics that do or do not represent the CBSA that those sites are within. The EPA encourages state and local air agencies to use their local knowledge in site selection and to engage the EPA Regional staff for assistance in evaluating such a situation as necessary.

**D2. Region 9 Near-road Plan review checklist- 4<sup>th</sup> St and Casino Center Drive**  
**Checklist Version date: September 30, 2014**

Agency: Clark County DAQ  
CBSA: Las Vegas-Paradise, NV; Phase 2: (required by January 1, 2015)

This checklist is intended to clarify those elements that EPA will be looking for during the review of proposed near-road monitoring sites. Please note that this checklist is based on near-road site selection criteria specified in 40 CFR Part 58 Appendix D section 4.3.2, but does not substitute for those requirements, nor do its contents provide a binding determination of compliance with those requirements. The checklist is subject to revision in the future and we welcome comments on its contents and structure.

**Key:**

White = meets the requirement.

**Yellow** = Requirement is not met, or information is insufficient to make a determination. Action requested in next year's plan or outside the ANP process.

**Green** = item requires attention in order to improve next year's plan.

**COMPLETENESS CHECK:** Based on 40 CFR 58 requirements.

<b>Network Plan requirements (40 CFR 58.10)-</b>					
<b>No.</b>	<b>Near-road plan requirement</b>	<b>Citation</b>	<b>Info submitted?<sup>1</sup> If yes, page #s.</b>	<b>Requirement met?<sup>2</sup></b>	<b>Notes</b>
1	A plan (submitted by July 1, 2014) for establishing near-road NO <sub>2</sub> monitoring site(s)	40 CFR 58.10(a)(5)	Yes Pages 53-55	Yes	EPA approves selection of this near-road site.
2	Evidence of public comment on proposed site(s), no changes subsequent to proposal, and submittal of any received comments	40 CFR 58.10(a)(2)	Yes, Submittal letter and Page 54	Yes	
3	Anticipated operation start date	40 CFR 58.10(a)(5)	Yes, Page 54	Yes	DAQ notes 2015 as the anticipated monitoring start date. Deadline to commence monitoring is by January 1, 2015. Please indicate exact operation start date in next year's ANP.
4	AQS site identification number	40 CFR 58.10(b)(1)	No – TBD	Insufficient to judge	Please include this in next year's ANP.
5	Location (street address & geographical coordinates)	40 CFR 58.10(b)(2)	Yes, Page 53	Yes	
6	Sampling and analysis method (method code)	40 CFR 58.10(b)(3)	Yes, Page 53	Yes	
7	Operation Schedule (Season & sampling frequency)	40 CFR 58.10(b)(4)	Yes, Page 54	Yes	
8	Any proposal to remove or move the monitor within a period of 18 months following plan submittal	40 CFR 58.10(b)(5)	Yes, Page 54	Yes	
9	Monitoring objective & spatial scale of	40 CFR	Yes, Page 53	Yes	

<sup>1</sup> Response options: N/A (Not Applicable), Yes, No, Incomplete, Incorrect. The responses "Incomplete" and "Incorrect" assume that some information has been provided.

<sup>2</sup> Response options: N/A (Not Applicable) – [reason], Yes, No, Insufficient to Judge. Assumes information submitted is correct.

	representativeness	58.10(b)(6)			
10	CBSA represented by the monitor	40 CFR 58.10(b)(8)	Yes, Page 53	Yes	
<b>Network Design requirements (40 CFR 58, Appendix D, Section 4.3.2)</b>					
11	CBSA population & year	40 CFR 58, App.D 4.3.2(a)	Yes, Page 3	Yes	
12	Maximum AADT counts & year for the CBSA(s)	40 CFR 58, App.D 4.3.2(a)	Yes, Pages 3, 53, C-3, C-5 - C-6	Yes	
13	Correct # of required near-road NO <sub>2</sub> monitors for the CBSA(s)	40 CFR 58, App.D 4.3.2(a)	Yes, Pages 3, 54-55	Yes	
14	Were all road segments within the CBSA ranked by AADT?	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-5	Yes	
15	Discussion of how fleet mix is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-3, C-5	Yes	
16	Discussion of how roadway design is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-3 - C-4	Yes	
17	Discussion of how congestion is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-3 - C-5	Yes	
18	Discussion of how terrain is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-3 - C-4	Yes	
19	Discussion of how meteorology is considered	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Pages B-9, C-3 - C-4	Yes	
20	After above factors considered, if multiple candidate sites where max concentrations expected: Discussion of how population	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-3 - C-4	Yes	After considering above factors, next highest available ranked segment selected other than I-15 segments. Highest ranked I-15 segment

	exposure is considered?				was selected for Phase 1 implementation.  Population information given is identical to the Phase 1 site. Please revisit to ensure this is accurate and provide any updates as needed in next year's ANP.
21	Where the site proposed is the 2 <sup>nd</sup> in the CBSA: Discussion of differing factors compared to first site (i.e. fleet mix; congestion; terrain; geographic area within CBSA; or different route, interstate, or freeway designation).	40 CFR 58, App.D 4.3.2(a)(1)	Yes, Page C-3 - C-6	Yes	Site collocated along a different freeway with a different fleet mix.
<b>Siting criteria requirements (40 CFR 58, Appendix E)-</b>					
22	Distance from target road segment as near as practicable (TAD recommendation is within 20 meters) & no more than 50 meters?	40 CFR 58, App.E 6.4(a)	Yes, Page 53	Yes	
23	Vertical inlet placement between 2-7 meters?	40 CFR 58, App.E 2	Yes, Page 54	Yes	
24	Probe distance from supporting structures is at least 1 meter away vertically or horizontally?	40 CFR 58, App.E 2	Yes, Page 54	Yes	
25	Is air flow unobstructed between the probe and the outside nearest edge of the targeted road segment?	40 CFR 58, App.E 4(d)	Yes, Page 54	Yes	Please clarify in next year's ANP that the obstruction not on the roof listed in the site table in section 7 does not impede flow. See Enclosure C, row 75 for more details.

**SUPPORTING/ADDITIONAL INFORMATION:** Based on Near-road NO<sub>2</sub> monitoring TAD and experience.

Check	(Yes, No, N/A) If yes, page #s.	Comments
If top FE-AADT segment not selected, is adequate justification provided for higher ranks not selected?	Yes, Page C-5	Top FE-AADT site along I-15 was selected for Phase 1 implementation. This site presented an FE-AADT rank of 12, along

		with the next highest overall rank (7) for a segment different than the I-15.
If similar top FE-AADT candidate sites available, was most congested segment selected?	Yes, Page C-5	Most congested segment along US95 was selected. #3 highest overall congestion ranking for roads in Las Vegas CBSA.
Is candidate site selected downwind of target road segment?	Yes, Pages B-9 & C-3	Light and variable winds expected for a majority of the time, site is downwind of predominant wind direction.
Are wind roses included to show predominant wind patterns?	Yes, Page B-9	
Are physical attributes (roadway design, roadside structures, or terrain) desirable according to Table 4-2 of the Near-road NO <sub>2</sub> TAD (see below)?	Yes, Pages C-3 – C-4	Sloping, slightly elevated road.
If physical attributes (roadway design, roadside structures, or terrain) NOT desirable according to Table 4-2 of the Near-road NO <sub>2</sub> TAD, are they TYPICAL for the area?	N/A, Pages C-3 – C-4	
Was population exposure correctly considered as an additional factor AFTER consideration of primary factors (FE-AADT, congestion, roadway design, terrain, meteorology) and IF multiple max concentration candidate sites identified?	Yes, Pages C-3 – C-4	
Will this be a multi-pollutant site? If so, list additional parameters planned in Comments.	N/A, Page 55	No additional parameters specified at the site. ANP notes PM2.5 and CO to be monitored at one of the near-road sites as required by January 1, 2017.
Does agency ensure candidate selection is NOT in a “unique” location? (See Near-road NO <sub>2</sub> TAD section 13.2 included below)	No	Although the agency does not specify in the ANP that this is not a unique location, based on the information presented in the plan and per the definition noted below, EPA does not consider this to be a unique location.

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**Table 4-2.** Summary of physical considerations for candidate near-road sites.

Physical Site Component	Impact on Site Selection	Desirable Attributes	Least Desirable Attributes	Potential Information Sources
Roadway design or configuration	Feasibility of monitor placements; affects pollutant transport and dispersion.	At-grade or nearly at-grade with immediate surrounding terrain.	Deep cut-sections/significantly below grade; significantly above grade (fill or bridge); above grade (bridge).	Field reconnaissance; satellite imagery
Roadside Structures	Feasibility of monitor placement; affects pollutant transport and dispersion.	present other than low (<2 m in height) vegetation or safety features such as guardrails.	Presence of sound walls, mature (high and thick) vegetation, obstructive buildings.	Field reconnaissance; satellite imagery
Terrain	Affects pollutant dispersion, local atmospheric stability.	Flat or gentle terrain, within a valley, or along a road grade.	Along mountain ridges or peaks, hillsides, or other naturally windswept areas.	Field reconnaissance; digital elevation models and vegetation files; satellite imagery.
Meteorology	Affects pollutant transport and dispersion.	Relative downwind locations; winds from road to monitor.	Strongly predominant upwind positions.	Local data; National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service (NWS); EPA's Air Quality System (AQS).

### **13.2 Unique Locations and Background Source Influences**

In the evaluation process, state and local air agencies may encounter situations where certain road segments of interest have characteristics that make the location a unique near-road location that has elevated pollutant concentrations. In such cases, the pollutant concentrations are not representative of other near-road locations across the CBSA. The unique characteristics of these locations could be due to the close proximity of a substantial stationary source, non-road mobile sources, or roadway design features (such as tunnel entrances and exits or toll plazas). In situations where a state or local air agency has a choice between road segments that otherwise have similar potential for peak NO<sub>2</sub> concentrations, the air agencies should place a higher weight on sites that are most influenced by typical roadway activity rather than those that are heavily influenced by unique sources or features. This approach increases the probability that the chosen site can represent a larger population exposure within and across CBSAs.

The EPA recognizes that state and local air agencies will likely have a good understanding of whether candidate near-road NO<sub>2</sub> monitoring sites have unique characteristics that do or do not represent the CBSA that those sites are within. The EPA encourages state and local air agencies to use their local knowledge in site selection and to engage the EPA Regional staff for assistance in evaluating such a situation as necessary.

### **E. EPA approval of the site closure request for Winterwood**

This enclosure provides EPA's review and approval for the Clark County Department of Air Quality's (DAQ's) request on September 17, 2014 for discontinuation of State/Local Air Monitoring Station (SLAMS) O<sub>3</sub> and CO monitors at the Winterwood (Site ID: 32-003-0538) site. DAQ made the request and supporting analyses available for a 30-day public comment period and received no comments.

Per 40 CFR 58.14, monitoring agencies are required to obtain EPA approval for the discontinuation of SLAMS monitors. Each of these monitor discontinuations were specifically reviewed by EPA against 40 CFR 58.14(c)(1) criteria. According to certified data submitted to EPA's Air Quality System (AQS), both monitors show attaining design values for 2009-2013 for all applicable National Ambient Air Quality Standards (NAAQS). These monitors are not specifically required by an attainment or maintenance plan and are not the only SLAMS monitors of their kind operating in a nonattainment or maintenance area. DAQ's analyses determined that there is a less than 10 percent probability of exceeding 80 percent of each of the applicable NAAQS during the next three years (2014-2016). Preliminary 2014 data from the monitors continue to be well below the standards and support this analysis. Based on this evaluation, EPA approves DAQ's discontinuation of the SLAMS O<sub>3</sub> and CO monitors at the Winterwood site under 40 CFR 58.14(c)(1).



CLARK COUNTY • DEPARTMENT OF AIR QUALITY  
 4701 W. Russell Road Suite 200 • Las Vegas, NV 89118-2231  
 (702) 455-5942 • Fax (702) 383-9994  
 Lewis Wallenmeyer Director

September 17, 2014

**RE: Winterwood Monitoring Station Discontinuation**

Meredith Kurpius, PhD  
 Manager, Air Quality Analysis Office  
 US EPA, Region 9  
 75 Hawthorne Street  
 San Francisco, CA 94105  
 Email: [Kurpius.Meredith@epa.gov](mailto:Kurpius.Meredith@epa.gov)

Dear Dr. Kurpius,

This letter constitutes Clark County Department of Air Quality's (DAQ's) request to discontinue operation of the Winterwood State/Local Air Monitoring Station (SLAMS) monitoring station located at 5483 Club House Drive, Las Vegas, Nevada (AQS Site ID: 32-003-0538). The Winterwood station monitors for O<sub>3</sub> and CO. This request is based on requirements outlined in 40 CFR §58.14 System Modification. The table below provides specifics related to the O<sub>3</sub> and CO monitors at the Winterwood station:

**Monitor Information for CO and O<sub>3</sub> at the Winterwood Station**

Pollutant, POC	CO, 1	O <sub>3</sub> , 2
Parameter Code	42101	44201
Method Code	RFCA-1093-093	EQOA-0992-087
Monitor Type	SLAMS	SLAMS
Monitor Begin Date	01/01/1998	07/01/1979
Monitor End Date	10/01/2014	10/01/2014
Spatial Scale	Neighborhood	Neighborhood
Monitoring Objective	NAAQS Comparison	NAAQS Comparison

In line with the requirements of 40 CFR §58.14(c)(1), the Winterwood station has indicated attainment for O<sub>3</sub> and CO during the last five years. (See Ozone Trends Attachment and CO Trends Attachment.) Using the most recently available data, including the O<sub>3</sub> design values for the last five years, DAQ has determined that the design values are below the 8-hour O<sub>3</sub> NAAQS of 0.075 ppm:

**2009–2013 O<sub>3</sub> Design Values (DV) at the Winterwood Station**

2009 Design Value	2010 Design Value	2011 Design Value	2012 Design Value	2013 Design Value
0.072	0.069	0.070	0.071	0.072

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 Mary Beth Scow • Lawrence Weekly  
 Don Burnette, County Manager



Using the most recently available data, including the last five years of maximum CO concentrations, DAQ has determined that the maximum values are below the 8-hour CO standard of 9 ppm, and the 1-hour CO standard of 35 ppm:

**2009–2013 CO Maximum NAAQS Values at the Winterwood Station**

Year	1st Max 8-Hour Concentration (ppm)	1st Maximum 1-Hour Concentration (ppm)
2009	3.0	3.8
2010	2.6	3.0
2011	2.4	3.4
2012	2.5	3.0
2013	2.8	3.2

According to DAQ calculations, O<sub>3</sub> and CO monitors have a probability of less than 10% of exceeding 80% of the applicable NAAQS. The attached Excel spreadsheet (from Section 4.1 of the Ambient Air Monitoring Network Assessment Guidance) was used to make this determination.

There are no State-adopted and EPA-approved attainment or maintenance plan requirements to operate O<sub>3</sub> and CO monitors at the Winterwood monitoring station. The Las Vegas Valley area is covered by an active network of CO and O<sub>3</sub> monitors, and this area is classified as attainment for O<sub>3</sub> and CO.

The distance from the Winterwood station to its nearest monitoring station (Jerome Mack) is approximately 1.3 miles. (See attached file: Distance from Jerome Mack to Winterwood.) DAQ proposed in its Annual Monitoring Network Plan Report, submitted June 3, 2014, closure of the Winterwood station. The Jerome Mack station is representative of the same air shed and is inclusive of the Winterwood neighborhood scale, resulting in redundant data.

The proposed discontinuation of the Winterwood monitoring station is currently out for a 30-day public comment period and can be found at:

<http://www.clarkcountynv.gov/Depts/AirQuality/Announcements/Pages/WinterwoodMonitoringStationClosure.aspx>

Thank you for your consideration.

Sincerely,



Phillip Wiker  
Manager, Monitoring Division  
Clark County Department of Air Quality  
4701 W. Russell Rd., Suite 200  
Las Vegas, Nevada 89118  
Phone: (702) 455-1603  
E-mail: [wiker@ClarkCountyNV.gov](mailto:wiker@ClarkCountyNV.gov)

Meredith Kurpius, PhD  
September 17, 2014  
Page 3 of 3

Attachments:

Ozone Trends

Carbon Monoxide Trends

Less than 10% of exceeding 80% of NAAQS Test

Distance from Jerome Mack to Winterwood

cc:

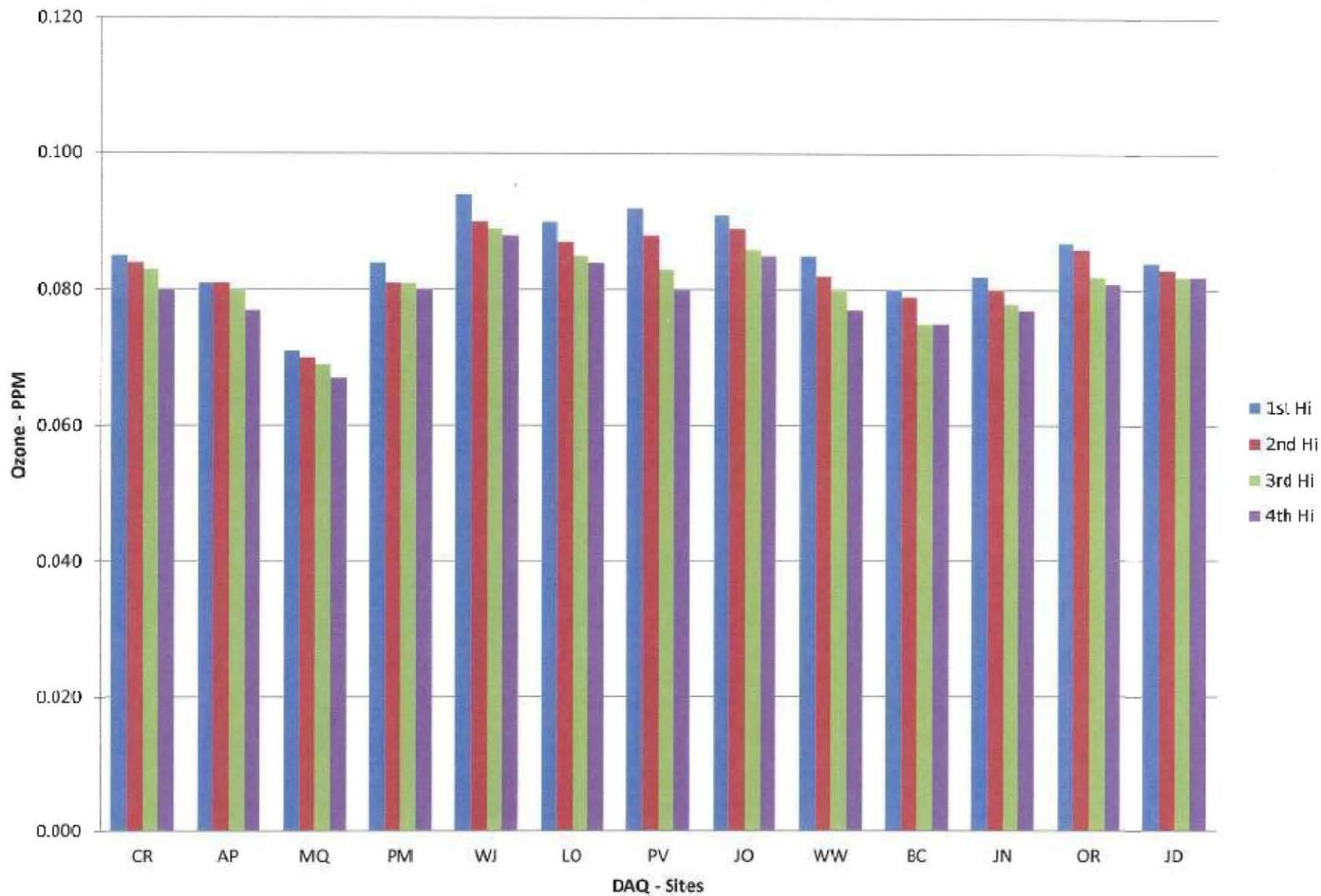
Yousaf Hameed, Monitoring Supervisor, DAQ

Piotr Nowinski, Monitoring Supervisor, DAQ

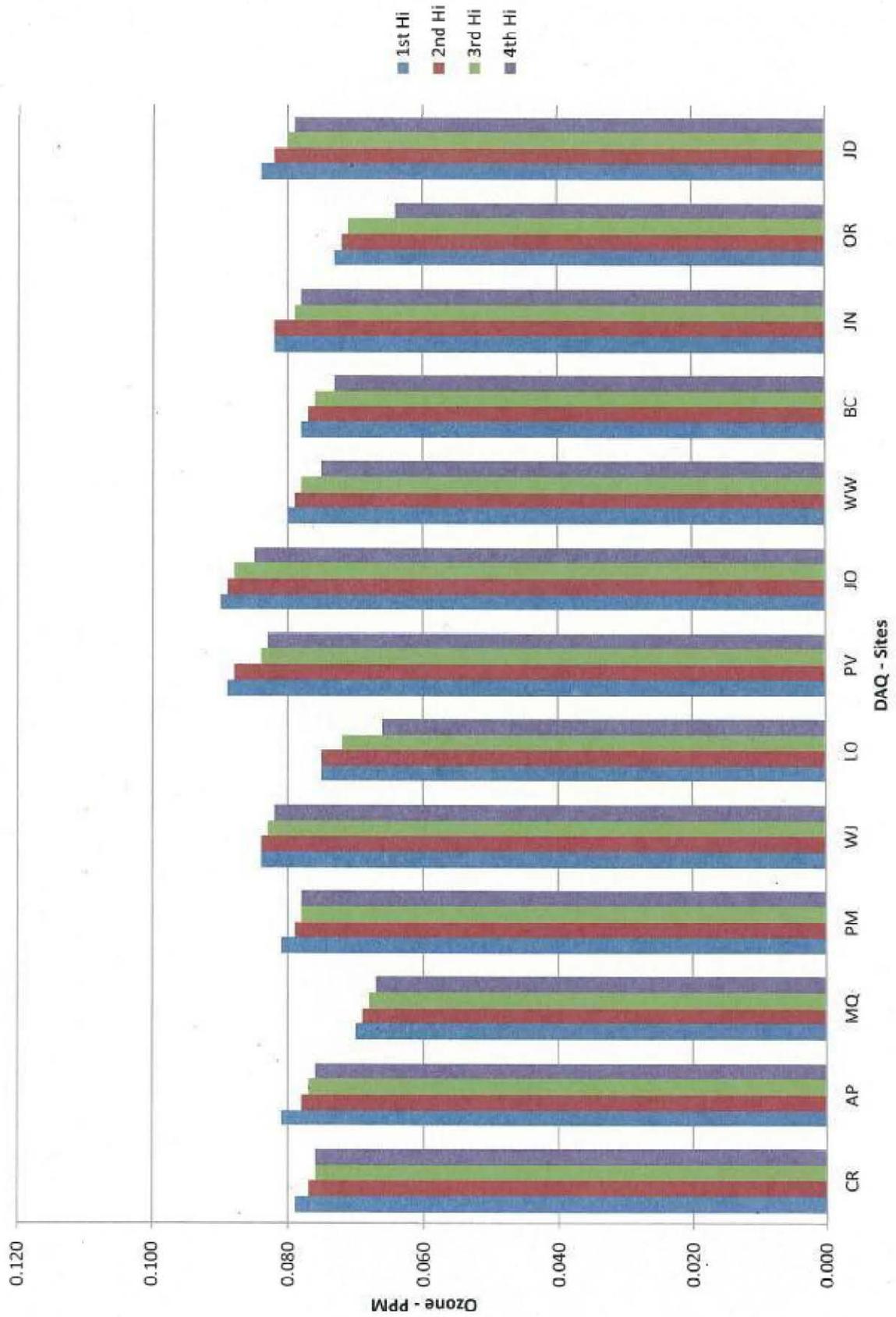
Stephen Deyo, Assistant Manager, DAQ

Katherine, Hoag, Air Quality Analysis Office (AJR-7), EPA Region 9

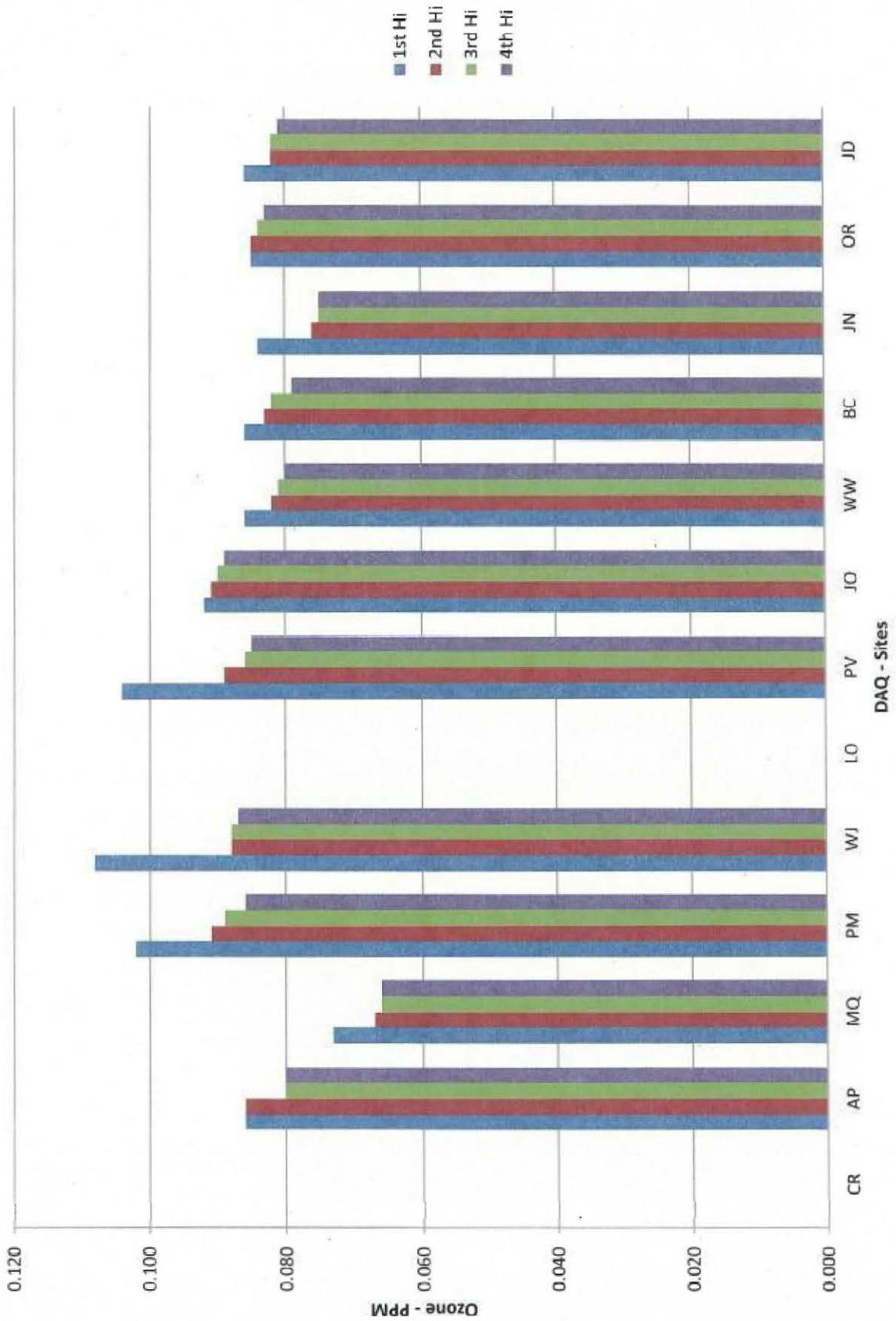
### Ozone 1-Hr Trend 2009



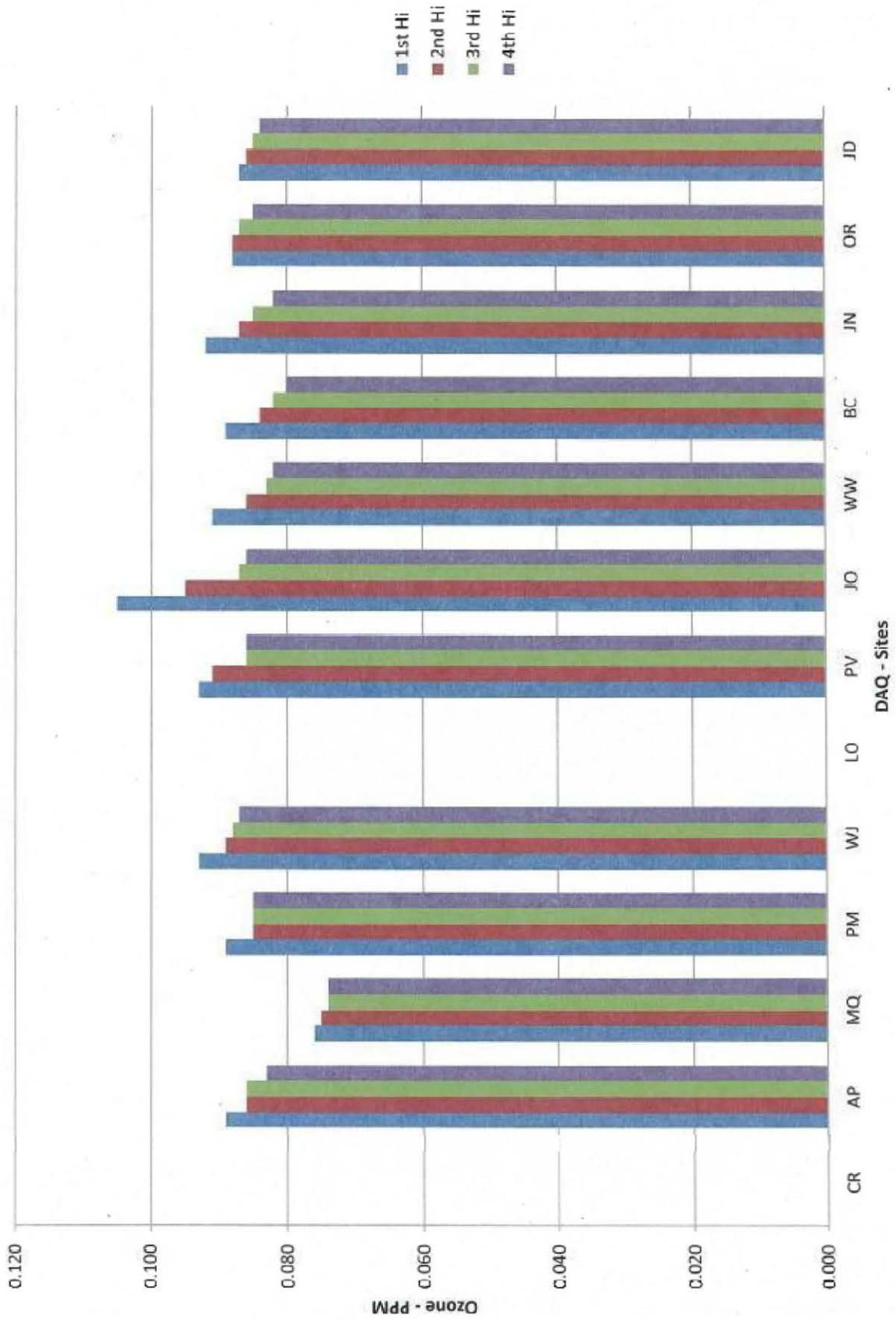
# Ozone 1-Hr Trend 2010



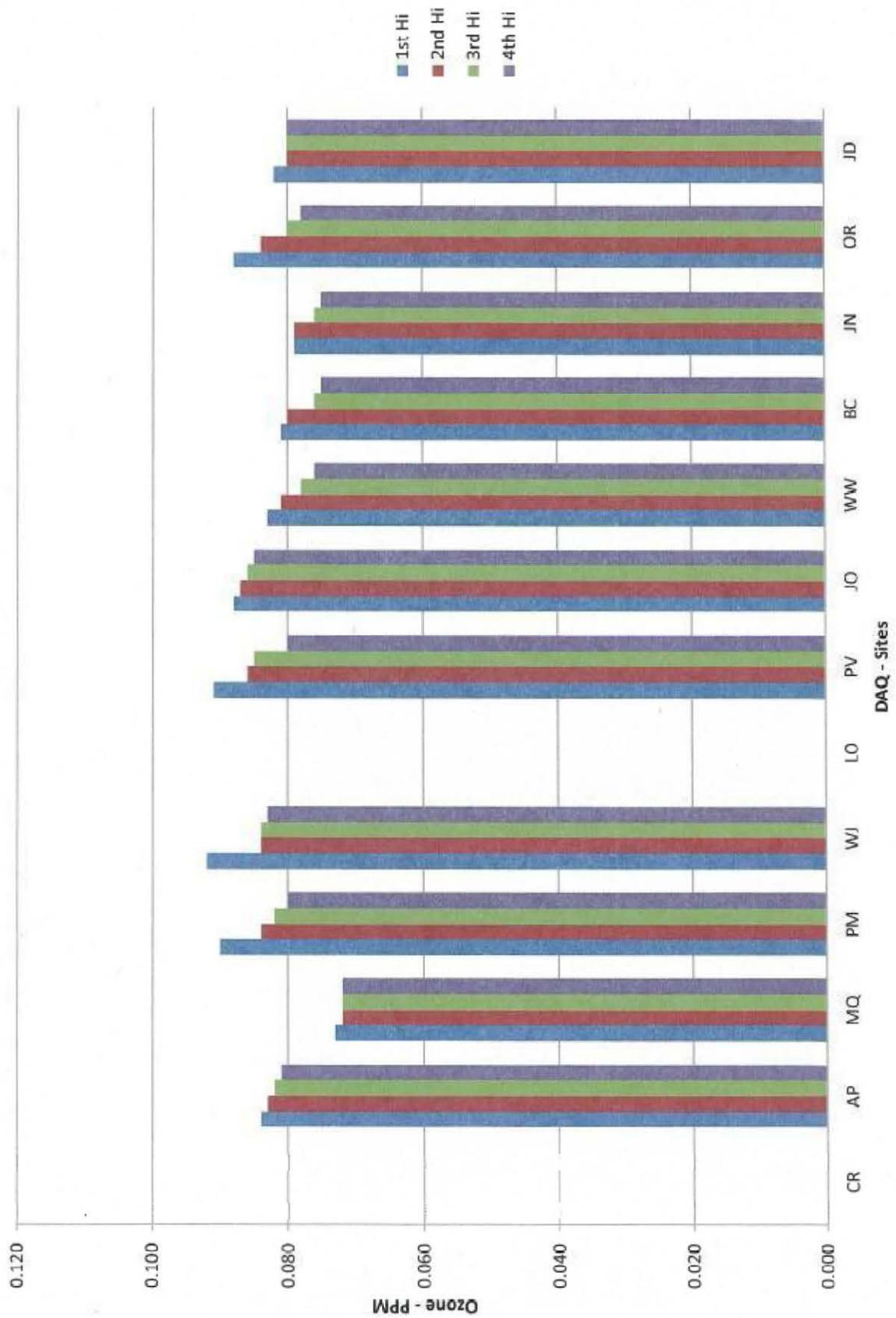
# Ozone 1-Hr Trend 2011



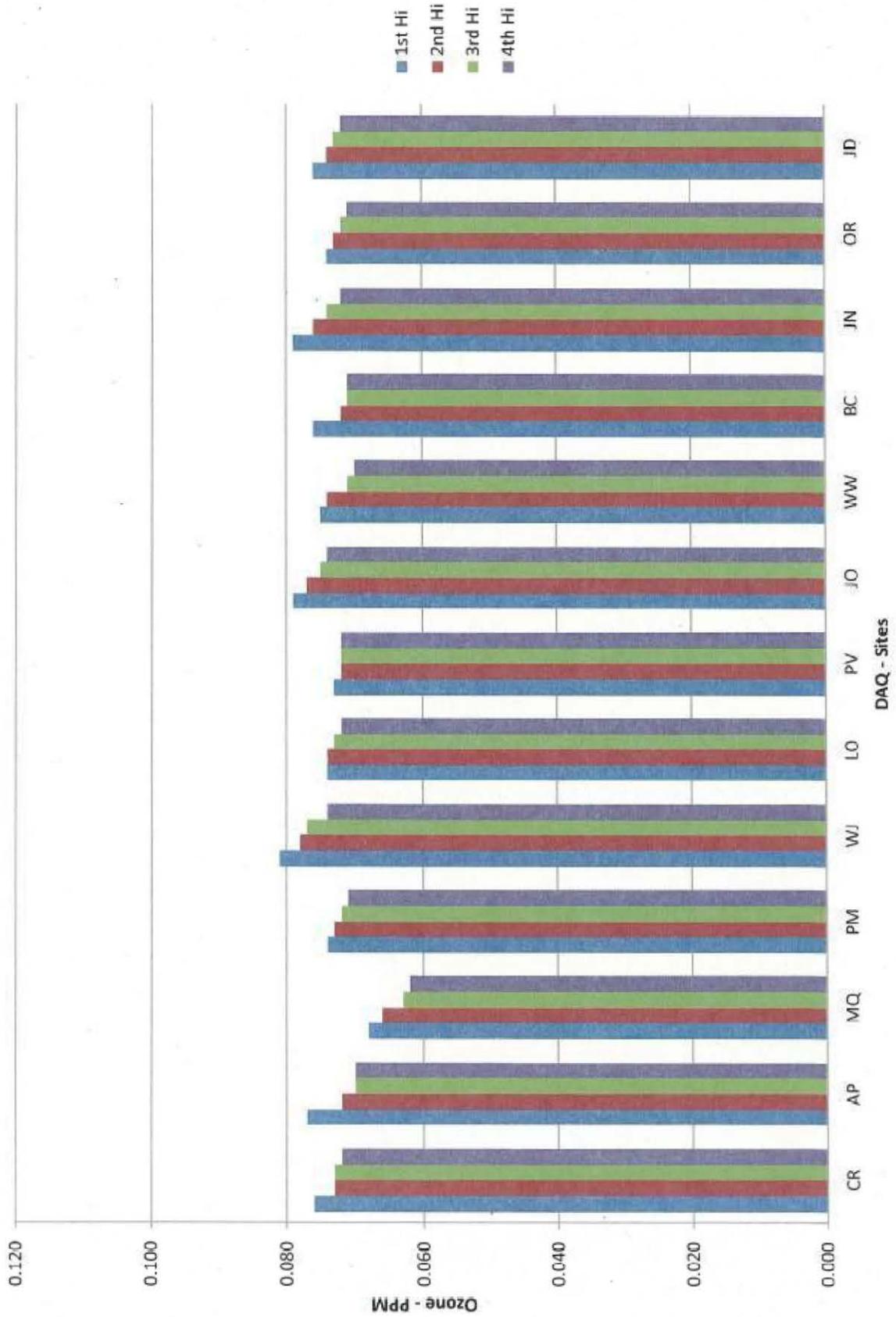
# Ozone 1-Hr Trend 2012



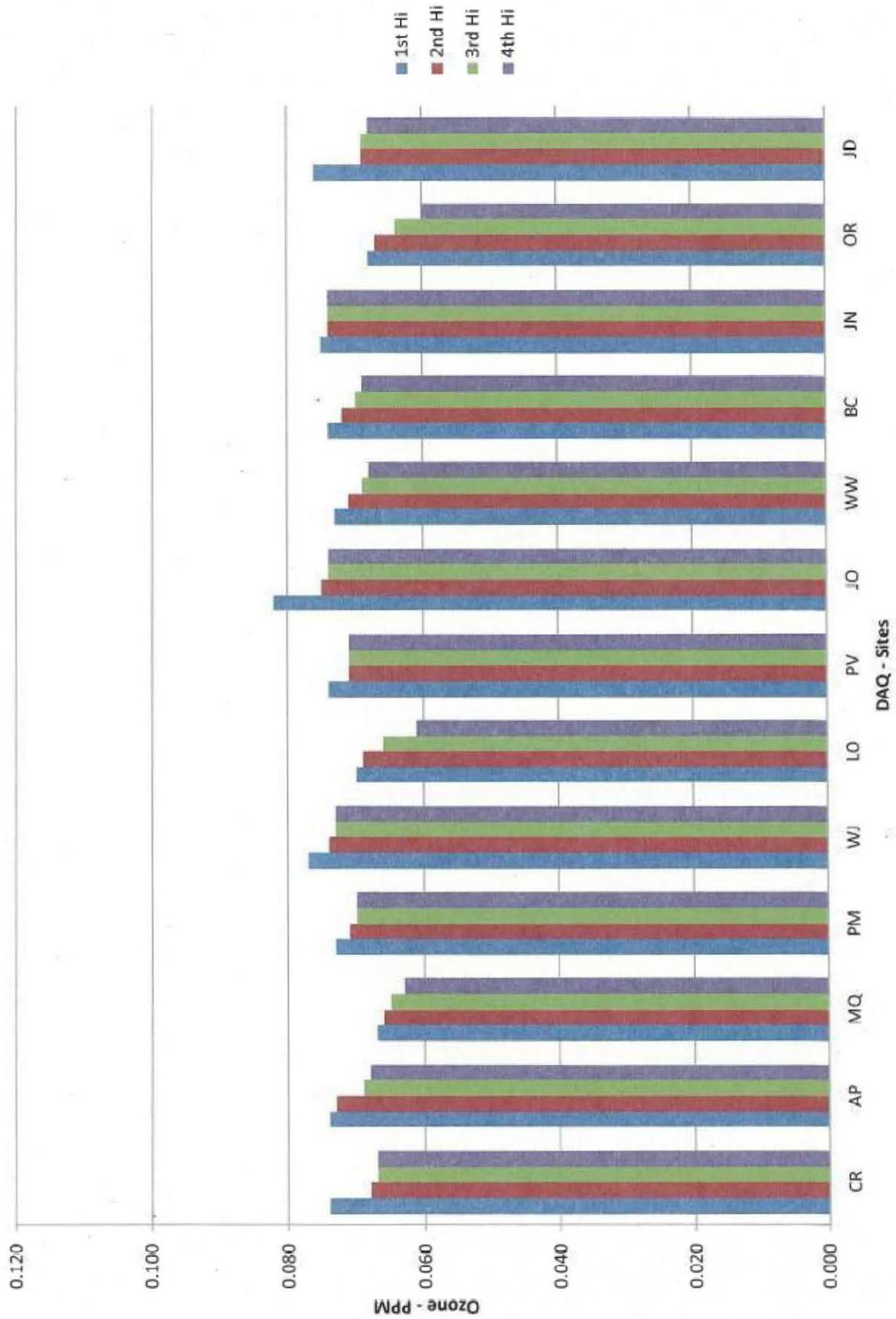
# Ozone 1-Hr Trend 2013



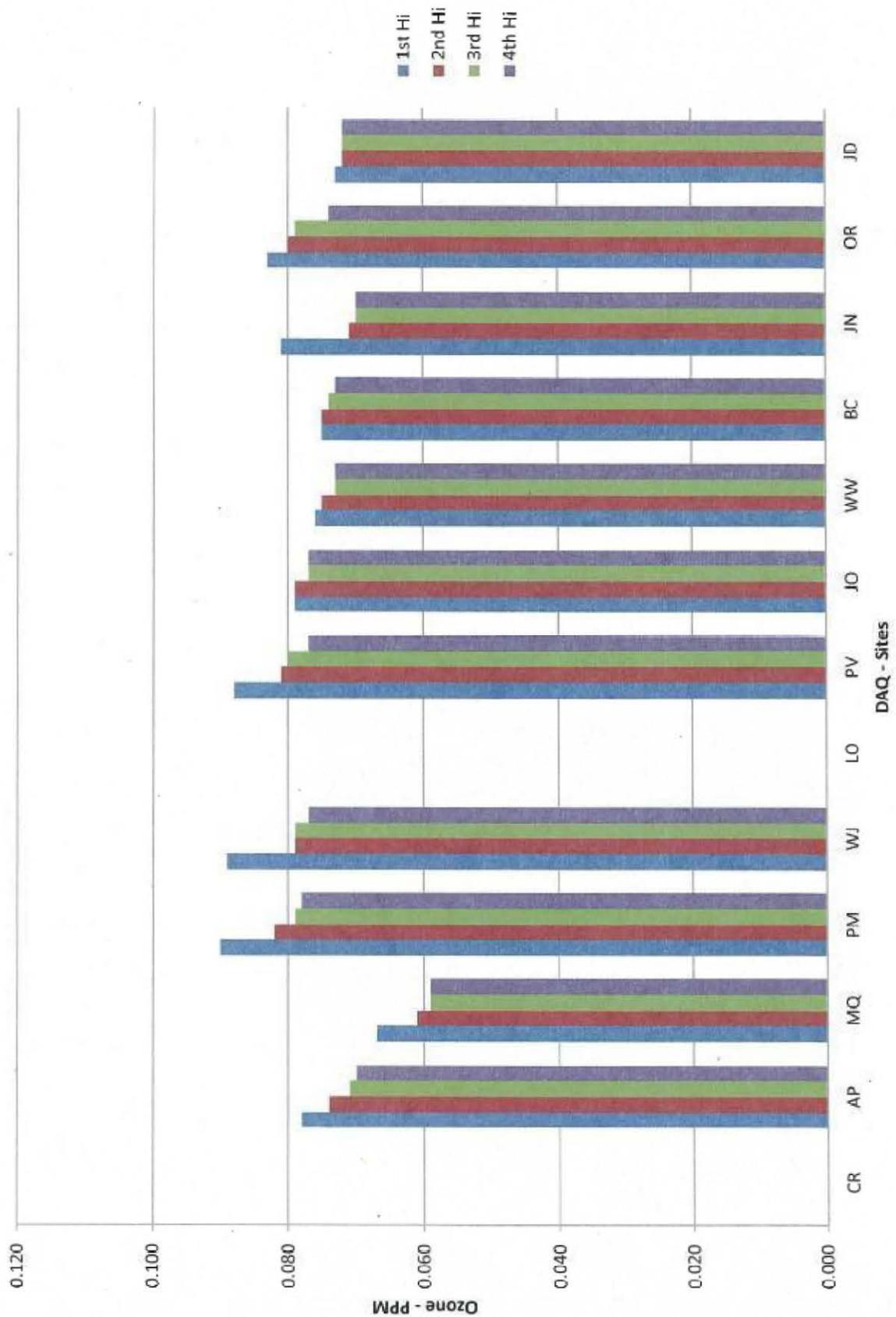
# Ozone 8-Hr Trend 2009



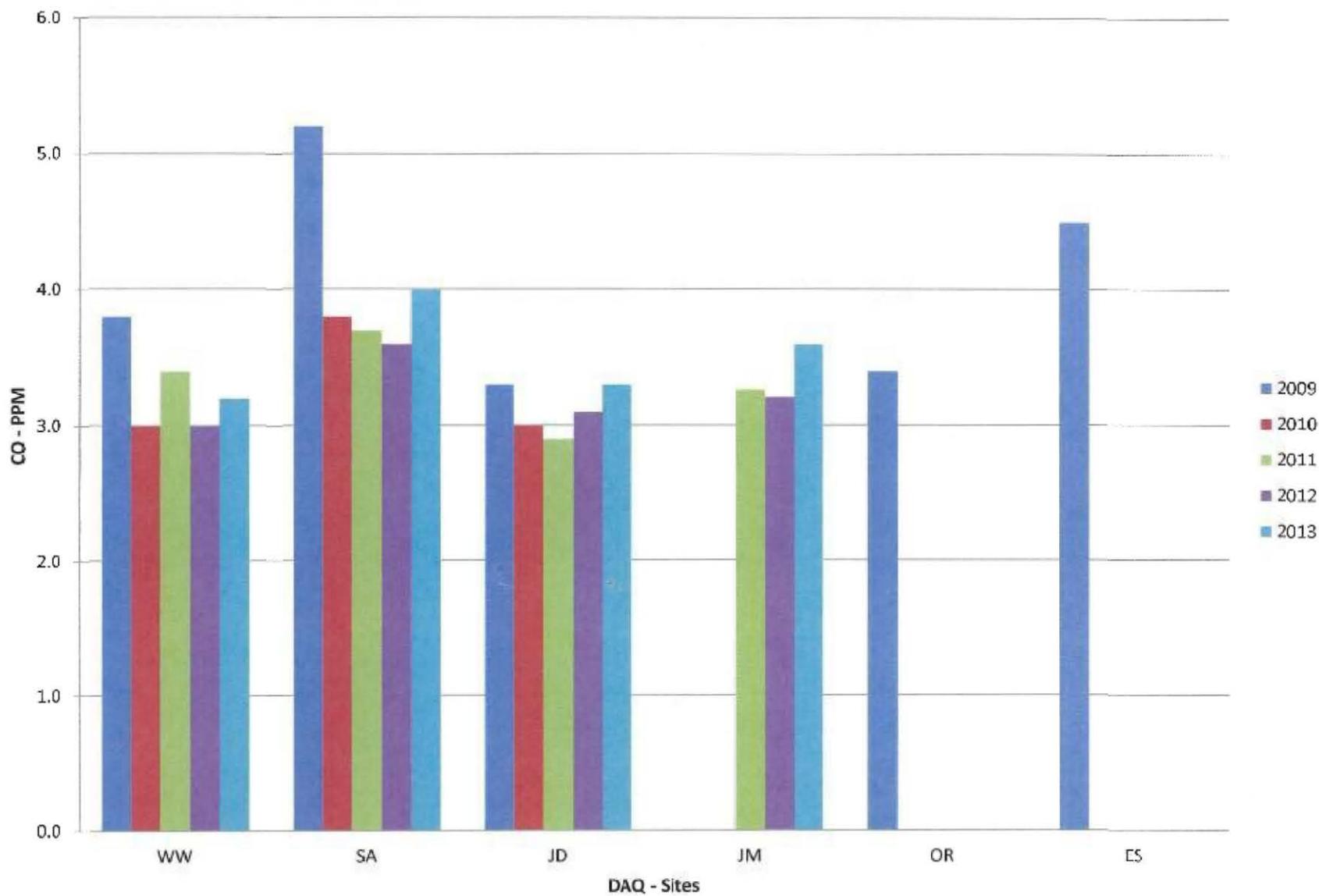
# Ozone 8-Hr Trend 2010



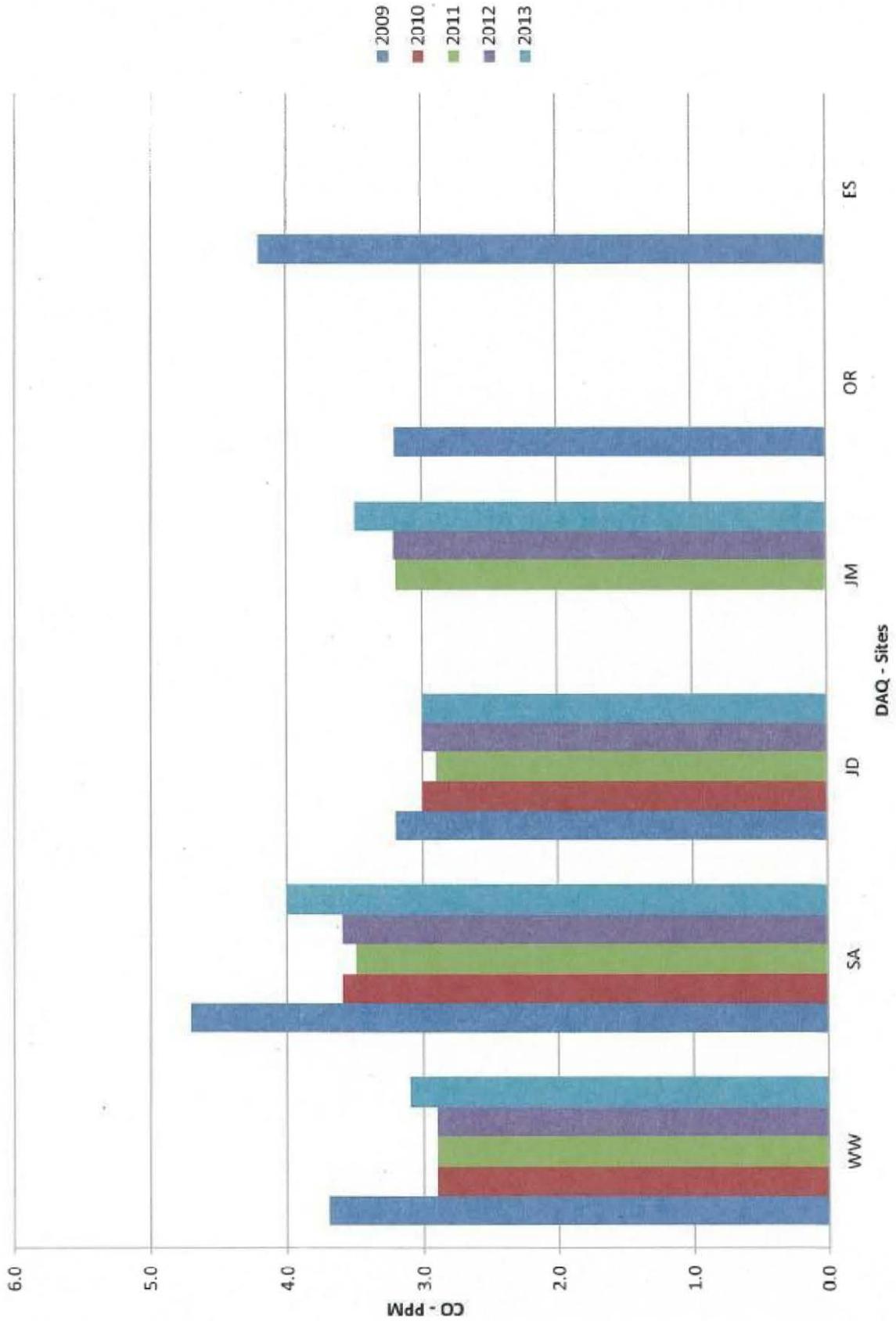
# Ozone 8-Hr Trend 2011



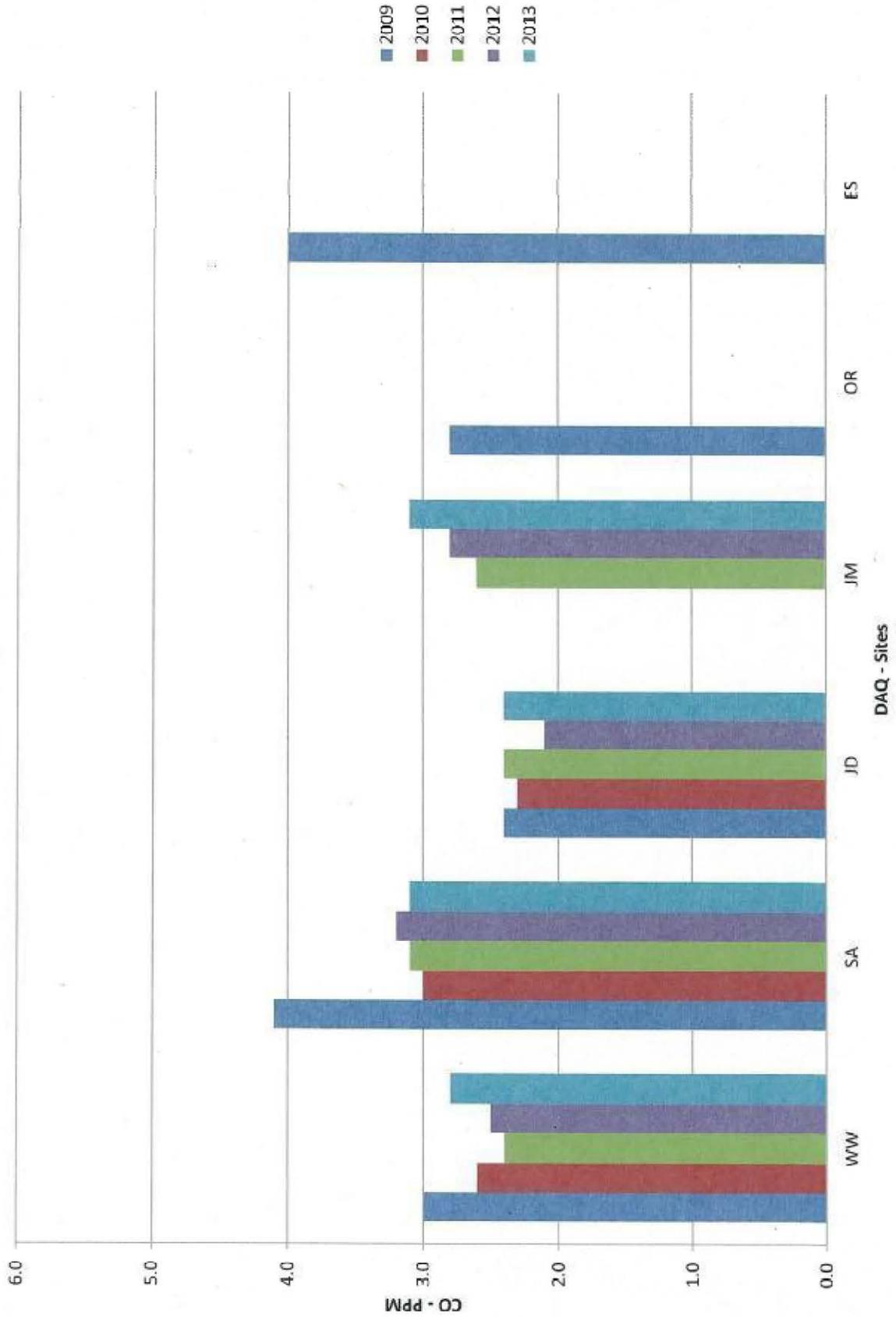
### First Max 1-Hour Carbon Monoxide Five-Year Trend



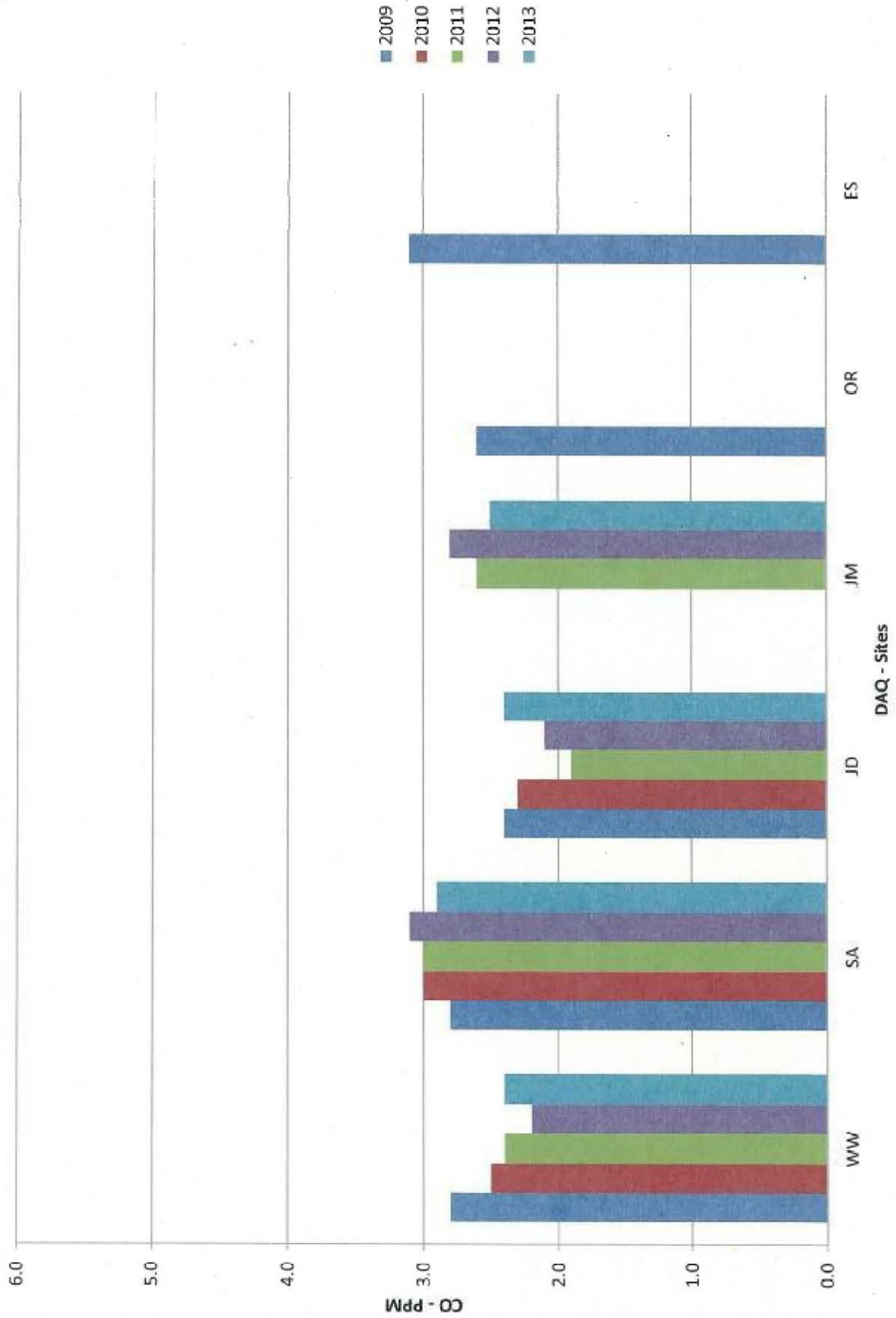
## Second Max 1-Hour Carbon Monoxide Five-Year Trend



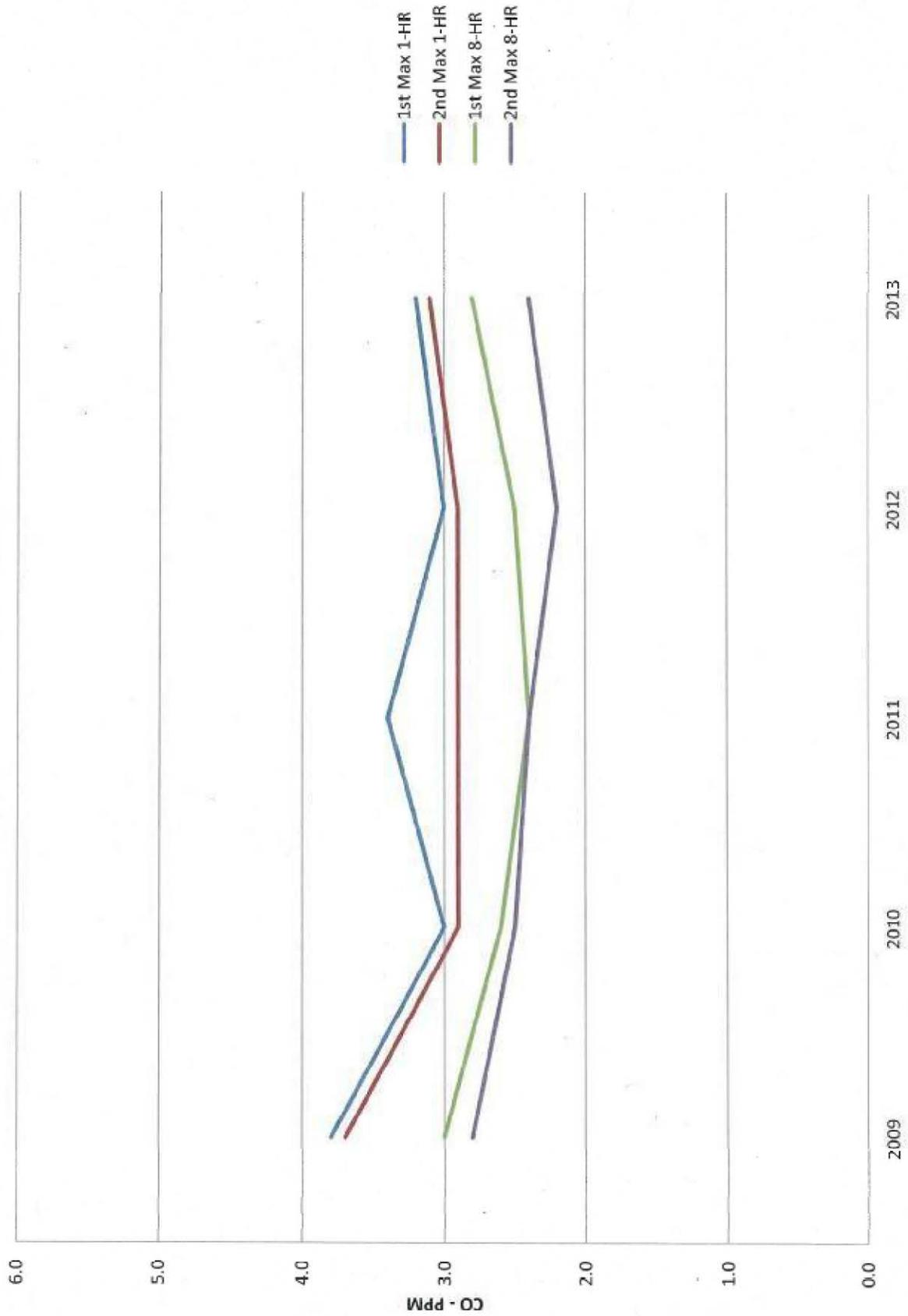
# First Max 8-Hour Carbon Monoxide Five-Year Trend



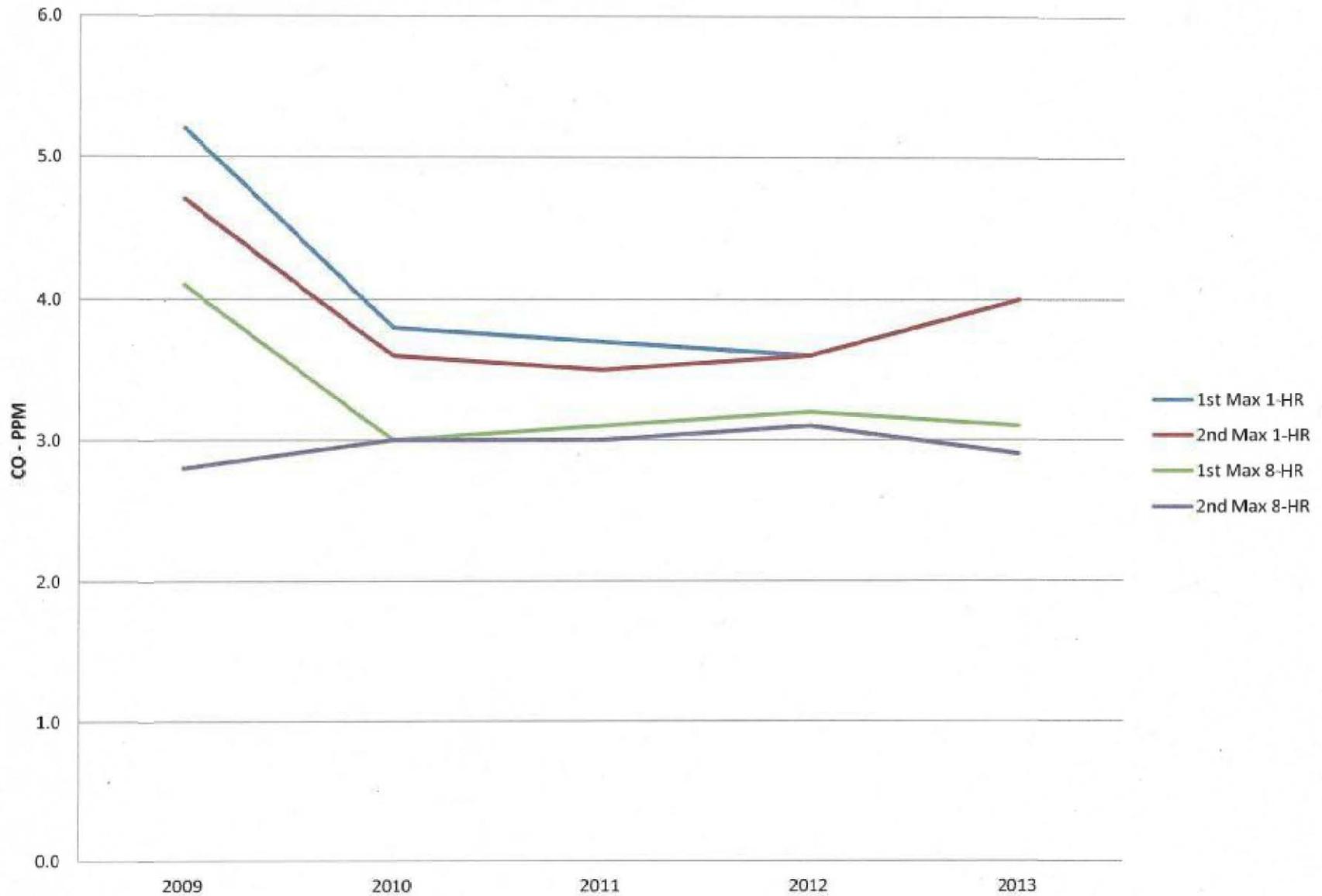
## Second Max 8-Hour Carbon Monoxide Five-Year Trend



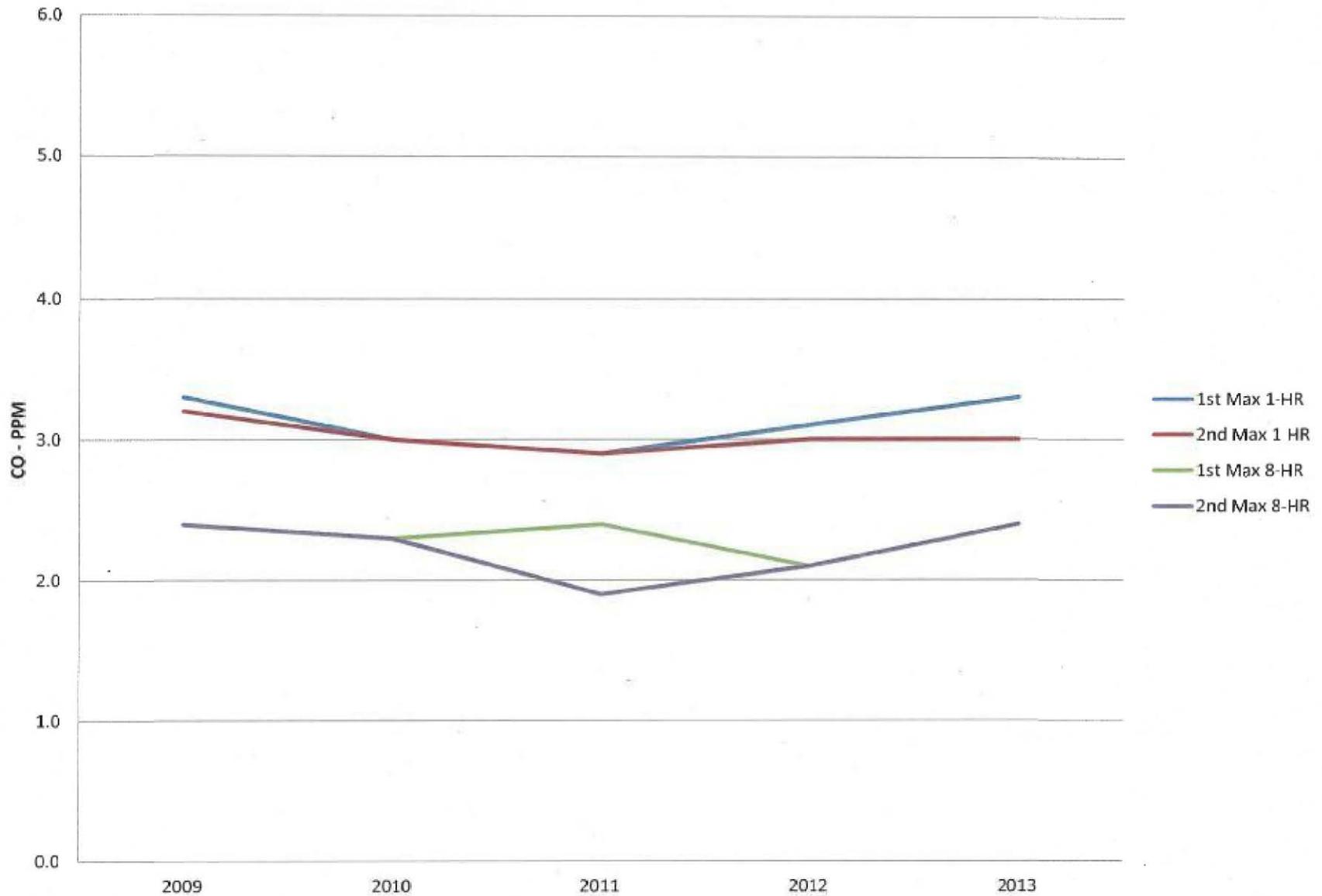
# Winterwood Five-Year Carbon Monoxide Trend



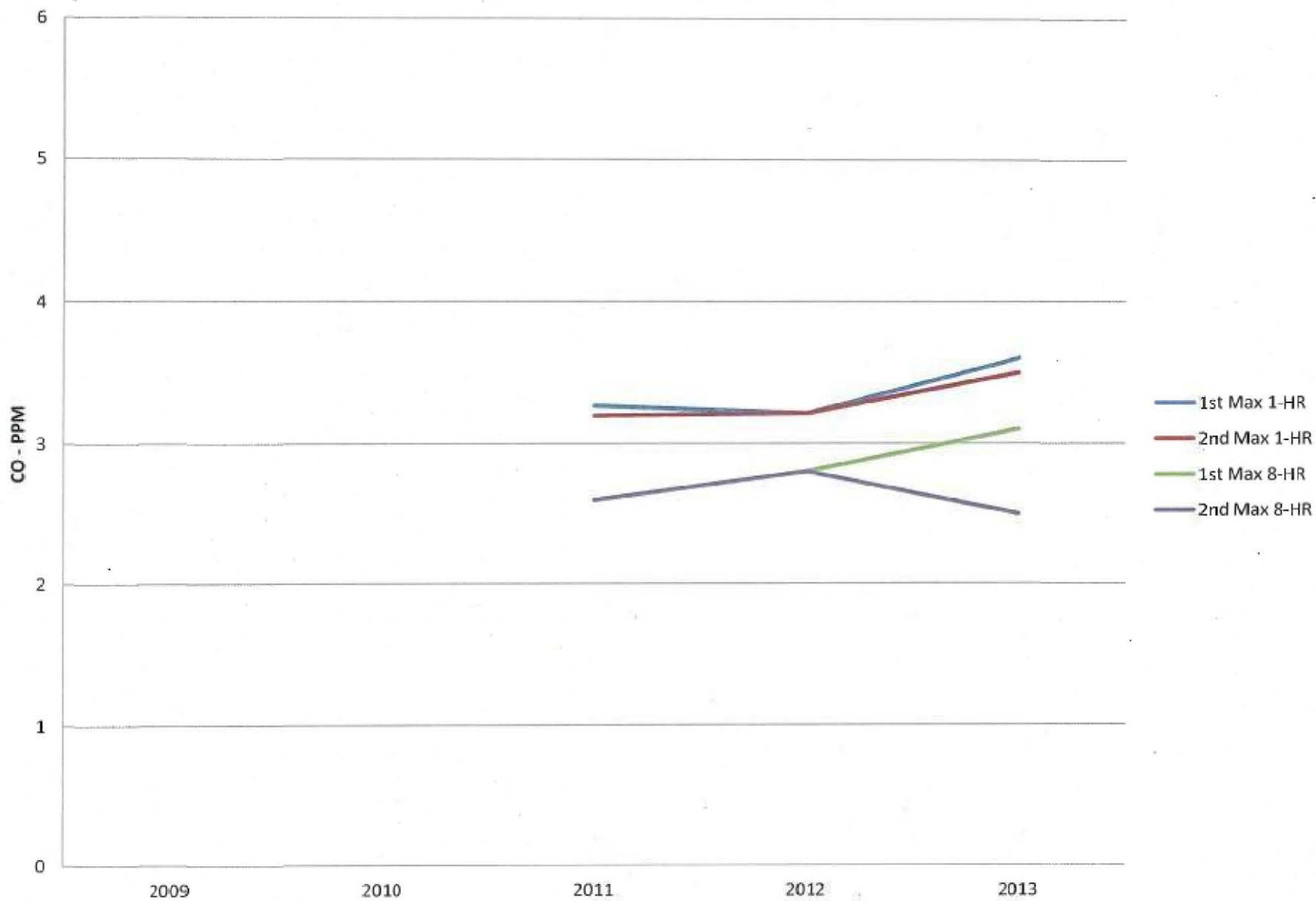
### Sunrise Acres Five-Year Carbon Monoxide Trend

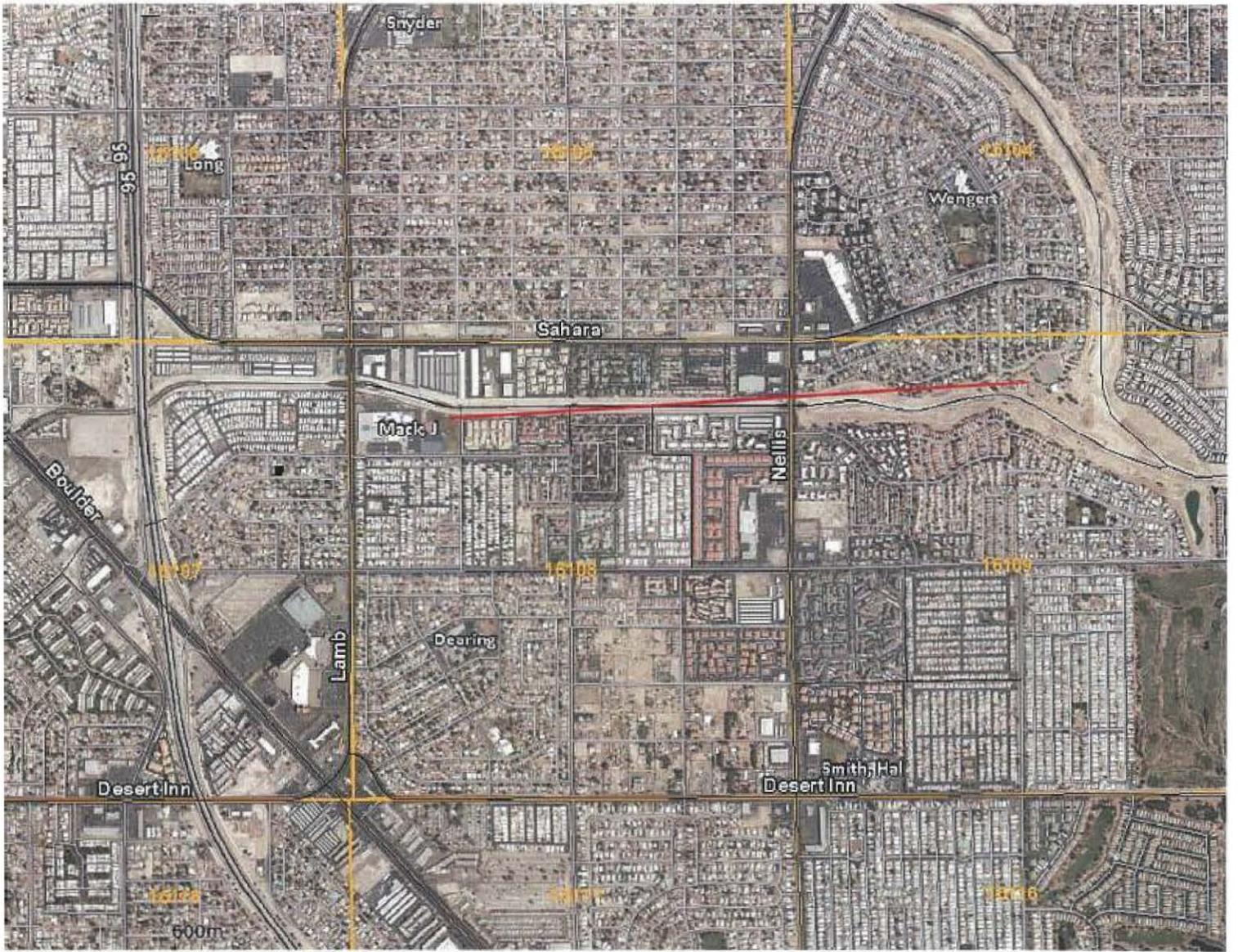


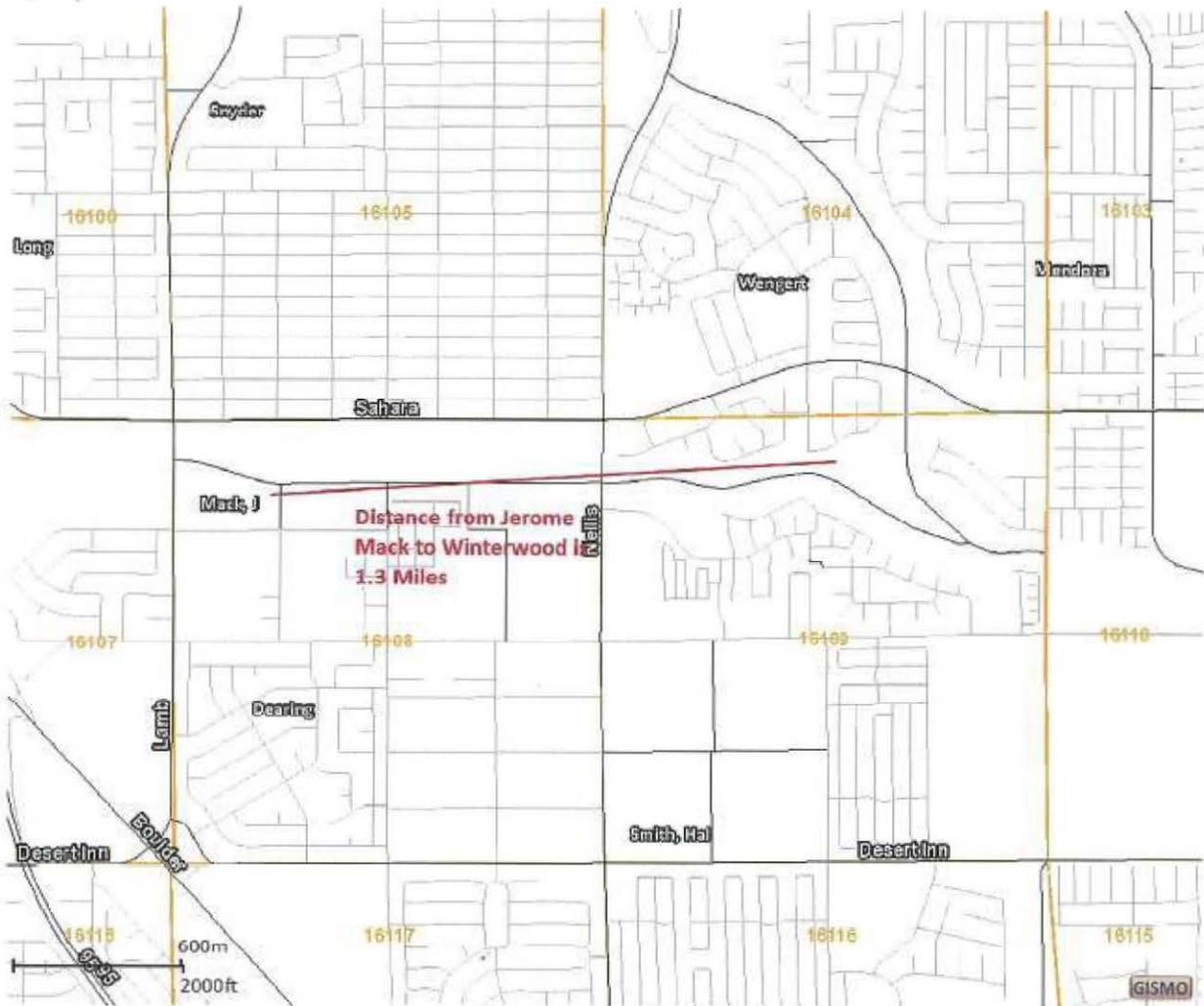
### JD Smith Five-Year Carbon Monoxide Trend



### Jerome Mack Five-Year Carbon Monoxide Trend







(1) Any PM<sub>2.5</sub>, O<sub>3</sub>, CO, PM<sub>10</sub>, SO<sub>2</sub>, Pb, or NO<sub>2</sub> SLAMS monitor which has shown attainment during the previous five years, that has a probability of less than 10 percent of exceeding 80 percent of the applicable NAAQS during the next three years based on the levels, trends, and variability observed in the past, and which is not specifically required by an attainment plan or maintenance plan. In a nonattainment or maintenance area, if the most recent attainment or maintenance plan adopted by the State and approved by EPA contains a contingency measure to be triggered by an air quality concentration and the monitor to be discontinued is the only SLAMS monitor operating in the nonattainment or maintenance area, the monitor may not be discontinued.

At 90%, t value is:

n-1	t value
4	2.13
5	2.02

From STI network assessment guidance: <http://www.epa.gov/ttnamti1/files/ambient/pm25/datamang/network-assessment-guidance.pdf>

#### 4. REMOVING A NAAQS COMPLIANCE MONITOR

In addition to the requirement for state or local monitoring agencies to conduct a network assessment every 5 years, the October 17, 2006 amendments to the national monitoring regulations added a requirement that a state or local agency seek the Regional Administrator's approval prior to shutting down a State or Local Air Monitoring Site (SLAMS) Federal Reference Method (FRM), Federal Equivalent Method (FEM), or Approved Regional Method (ARM) monitor. While the Regional Administrator may approve any monitor shutdown on a case-by-case basis, the monitoring regulations specify several situations where the state or local agency can be confident the request for monitor shutdown will be approved [40 CFR 58.14(c)]. The following paragraphs describe these situations.

##### 4.1 ATTAINMENT REACHED AND EXPECTED TO BE MAINTAINED

A monitor can be removed (after Regional Administrator approval) if it is currently in attainment with the applicable NAAQS standard and if the following four tests can be met:

1. The PM<sub>2.5</sub>, ozone, carbon monoxide (CO), PM<sub>10</sub>, sulfate dioxide (SO<sub>2</sub>), lead, or nitrogen dioxide (NO<sub>2</sub>) monitor showed attainment during the previous five years.
2. The probability is less than 10% that the monitor will exceed 80% of the applicable NAAQS during the next three years based on the concentrations, trends, and variability observed in the past.
3. The monitor is not specifically required by an attainment plan or maintenance plan.
4. The monitor is not the last monitor in a nonattainment area or maintenance area that contains a contingency measure triggered by an air quality concentration in the latest attainment or maintenance plan adopted by the state and approved by EPA.

Tests 1, 3 and 4 are straightforward and do not require additional guidance. However, Test 2 is more complicated. While other methods may be approved by the Regional Administrator, one approach to conservatively demonstrate the second test is to use Equation 1.

$$\bar{X} + \frac{f * s}{\sqrt{n}} < 0.8 * NAAQS \quad (1)$$

Where  $\bar{X}$  is the average design value for the last 5 years (or more),  $f$  is the student's t value for n-1 degrees of freedom at the 90% confidence level,  $s$  is the standard deviation of the design values,  $n$  is the number of records (i.e., number of design values), and NAAQS is the standard of interest.

V values for 0.8\*NAAQS are provided in Table 4-1. V values for n, n-1, and student's t value are provided in Table 4-2. A minimum of five years of data for pollutants with annual NAAQS (CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, lead) and five design values for O<sub>3</sub> and PM<sub>2.5</sub> are required for this demonstration.

Table 4-1. National Ambient Air Quality Standards<sup>a</sup>

Criteria Pollutant	Form of the NAAQS	NAAQS	0.8 * NAAQS
CO	8-hr <sup>b</sup>	9 ppm	7.2 ppm
	1-hr <sup>b</sup>	35 ppm	28 ppm
Lead	Quarterly average	1.5 µg/m <sup>3</sup>	1.2 µg/m <sup>3</sup>
NO <sub>2</sub>	Annual arithmetic mean	0.053 ppm	0.042 ppm

PM <sub>10</sub>	24-hr <sup>b</sup>	150 µg/m <sup>3</sup>	120 µg/m <sup>3</sup>
PM <sub>2.5</sub>	Annual <sup>d</sup> arithmetic mean	15.0 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>
	24-hr <sup>c</sup>	35 µg/m <sup>3</sup>	28 µg/m <sup>3</sup>
Ozone	8-hr <sup>e</sup>	0.08 ppm	0.06 ppm
	1-hr <sup>f</sup>	0.12 ppm	0.10 ppm
SO <sub>2</sub>	Annual arithmetic mean	0.03 ppm	0.02 ppm
	24-hr <sup>b</sup>	0.14 ppm	0.11 ppm

<sup>a</sup> As of February 22, 2007. Current NAAQS can be found at <http://www.epa.gov/air/criteria.html>

<sup>b</sup> Not to be exceeded more than once per year

<sup>c</sup> To attain this standard, the three-yr average of the weighted annual mean PM<sub>10</sub> concentration at each monitor within an area must not exceed 50 µg/m<sup>3</sup>.

<sup>d</sup> To attain this standard, the three-yr average of the weighted annual mean PM<sub>2.5</sub> concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m<sup>3</sup>.

<sup>e</sup> To attain this standard, the three-yr average of the 98<sup>th</sup> percentile of 24-hr concentrations at each population-oriented monitor within an area must not exceed 65 µg/m<sup>3</sup>.

<sup>f</sup> To attain this standard, the three-year average of the fourth highest daily maximum 8-hr average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

<sup>g</sup> The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is < 1, as determined by 40CFR, appendix H. As of June 15, 2005, EPA revoked the 1-hr ozone standard in all areas except the 14 8-hr ozone nonattainment Early Action Compact (EAC) Areas.

Table 4-2. V values for n, n-1, and student's t value.

Number of Data Values (n)	Degrees of Freedom (n-1)	Student's t value (90% confidence)
5	4	2.13
6	5	2.02
7	6	1.94
8	7	1.89
9	8	1.86
10	9	1.83
11	10	1.81
12	11	1.80
13	12	1.78
14	13	1.77
15	14	1.76
16	15	1.75
17	16	1.75
18	17	1.74
19	18	1.73
20	19	1.73

Note that the use of Equation 1 is just one approach that can be used to determine if Test 2 is met. Other approaches can be approved by the Regional Administrator. In particular, approaches that are sensitive to trends over the 5 years and/or that utilize the daily or hourly data rather than the design values may also be appropriate.

As an example, consider the following CO measurements at several sites that have been operating for five years (Table 4-3). In this example, none of the sites are in a designated nonattainment or maintenance area.

Table 4-3. Example computations for four CO monitoring sites.

Site		2001	2002	2003	2004	2005	Average $\bar{x}$	Standard Deviation $s$	t	N	90% Upper CI
1	8-hour	6.8	7.2	9.6	6.3	6.4	7.26	1.35	2.13	5	8.6
	1-hour	25	26	22	22	19	22.8	2.77	2.13	5	25
2	8-hour	4.9	6.3	6.5	4.4	2.0	4.82	1.81	2.13	5	6.5
	1-hour	34	15	18	22	28	23.4	7.67	2.13	5	31
3	8-hour	5.1	4.9	4.8	5.2	5.0	5.00	0.16	2.13	5	5.2
	1-hour	24	26	25	23	22	24.0	1.58	2.13	5	26
4	8-hour	7.4	6.8	6.4	6.4	6.3	6.66	0.46	2.13	5	7.1
	1-hour	28	27	22	25	23	25.0	2.55	2.13	5	27

CI = confidence interval

Site 1 fails Test 1 because the design value for year 2003 exceeds the NAAQS, and fails Test 2 because the 90% upper confidence interval (3.6 ppm) is greater than 80% of the applicable 8-hour NAAQS. Therefore, site 1 should not be removed. Site 2 fails Test 2 because the 90% upper confidence interval (31 ppm) is greater than 80% of the applicable 1-hour NAAQS, and therefore this site should not be removed. The remaining sites pass all four tests, and could be shut down after Regional Administrator approval.

#### 4.2 CONSISTENTLY LOW CONCENTRATIONS RELATIVE TO OTHER MONITORS

Four tests must be passed in order to be sure a monitor can be removed on the basis that it is redundant because it has measured consistently low concentrations relative to other monitors:

1. The CO, PM<sub>10</sub>, SO<sub>2</sub>, lead, or NO<sub>2</sub> monitor has consistently measured lower concentrations of the same pollutant than another monitor in the same county (or portion of a county with a distinct attainment area or maintenance area, as applicable) during the previous five years.
2. Control measures scheduled to be implemented or discontinued during the next five years do not apply to the areas around both monitors.
3. Control measure changes will have similar effects on measured concentrations such that the retained monitor would remain the higher reading of the two monitors being compared.
4. The monitor is not specifically required by an attainment plan or maintenance plan.

#### 4.3 MONITORS NOT MEASURING VIOLATIONS OF NAAQS

Two tests must be passed in order to be sure a monitor can be removed that has not measured violations of the NAAQS:

1. Any monitor for any pollutant in a county (or portion of a county within a distinct attainment, nonattainment, or maintenance area) that has not measured violations of the applicable NAAQS in the previous five years may be eligible for removal.
2. The approved State Implementation Plan (SIP) provides for a specific, reproducible approach to representing the air quality of the affected county in the absence of actual monitoring data.

#### 4.4 MONITORS WITH SITING ISSUES

A monitor that has been determined by EPA not to be comparable to the relevant NAAQS because of monitor siting (see FR Section 58.30) may be recommended for removal.



**8-Hour O3 NAAQS = 0.075 ppm**

Site	Year 1 Max (ug/m3)	Year 2 Max (ug/m3)	Year 3 Max (ug/m3)	Year 4 Max (ug/m3)	Year 5 Max (ug/m3)	Average Max (ug/m3)	Std. Dev. s	Student's t value (90% confidence)	Number of Data Values (n)	90% Upper CI (ug/m3)	80% NAAQS (ug/m3)	Test
	2009	2010	2011	2012	2013	2009-2013						
	0.075	0.073	0.076	0.08	0.076	0.076	0.00	2.13	5	0.1	0.6	PASS

Site	Year 1 Max (ug/m3)	Year 2 Max (ug/m3)	Year 3 Max (ug/m3)	Year 4 Max (ug/m3)	Year 5 Max (ug/m3)	Average Max (ug/m3)	Std. Dev. s	Student's t value (90% confidence)	Number of Data Values (n)	90% Upper CI (ug/m3)	80% NAAQS (ug/m3)	Test
	2009	2010	2011	2012	2013	2009-2013						
1-hr CO)	3.8	3	3.4	3	3.2	3.28	0.33	2.13	5	3.6	28	PASS
8-hr CO)	3	2.6	2.4	2.5	2.8	2.66	0.24	2.13	5	2.9	7.2	PASS



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

March 8, 2012

Mr. Mike Sword, Engineering Manager  
Clark County Department of Air Quality and Environmental Management  
500 S Grand Central Parkway, 1<sup>st</sup> Floor  
P.O. Box 555210  
Las Vegas, NV 89155-5210

Dear Mr. Sword:

This letter is in response to your request dated July 21, 2011 for a waiver to reduce the ozone monitoring season at two sites in Clark County: Apex (AQS ID: 32-003-0022) and Mesquite (AQS ID: 32-003-0023). Per 40 CFR 58, Appendix D Section 4.1(i), monitoring agencies must have ozone season deviations approved by EPA, documented in the annual monitoring network plan, and updated in EPA's Air Quality System (AQS) database. In your July 21, 2011 letter, you request a waiver for exemption of ozone monitoring between October 01 and April 30 of the subsequent year for the Apex and Mesquite sites. EPA has followed the guidance outlined in *Guideline for Selecting and Modifying the Ozone Monitoring Season Based on an 8-hour Standard* and determined that monitoring for ozone at the Apex and Mesquite sites could be granted a waiver between October 01 and March 31 of the subsequent year. EPA thus approves a shortened ozone monitoring season at the Apex and Mesquite sites that begins on April 01 and ends on September 30 of each year.

To support this decision, we have attached all of the ozone exceedances shown for Clark County as available from AQS on January 17, 2012 and dating back to January 1, 2004. The data shows that no 8-hour ozone exceedances have occurred in Clark County for any monitors between the months of October and March during this period. In addition, other ozone analyzers in Clark County will continue year round operation.

If you have any questions regarding this letter, please feel free to contact me at (415) 972-3851 or Elfego Felix of my staff at (415) 947-4141.

Sincerely,

/s/

Matthew Lakin, Manager  
Air Quality Analysis Office  
Air Division

Enclosure

cc: Yousaf Hameed, Monitoring Supervisor, DAQEM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

VIOLATION DAY COUNT REPORT

User ID: EFX

Jan. 17, 2012

Report Request ID: 948086

Report Code: AMP300

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	Region	Method	Duration	Begin Date	End Date
GEOGRAPHIC SELECTIONS															
											09				

Parameter Classification	Parameter	Method	Duration
PROTOCOL SELECTIONS			

Parameter Classification	Parameter	Method	Duration
PQAO SELECTIONS			
	Clark County, NV	DAQEM	

Parameter Classification	Parameter	Method	Duration
MONITOR TYPE SELECTIONS			
			SLAMS

CRITERIA 44201

Option Type	Option Value
SELECTED OPTIONS	
SINGLE EVENT PROCESSING	INCLUDE EVENTS
MERGE PDF FILES	YES

Order	Column
SORT ORDER	
1	PARAMETER_CODE
2	DURATION_CODE
3	YEAR
4	STATE_CODE
5	AQS_SITE_ID

Start Date	End Date
GLOBAL DATES	
2004 01 01	2011 12 31

Standard Description
APPLICABLE STANDARDS
Ozone 8-Hour 2008

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

EXCEPTIONAL DATA TYPES

EDT	DESCRIPTION
0	NO EVENTS
1	EVENTS EXCLUDED
2	EVENTS INCLUDED
5	EVENTS WITH CONCURRENCE EXCLUDED

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2004  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0007	1	Clark	2004/05/10	.082	0	7	7
			2004/06/06	.077	0	4	4
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.082
VIOLATION DAYS							
PRIMARY VIOLATIONS			2				
SECONDARY VIOLATIONS			11				
VALID DAYS MONITORED			11				
			364				

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2004  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0022	1	Clark	2004/05/09	.077	0	3	3
			2004/05/10	.085	0	7	7
			2004/05/14	.078	0	4	4
			2004/05/15	.085	0	7	7
			2004/07/29	.077	0	3	3
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.085

VIOLATION DAYS  
 PRIMARY VIOLATIONS 5  
 SECONDARY VIOLATIONS 24  
 VALID DAYS MONITORED 24  
 361

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2004  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	YEAR	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0023	1	Clark	32-003-0023	1	2004/05/15	.084	0	6	6
				2004	2004/07/29	.076	0	1	1
SUMMARY FOR SITE 32-003-0023 POC 1 YEAR 2004									
VIOLATION DAYS									
PRIMARY VIOLATIONS 2									
SECONDARY VIOLATIONS 7									
VALID DAYS MONITORED 364									
								MAXIMUM VIOLATION VALUE .084	

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2004  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0043	1	Clark	2004/05/10	.081	0	7	7
			2004/06/06	.076	0	1	1
			2004/06/08	.077	0	4	4
			2004/07/07	.076	0	2	2
			2004/07/27	.077	0	3	3
			2004/07/28	.077	0	3	3
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.081

32-003-0043 POC 1 YEAR 2004  
 VIOLATION DAYS 6  
 PRIMARY VIOLATIONS 20  
 SECONDARY VIOLATIONS 20  
 VALID DAYS MONITORED 339

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2004  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0071	1	Clark	2004/05/10	.080	0	4	4		
			2004/06/06	.078	0	4	4		
			2004/06/08	.077	0	3	3		
			2004/07/07	.076	0	3	3		
			2004/07/27	.078	0	3	3		
			2004/07/28	.080	0	3	3		
SUMMARY FOR SITE			32-003-0071	POC	1	YEAR	2004	MAXIMUM VIOLATION VALUE	.080

VIOLATION DAYS  
 PRIMARY VIOLATIONS 6  
 SECONDARY VIOLATIONS 20  
 VALID DAYS MONITORED 20  
 358

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2004  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0072	1	Clark	2004/05/10	.076	0	1	1		
			2004/06/06	.078	0	4	4		
			2004/06/08	.078	0	4	4		
			2004/07/04	.076	0	1	1		
			2004/07/05	.076	0	1	1		
			2004/07/07	.077	0	3	3		
			2004/07/27	.079	0	4	4		
SUMMARY FOR SITE			32-003-0072	POC	1	YEAR	2004	MAXIMUM VIOLATION VALUE	.079

VIOLATION DAYS  
 PRIMARY VIOLATIONS 7  
 SECONDARY VIOLATIONS 18  
 VALID DAYS MONITORED 18  
 365

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2004  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0073	1	Clark	2004/05/10	.082	0	5	5		
			2004/06/06	.078	0	6	6		
			2004/06/08	.080	0	6	6		
			2004/07/05	.076	0	1	1		
			2004/07/07	.077	0	5	5		
			2004/07/27	.079	0	5	5		
			2004/07/28	.083	0	6	6		
SUMMARY FOR SITE			32-003-0073	POC	1	YEAR	2004	MAXIMUM VIOLATION VALUE	.083

VIOLATION DAYS  
 PRIMARY VIOLATIONS 7  
 SECONDARY VIOLATIONS 34  
 VALID DAYS MONITORED 34

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2004  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0075	1	Clark	2004/06/04	.076	0	2	2
			2004/06/05	.078	0	2	2
			2004/06/06	.082	0	7	7
			2004/06/08	.078	0	4	4
			2004/06/13	.076	0	2	2
			2004/06/26	.076	0	1	1
			2004/07/04	.080	0	4	4
			2004/07/05	.078	0	3	3
			2004/07/07	.082	0	6	6
			2004/07/18	.076	0	1	1
			2004/07/24	.077	0	2	2
			2004/07/25	.076	0	2	2
			2004/07/27	.081	0	5	5
			2004/07/28	.088	0	5	5
			2004/07/29	.078	0	5	5
SUMMARY FOR SITE 32-003-0075 POC 1 YEAR 2004				MAXIMUM VIOLATION VALUE			.088

VIOLATION DAYS  
 PRIMARY VIOLATIONS 15  
 SECONDARY VIOLATIONS 51  
 VALID DAYS MONITORED 51  
 365

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2004  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0538	2	Clark	2004/05/10	.079	0	3	3
			2004/06/06	.078	0	3	3
			2004/07/27	.077	0	3	3
			2004/07/29	.078	0	3	3
SUMMARY FOR SITE			2 YEAR	MAXIMUM VIOLATION VALUE			.079

32-003-0538 POC 2 YEAR 2004  
 VIOLATION DAYS 4  
 PRIMARY VIOLATIONS 12  
 SECONDARY VIOLATIONS 12  
 VALID DAYS MONITORED 360

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2004  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0601	1	Clark	2004/04/28	.078	0	6	6		
			2004/05/10	.081	0	6	6		
			2004/05/15	.083	0	8	8		
			2004/07/29	.077	0	5	5		
SUMMARY FOR SITE			32-003-0601	POC	1	YEAR	2004	MAXIMUM VIOLATION VALUE	.083

VIOLATION DAYS  
 PRIMARY VIOLATIONS 4  
 SECONDARY VIOLATIONS 25  
 VALID DAYS MONITORED 25  
 353

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2004

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-1019	1	Clark	2004/04/13	.076	0	4	4
			2004/04/28	.076	0	1	1
			2004/05/10	.083	0	7	7
			2004/05/14	.080	0	5	5
			2004/06/06	.079	0	5	5
			2004/06/08	.078	0	4	4
			2004/07/07	.080	0	6	6
			2004/07/27	.078	0	7	7
			2004/07/28	.079	0	4	4
			2004/07/29	.078	0	5	5
SUMMARY FOR SITE 32-003-1019 POC 1 YEAR 2004				MAXIMUM VIOLATION VALUE			.083

VIOLATION DAYS  
 PRIMARY VIOLATIONS 10  
 SECONDARY VIOLATIONS 48  
 VALID DAYS MONITORED 48  
 363

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2004  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-2002	1	Clark	2004/06/06	.079	0	3	3		
			2004/07/28	.077	0	2	2		
			2004/07/29	.076	0	1	1		
SUMMARY FOR SITE			32-003-2002	POC	1	YEAR	2004	MAXIMUM VIOLATION VALUE	.079

VIOLATION DAYS  
 PRIMARY VIOLATIONS 3  
 SECONDARY VIOLATIONS 6  
 VALID DAYS MONITORED 6  
 364

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2005  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0007	1	Clark	2005/06/29	.086	2	5	5		
			2005/06/30	.087	2	7	7		
			2005/07/02	.077	0	4	4		
			2005/07/03	.076	0	3	3		
			2005/07/08	.077	0	5	5		
			2005/07/17	.080	0	4	4		
SUMMARY FOR SITE			32-003-0007	POC	1	YEAR	2005	MAXIMUM VIOLATION VALUE	.087

VIOLATION DAYS  
 PRIMARY VIOLATIONS 6  
 SECONDARY VIOLATIONS 28  
 VALID DAYS MONITORED 28  
 364

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2005  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0016	1	Clark	2005/06/12	.079	0	3	3
			2005/06/29	.087	2	6	6
			2005/06/30	.081	2	3	3
			2005/07/18	.082	0	3	3
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.087

VIOLATION DAYS  
 PRIMARY VIOLATIONS 4  
 SECONDARY VIOLATIONS 15  
 VALID DAYS MONITORED 15  
 363

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2005  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0020	1	Clark	2005/06/12	.083	0	5	5		
			2005/06/29	.092	2	5	5		
			2005/06/30	.095	2	5	5		
			2005/07/03	.082	0	6	6		
			2005/07/08	.077	0	3	3		
			2005/07/16	.083	0	4	4		
			2005/07/18	.082	0	3	3		
SUMMARY FOR SITE			32-003-0020	POC	1	YEAR	2005	MAXIMUM VIOLATION VALUE	.095

VIOLATION DAYS  
 PRIMARY VIOLATIONS 7  
 SECONDARY VIOLATIONS 31  
 VALID DAYS MONITORED 31  
 353

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2005

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0022	1	Clark	2005/04/17	.077	0	1	1
			2005/06/01	.076	0	4	4
			2005/06/12	.076	0	2	2
			2005/06/26	.078	0	4	4
			2005/06/29	.095	2	8	8
			2005/06/30	.098	2	9	9
			2005/07/02	.078	0	4	4
			2005/07/03	.078	0	5	5
			2005/07/08	.077	0	5	5
			2005/07/16	.079	0	5	5
			2005/07/18	.077	0	2	2
			2005/07/21	.076	0	1	1
			2005/07/22	.076	0	1	1
SUMMARY FOR SITE 32-003-0022 POC 1 YEAR 2005							.098
VIOLATION DAYS							
PRIMARY VIOLATIONS							13
SECONDARY VIOLATIONS							51
VALID DAYS MONITORED							51
							359

MAXIMUM VIOLATION VALUE

VIOLATION DAYS  
 PRIMARY VIOLATIONS  
 SECONDARY VIOLATIONS  
 VALID DAYS MONITORED

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2005  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0023	1	Clark	2005/06/29	.082	0	4	4
			2005/06/30	.092	2	6	6
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.092

VIOLATION DAYS  
 PRIMARY VIOLATIONS 2  
 SECONDARY VIOLATIONS 10  
 VALID DAYS MONITORED 364

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2005  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS	
32-003-0043	1	Clark	2005/04/17	.077	0	1	1	
			2005/06/12	.080	0	5	5	
			2005/06/13	.080	0	3	3	
			2005/06/29	.096	2	7	7	
			2005/06/30	.100	2	8	8	
			2005/07/02	.076	0	1	1	
			2005/07/03	.076	0	1	1	
			2005/07/08	.079	0	3	3	
			2005/07/14	.077	0	2	2	
			2005/07/15	.076	0	1	1	
			2005/07/16	.078	0	4	4	
			2005/07/18	.080	0	4	4	
			2005/08/06	.076	0	2	2	
			2005/08/12	.079	0	3	3	
SUMMARY FOR SITE 32-003-0043 POC 1 YEAR 2005							MAXIMUM VIOLATION VALUE	.100

VIOLATION DAYS  
 PRIMARY VIOLATIONS 14  
 SECONDARY VIOLATIONS 45  
 VALID DAYS MONITORED 45  
 362

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2005  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0071	1	Clark	2005/04/17	.077	0	1	1
			2005/06/05	.076	0	5	5
			2005/06/12	.088	0	7	7
			2005/06/13	.080	0	3	3
			2005/06/29	.095	2	9	9
			2005/06/30	.101	2	8	8
			2005/07/02	.078	0	4	4
			2005/07/03	.079	0	4	4
			2005/07/06	.077	0	1	1
			2005/07/08	.079	0	5	5
			2005/07/14	.080	0	4	4
			2005/07/15	.084	0	4	4
			2005/07/16	.076	0	1	1
			2005/07/18	.089	2	5	5
			2005/08/06	.085	0	5	5
			2005/08/12	.079	0	4	4
SUMMARY FOR SITE 32-003-0071 POC 1 YEAR 2005				MAXIMUM VIOLATION VALUE			.101
VIOLATION DAYS							
PRIMARY VIOLATIONS							16
SECONDARY VIOLATIONS							70
VALID DAYS MONITORED							70
							365

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2005

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0072	1	Clark	2005/04/17	.077	0	2	2
			2005/05/22	.077	0	3	3
			2005/05/25	.076	0	1	1
			2005/05/31	.076	0	1	1
			2005/06/05	.077	0	5	5
			2005/06/12	.089	0	7	7
			2005/06/13	.077	0	1	1
			2005/06/29	.097	2	8	8
			2005/06/30	.105	2	8	8
			2005/07/01	.076	0	1	1
			2005/07/02	.081	0	6	6
			2005/07/03	.082	0	6	6
			2005/07/04	.076	0	2	2
			2005/07/06	.078	0	4	4
			2005/07/07	.076	0	2	2
			2005/07/08	.082	0	6	6
			2005/07/14	.081	0	3	3
			2005/07/15	.086	0	5	5
			2005/07/16	.079	0	3	3
			2005/07/18	.095	2	7	7
			2005/08/06	.086	0	5	5
			2005/08/12	.077	0	2	2
SUMMARY FOR SITE	32-003-0072	POC	1 YEAR	2005	MAXIMUM VIOLATION VALUE		.105

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
Parts per million (007)  
8-HR RUN AVG BEGIN HOUR (W)  
2005  
Nevada

CBSA: (29820) Las Vegas-Paradise, NV  
SUMMARY FOR SITE 32-003-0072 POC 1 YEAR 2005 MAXIMUM VIOLATION VALUE .105

VIOLATION DAYS 22  
PRIMARY VIOLATIONS 88  
SECONDARY VIOLATIONS 88  
VALID DAYS MONITORED 364

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2005  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0073	1	Clark	2005/04/17	.080	0	9	9
			2005/05/28	.078	0	4	4
			2005/06/05	.078	0	8	8
			2005/06/12	.088	0	7	7
			2005/06/13	.080	0	5	5
			2005/06/29	.096	2	9	9
			2005/07/02	.081	0	6	6
			2005/07/03	.078	0	4	4
			2005/07/06	.077	0	3	3
			2005/07/07	.076	0	2	2
			2005/07/08	.080	0	6	6
			2005/07/15	.086	0	5	5
			2005/07/18	.088	2	7	7
			2005/08/06	.082	0	5	5
			2005/08/10	.078	0	3	3
			2005/08/12	.080	0	4	4
SUMMARY FOR SITE 32-003-0073 POC 1 YEAR 2005				MAXIMUM VIOLATION VALUE			.096
VIOLATION DAYS							
PRIMARY VIOLATIONS							16
SECONDARY VIOLATIONS							87
VALID DAYS MONITORED							87
							356

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2005

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS						
32-003-0075	1	Clark	2005/05/22	.076	0	2	2						
			2005/05/31	.076	0	1	1						
			2005/06/05	.076	0	3	3						
			2005/06/26	.076	0	1	1						
			2005/06/29	.099	2	8	8						
			2005/06/30	.105	2	8	8						
			2005/07/01	.079	0	3	3						
			2005/07/02	.081	0	6	6						
			2005/07/03	.087	0	7	7						
			2005/07/05	.076	0	1	1						
			2005/07/06	.077	0	3	3						
			2005/07/07	.078	0	5	5						
			2005/07/08	.086	0	6	6						
			2005/07/14	.081	0	4	4						
			2005/07/15	.085	0	5	5						
			2005/07/16	.081	0	5	5						
			2005/07/18	.091	2	6	6						
			2005/07/20	.076	0	2	2						
			2005/07/30	.077	0	3	3						
			2005/08/10	.078	0	3	3						
			2005/08/12	.083	0	5	5						
SUMMARY FOR SITE							32-003-0075	POC	1	YEAR	2005	MAXIMUM VIOLATION VALUE	.105

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2005  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV  
 SUMMARY FOR SITE 32-003-0075 POC 1 YEAR 2005 MAXIMUM VIOLATION VALUE .105

VIOLATION DAYS	21
PRIMARY VIOLATIONS	87
SECONDARY VIOLATIONS	87
VALID DAYS MONITORED	354

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2005  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0538	2	Clark	2005/06/12	.077	0	3	3		
			2005/06/26	.076	0	1	1		
			2005/06/29	.100	2	7	7		
			2005/06/30	.094	2	7	7		
			2005/07/02	.077	0	2	2		
			2005/07/03	.079	0	6	6		
			2005/07/08	.076	0	1	1		
			2005/07/17	.079	0	3	3		
SUMMARY FOR SITE			32-003-0538	POC	2	YEAR	2005	MAXIMUM VIOLATION VALUE	.100

VIOLATION DAYS  
 PRIMARY VIOLATIONS 8  
 SECONDARY VIOLATIONS 30  
 VALID DAYS MONITORED 30  
 357

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2005  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0601	1	Clark	2005/06/01	.078	0	5	5		
			2005/06/26	.076	0	3	3		
			2005/06/29	.084	0	7	7		
			2005/06/30	.083	2	5	5		
			2005/07/17	.079	0	4	4		
SUMMARY FOR SITE			32-003-0601	POC	1	YEAR	2005	MAXIMUM VIOLATION VALUE	.084

VIOLATION DAYS  
 PRIMARY VIOLATIONS 5  
 SECONDARY VIOLATIONS 24  
 VALID DAYS MONITORED 24  
 365

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2005

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS	
32-003-1019	1	Clark	2005/04/17	.078	0	3	3	
			2005/05/25	.081	0	6	6	
			2005/05/28	.076	0	1	1	
			2005/06/01	.081	0	9	9	
			2005/06/02	.076	0	3	3	
			2005/06/05	.077	0	4	4	
			2005/06/12	.079	0	7	7	
			2005/06/16	.079	0	7	7	
			2005/06/29	.088	2	8	8	
			2005/06/30	.092	2	8	8	
			2005/07/01	.081	0	9	9	
			2005/07/02	.085	0	15	15	
			2005/07/03	.076	0	1	1	
			2005/07/06	.081	0	9	9	
			2005/07/07	.077	0	3	3	
			2005/07/08	.083	0	9	9	
			2005/08/12	.081	0	4	4	
SUMMARY FOR SITE 32-003-1019 POC 1 YEAR 2005							MAXIMUM VIOLATION VALUE	.092

VIOLATION DAYS  
 PRIMARY VIOLATIONS 17  
 SECONDARY VIOLATIONS 106  
 VALID DAYS MONITORED 365

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2005  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-2002	1	Clark	2005/06/12	.082	0	5	5		
			2005/06/29	.098	2	6	6		
			2005/06/30	.095	2	5	5		
			2005/07/03	.078	0	3	3		
			2005/07/08	.078	0	3	3		
			2005/07/16	.082	0	3	3		
			2005/07/18	.087	2	5	5		
SUMMARY FOR SITE			32-003-2002	POC	1	YEAR	2005	MAXIMUM VIOLATION VALUE	.098

VIOLATION DAYS  
 PRIMARY VIOLATIONS 7  
 SECONDARY VIOLATIONS 30  
 VALID DAYS MONITORED 363

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2006  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0007	1	Clark	2006/05/12	.076	0	2	2		
			2006/06/20	.076	0	1	1		
			2006/06/22	.076	0	1	1		
			2006/06/29	.079	0	4	4		
			2006/07/01	.079	0	4	4		
			2006/07/25	.088	2	6	6		
SUMMARY FOR SITE			32-003-0007	POC	1	YEAR	2006	MAXIMUM VIOLATION VALUE	.088

VIOLATION DAYS  
 PRIMARY VIOLATIONS 6  
 SECONDARY VIOLATIONS 18  
 VALID DAYS MONITORED 18  
 363

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2006  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0020	1	Clark	2006/05/07	.076	0	1	1
			2006/05/12	.081	0	3	3
			2006/05/13	.077	0	2	2
			2006/06/29	.077	0	2	2
			2006/06/30	.080	0	4	4
			2006/07/01	.084	0	6	6
			2006/07/18	.079	0	4	4
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.084

VIOLATION DAYS  
 PRIMARY VIOLATIONS 7  
 SECONDARY VIOLATIONS 22  
 VALID DAYS MONITORED 362

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2006  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0022	1	Clark	2006/05/07	.077	0	3	3
			2006/05/08	.076	0	2	2
			2006/05/13	.079	0	2	2
			2006/06/10	.077	0	2	2
			2006/06/20	.083	0	7	7
			2006/06/21	.079	0	4	4
			2006/06/22	.078	0	3	3
			2006/06/23	.078	0	4	4
			2006/06/28	.078	0	4	4
			2006/06/29	.082	0	6	6
			2006/06/30	.077	0	3	3
			2006/07/01	.083	0	7	7
			2006/07/02	.077	0	4	4
			2006/07/10	.077	0	2	2
			2006/07/14	.076	0	1	1
			2006/07/25	.077	0	3	3
SUMMARY FOR SITE 32-003-0022 POC 1 YEAR 2006				MAXIMUM VIOLATION VALUE			.083

VIOLATION DAYS  
 PRIMARY VIOLATIONS 16  
 SECONDARY VIOLATIONS 57  
 VALID DAYS MONITORED 57  
 361

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2006

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS	
32-003-0043	1	Clark	2006/05/03	.076	0	2	2	
			2006/06/10	.076	0	1	1	
			2006/06/11	.077	0	4	4	
			2006/06/20	.080	0	6	6	
			2006/06/23	.078	0	2	2	
			2006/06/24	.076	0	2	2	
			2006/06/25	.080	0	3	3	
			2006/06/30	.087	2	7	7	
			2006/07/01	.091	2	8	8	
			2006/07/16	.080	0	4	4	
			2006/07/18	.083	0	4	4	
			2006/07/21	.083	0	4	4	
			2006/07/25	.083	0	4	4	
			2006/07/28	.081	0	4	4	
			2006/08/17	.079	0	6	6	
			2006/08/26	.076	0	2	2	
SUMMARY FOR SITE 32-003-0043 POC 1 YEAR 2006							MAXIMUM VIOLATION VALUE	.091
VIOLATION DAYS								
PRIMARY VIOLATIONS								16
SECONDARY VIOLATIONS								63
VALID DAYS MONITORED								63
								364

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2006  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0071	1	Clark	2006/05/12	.077	0	2	2
			2006/06/10	.076	0	1	1
			2006/06/11	.079	0	5	5
			2006/06/20	.081	0	6	6
			2006/06/21	.077	0	2	2
			2006/06/22	.085	2	5	5
			2006/06/23	.079	0	2	2
			2006/06/25	.076	0	1	1
			2006/06/29	.080	2	3	3
			2006/06/30	.094	2	8	8
			2006/07/01	.094	2	9	9
			2006/07/02	.077	0	3	3
			2006/07/08	.077	0	3	3
			2006/07/16	.083	0	4	4
			2006/07/18	.084	0	5	5
			2006/07/21	.090	0	7	7
			2006/07/23	.079	0	4	4
			2006/07/25	.084	0	5	5
			2006/07/28	.082	0	4	4
			2006/08/17	.078	0	4	4
			2006/08/26	.076	0	1	1
SUMMARY FOR SITE	32-003-0071	POC	1 YEAR	2006	MAXIMUM VIOLATION VALUE		.094

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2006  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV      SUMMARY FOR SITE      32-003-0071      POC      1      YEAR      2006      MAXIMUM VIOLATION VALUE      .094

VIOLATION DAYS  
 PRIMARY VIOLATIONS  
 SECONDARY VIOLATIONS  
 VALID DAYS MONITORED

21  
 84  
 84  
 361

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2006  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0072	1	Clark	2006/06/11	.079	0	5	5
			2006/06/17	.077	0	1	1
			2006/06/20	.080	0	4	4
			2006/06/21	.080	0	4	4
			2006/06/22	.084	0	4	4
			2006/06/23	.081	0	4	4
			2006/06/29	.085	2	7	7
			2006/06/30	.098	2	8	8
			2006/07/01	.090	2	8	8
			2006/07/02	.079	0	4	4
			2006/07/16	.082	0	4	4
			2006/07/18	.084	0	6	6
			2006/07/21	.088	0	5	5
			2006/07/23	.080	0	4	4
			2006/07/25	.080	0	4	4
			2006/07/28	.082	0	5	5
SUMMARY FOR SITE 32-003-0072 POC 1 YEAR 2006				MAXIMUM VIOLATION VALUE			.098
VIOLATION DAYS							
PRIMARY VIOLATIONS							16
SECONDARY VIOLATIONS							77
VALID DAYS MONITORED							77
							363

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2006  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS	
32-003-0073	1	Clark	2006/05/12	.076	0	2	2	
			2006/06/11	.077	0	3	3	
			2006/06/20	.079	0	8	8	
			2006/06/21	.076	0	2	2	
			2006/06/22	.083	0	6	6	
			2006/06/23	.078	0	3	3	
			2006/06/25	.076	0	1	1	
			2006/06/30	.093	2	8	8	
			2006/07/01	.091	2	8	8	
			2006/07/16	.083	0	5	5	
			2006/07/18	.084	0	6	6	
			2006/07/21	.082	0	5	5	
			2006/07/23	.076	0	2	2	
			2006/07/25	.082	0	4	4	
			2006/07/28	.085	2	5	5	
			2006/08/17	.080	0	6	6	
			2006/08/26	.076	0	2	2	
SUMMARY FOR SITE 32-003-0073 POC 1 YEAR 2006							MAXIMUM VIOLATION VALUE	.093

VIOLATION DAYS  
 PRIMARY VIOLATIONS 17  
 SECONDARY VIOLATIONS 76  
 VALID DAYS MONITORED 76  
 359

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2006

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0075	1	Clark	2006/05/12	.081	0	5	5		
			2006/06/30	.080	0	3	3		
			2006/07/16	.080	0	3	3		
			2006/07/18	.088	0	6	6		
			2006/07/21	.084	0	5	5		
			2006/07/23	.083	0	5	5		
			2006/07/25	.085	2	5	5		
			2006/07/28	.079	0	3	3		
			2006/08/17	.080	0	3	3		
SUMMARY FOR SITE			32-003-0075	POC	1	YEAR	2006	MAXIMUM VIOLATION VALUE	.088

VIOLATION DAYS  
 PRIMARY VIOLATIONS 9  
 SECONDARY VIOLATIONS 38  
 VALID DAYS MONITORED 360

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2006  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0538	2	Clark	2006/05/03	.076	0	4	4		
			2006/05/07	.077	0	3	3		
			2006/05/12	.084	0	4	4		
			2006/05/13	.077	0	2	2		
			2006/06/30	.078	0	3	3		
			2006/07/01	.084	0	7	7		
			2006/07/25	.080	0	2	2		
			2006/08/17	.077	0	2	2		
SUMMARY FOR SITE			32-003-0538	POC	2	YEAR	2006	MAXIMUM VIOLATION VALUE	.084

VIOLATION DAYS  
 PRIMARY VIOLATIONS 8  
 SECONDARY VIOLATIONS 27  
 VALID DAYS MONITORED 360

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2006  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	YEAR	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0601	1	Clark	32-003-0601	2006	2006/05/12	.079	0	6	6
					2006/07/25	.077	0	2	2
SUMMARY FOR SITE 32-003-0601 POC 1 YEAR 2006									
VIOLATION DAYS									
PRIMARY VIOLATIONS 2									
SECONDARY VIOLATIONS 8									
VALID DAYS MONITORED 364									
MAXIMUM VIOLATION VALUE .079									

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2006

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS	
32-003-1019	1	Clark	2006/05/03	.077	0	5	5	
			2006/05/12	.083	0	9	9	
			2006/06/02	.077	0	8	8	
			2006/06/10	.076	0	2	2	
			2006/06/11	.077	0	3	3	
			2006/06/20	.083	0	8	8	
			2006/06/21	.079	0	7	7	
			2006/06/22	.077	0	2	2	
			2006/06/27	.077	0	4	4	
			2006/06/30	.076	0	2	2	
			2006/07/28	.079	0	5	5	
			2006/08/17	.079	0	8	8	
			2006/09/14	.076	0	2	2	
SUMMARY FOR SITE 32-003-1019 POC 1 YEAR 2006							MAXIMUM VIOLATION VALUE	.083

VIOLATION DAYS  
 PRIMARY VIOLATIONS 13  
 SECONDARY VIOLATIONS 65  
 VALID DAYS MONITORED 65  
 363

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2006  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-1021	1	Clark	2006/06/22	.076	0	2	2		
			2006/06/30	.085	2	6	6		
			2006/07/01	.088	2	7	7		
			2006/07/18	.084	0	5	5		
			2006/07/21	.087	0	5	5		
			2006/07/23	.076	0	2	2		
			2006/07/25	.090	2	4	4		
			2006/08/17	.080	0	5	5		
			2006/08/26	.082	0	4	4		
SUMMARY FOR SITE			32-003-1021	POC	1	YEAR	2006	MAXIMUM VIOLATION VALUE	.090

VIOLATION DAYS  
 PRIMARY VIOLATIONS 9  
 SECONDARY VIOLATIONS 40  
 VALID DAYS MONITORED 272

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2006

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS	
32-003-2002	1	Clark	2006/05/12	.080	0	2	2	
			2006/06/20	.078	0	3	3	
			2006/06/22	.078	0	2	2	
			2006/06/23	.076	0	1	1	
			2006/06/29	.079	2	4	4	
			2006/06/30	.088	2	7	7	
			2006/07/01	.091	2	7	7	
			2006/07/18	.083	0	5	5	
			2006/07/21	.080	0	3	3	
			2006/07/23	.077	0	2	2	
			2006/07/25	.081	0	3	3	
			2006/08/17	.078	0	3	3	
			2006/08/26	.079	0	2	2	
SUMMARY FOR SITE 32-003-2002 POC 1 YEAR 2006							MAXIMUM VIOLATION VALUE	.091

VIOLATION DAYS  
 PRIMARY VIOLATIONS 13  
 SECONDARY VIOLATIONS 44  
 VALID DAYS MONITORED 44  
 361

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2007  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0007	1	Clark	2007/06/16	.083	0	12	12
			2007/06/27	.083	0	9	9
			2007/08/03	.077	0	2	2
			2007/08/21	.078	0	4	4
			2007/08/22	.078	0	8	8
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.083

VIOLATION DAYS  
 PRIMARY VIOLATIONS 5  
 SECONDARY VIOLATIONS 35  
 VALID DAYS MONITORED 348

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2007  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	YEAR	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0020	1	Clark	32-003-0020	2007	2007/06/16	.081	0	6	6
					2007/08/21	.077	0	2	2
SUMMARY FOR SITE 32-003-0020 POC 1 YEAR 2007 MAXIMUM VIOLATION VALUE .081									
VIOLATION DAYS									
PRIMARY VIOLATIONS 2									
SECONDARY VIOLATIONS 8									
VALID DAYS MONITORED 357									

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2007  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0022	1	Clark	2007/05/10	.080	0	4	4
			2007/06/16	.086	0	9	9
			2007/06/25	.081	0	4	4
			2007/06/27	.085	0	8	8
			2007/06/29	.077	0	3	3
			2007/08/04	.076	0	1	1
			2007/08/21	.085	0	4	4
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.086

VIOLATION DAYS  
 PRIMARY VIOLATIONS 7  
 SECONDARY VIOLATIONS 33  
 VALID DAYS MONITORED 335

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2007  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	1	YEAR	2007	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0023	1	Clark	32-003-0023	POC	1	2007	.076	0	2	2
SUMMARY FOR SITE										
VIOLATION DAYS										
PRIMARY VIOLATIONS										
SECONDARY VIOLATIONS										
VALID DAYS MONITORED										
							MAXIMUM VIOLATION VALUE			.076

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2007

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS	
32-003-0043	1	Clark	2007/05/10	.076	0	1	1	
			2007/05/26	.077	0	3	3	
			2007/05/29	.076	0	1	1	
			2007/06/15	.082	0	8	8	
			2007/06/16	.086	0	13	13	
			2007/06/17	.079	0	6	6	
			2007/06/25	.079	0	4	4	
			2007/06/27	.087	0	9	9	
			2007/06/28	.082	0	5	5	
			2007/07/28	.085	0	6	6	
			2007/07/29	.077	0	3	3	
			2007/08/04	.081	0	5	5	
			2007/08/21	.077	0	2	2	
			2007/08/31	.083	0	4	4	
SUMMARY FOR SITE 32-003-0043 POC 1 YEAR 2007							MAXIMUM VIOLATION VALUE	.087

VIOLATION DAYS  
 PRIMARY VIOLATIONS 14  
 SECONDARY VIOLATIONS 70  
 VALID DAYS MONITORED 360

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2007

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS	
32-003-0071	1	Clark	2007/06/15	.081	0	7	7	
			2007/06/16	.085	0	11	11	
			2007/06/17	.082	0	7	7	
			2007/06/21	.078	0	2	2	
			2007/06/25	.079	0	4	4	
			2007/06/27	.085	0	8	8	
			2007/06/28	.081	0	5	5	
			2007/07/05	.077	0	3	3	
			2007/07/28	.090	0	7	7	
			2007/07/29	.081	0	5	5	
			2007/08/04	.082	0	5	5	
			2007/08/21	.077	0	3	3	
			2007/08/31	.086	0	5	5	
			2007/09/02	.078	0	3	3	
SUMMARY FOR SITE 32-003-0071 POC 1 YEAR 2007							.090	

VIOLATION DAYS  
 PRIMARY VIOLATIONS 14  
 SECONDARY VIOLATIONS 75  
 VALID DAYS MONITORED 355

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2007  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0072	1	Clark	2007/06/15	.077	0	3	3		
			2007/06/16	.080	0	8	8		
			2007/06/17	.080	0	5	5		
			2007/06/21	.076	0	1	1		
			2007/06/25	.076	0	1	1		
			2007/06/27	.081	0	7	7		
			2007/06/28	.079	0	4	4		
			2007/07/05	.078	0	3	3		
			2007/07/28	.085	0	5	5		
			2007/07/29	.080	0	5	5		
			2007/08/04	.077	0	2	2		
			2007/08/31	.081	0	4	4		
SUMMARY FOR SITE			32-003-0072	POC	1	YEAR	2007	MAXIMUM VIOLATION VALUE	.085

VIOLATION DAYS  
 PRIMARY VIOLATIONS 12  
 SECONDARY VIOLATIONS 48  
 VALID DAYS MONITORED 48  
 360

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2007

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS	
32-003-0073	1	Clark	2007/06/15	.081	0	9	9	
			2007/06/16	.081	0	12	12	
			2007/06/17	.077	0	3	3	
			2007/06/27	.080	0	5	5	
			2007/07/28	.088	0	6	6	
			2007/07/29	.077	0	1	1	
			2007/08/04	.079	0	3	3	
			2007/08/31	.083	0	5	5	
			2007/09/02	.078	0	3	3	
SUMMARY FOR SITE 32-003-0073 POC 1 YEAR 2007							MAXIMUM VIOLATION VALUE	.088

VIOLATION DAYS  
 PRIMARY VIOLATIONS 9  
 SECONDARY VIOLATIONS 47  
 VALID DAYS MONITORED 47  
 356

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2007

Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS	
32-003-0075	1	Clark	2007/06/15	.077	0	3	3	
			2007/06/16	.081	0	8	8	
			2007/06/17	.083	0	6	6	
			2007/06/25	.077	0	3	3	
			2007/06/27	.081	0	5	5	
			2007/06/28	.081	0	5	5	
			2007/07/05	.076	0	2	2	
			2007/07/28	.081	0	3	3	
			2007/07/29	.078	0	3	3	
			2007/08/04	.079	0	3	3	
			2007/08/21	.076	0	2	2	
			2007/08/31	.076	0	2	2	
SUMMARY FOR SITE 32-003-0075 POC 1 YEAR 2007							MAXIMUM VIOLATION VALUE	.083

VIOLATION DAYS  
 PRIMARY VIOLATIONS 12  
 SECONDARY VIOLATIONS 45  
 VALID DAYS MONITORED 45  
 361

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2007  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0538	2	Clark	2007/05/10	.076	0	1	1
			2007/06/16	.082	0	7	7
			2007/06/27	.078	0	3	3
			2007/06/28	.076	0	2	2
			2007/08/21	.076	0	1	1
SUMMARY FOR SITE			2 YEAR	MAXIMUM VIOLATION VALUE			.082

32-003-0538 POC 2 YEAR 2007  
 VIOLATION DAYS 5  
 PRIMARY VIOLATIONS 14  
 SECONDARY VIOLATIONS 14  
 VALID DAYS MONITORED 343

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2007  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0601	1	Clark	2007/05/29	.076	0	1	1
			2007/06/16	.087	0	13	13
			2007/06/27	.078	0	16	16
			2007/06/29	.076	0	1	1
			2007/08/03	.084	0	6	6
			2007/08/04	.076	0	1	1
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.087

VIOLATION DAYS  
 PRIMARY VIOLATIONS 6  
 SECONDARY VIOLATIONS 38  
 VALID DAYS MONITORED 343

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2007  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS	
32-003-1019	1	Clark	2007/05/10	.078	0	4	4	
			2007/05/12	.077	0	5	5	
			2007/05/26	.080	0	10	10	
			2007/05/28	.076	0	3	3	
			2007/05/29	.083	0	9	9	
			2007/06/15	.085	0	10	10	
			2007/06/16	.088	0	17	17	
			2007/06/18	.076	0	2	2	
			2007/06/27	.083	0	8	8	
			2007/06/28	.077	0	3	3	
			2007/08/21	.078	0	4	4	
			2007/08/22	.076	0	1	1	
SUMMARY FOR SITE 32-003-1019 POC 1 YEAR 2007							MAXIMUM VIOLATION VALUE	.088

VIOLATION DAYS  
 PRIMARY VIOLATIONS 12  
 SECONDARY VIOLATIONS 76  
 VALID DAYS MONITORED 76  
 354

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2007  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-1021	1	Clark	2007/06/27	.077	0	3	3		
			2007/06/28	.078	0	3	3		
			2007/08/03	.078	0	3	3		
			2007/08/31	.079	0	2	2		
SUMMARY FOR SITE			32-003-1021	POC	1	YEAR	2007	MAXIMUM VIOLATION VALUE	.079

VIOLATION DAYS  
 PRIMARY VIOLATIONS 4  
 SECONDARY VIOLATIONS 11  
 VALID DAYS MONITORED 11  
 352

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2007  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-2002	1	Clark	2007/06/16	.083	0	8	8
			2007/06/17	.078	0	3	3
			2007/06/25	.076	0	2	2
			2007/06/27	.080	0	5	5
			2007/06/28	.081	0	5	5
			2007/08/04	.078	0	3	3
			2007/08/21	.082	0	4	4
			2007/08/31	.080	0	3	3
SUMMARY FOR SITE			1 YEAR	2007	MAXIMUM VIOLATION VALUE	.083	

VIOLATION DAYS  
 PRIMARY VIOLATIONS 8  
 SECONDARY VIOLATIONS 33  
 VALID DAYS MONITORED 359

VIOLATION DAY COUNT REPORT

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2008  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0020	1	Clark	2008/08/14	.077	0	1	1
			2008/08/27	.080	0	2	2
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.080

VIOLATION DAYS  
 PRIMARY VIOLATIONS 2  
 SECONDARY VIOLATIONS 3  
 VALID DAYS MONITORED 358

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2008  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	1	YEAR	2008	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0022	1	Clark	32-003-0022	POC	1	2008	.076	0	2	2
SUMMARY FOR SITE										
VIOLATION DAYS										
PRIMARY VIOLATIONS										
SECONDARY VIOLATIONS										
VALID DAYS MONITORED										
							MAXIMUM VIOLATION VALUE			.076

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2008  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0043	1	Clark	2008/07/07	.082	0	4	4
			2008/07/08	.076	0	1	1
			2008/07/10	.078	0	3	3
			2008/08/16	.077	0	2	2
			2008/08/27	.078	0	2	2
SUMMARY FOR SITE			1 YEAR 2008	MAXIMUM VIOLATION VALUE			.082

VIOLATION DAYS  
 PRIMARY VIOLATIONS 5  
 SECONDARY VIOLATIONS 12  
 VALID DAYS MONITORED 12  
 355

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2008  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0071	1	Clark	2008/07/07	.083	0	5	5		
			2008/07/10	.078	0	3	3		
			2008/08/16	.076	0	2	2		
			2008/08/27	.076	0	2	2		
SUMMARY FOR SITE			32-003-0071	POC	1	YEAR	2008	MAXIMUM VIOLATION VALUE	.083

VIOLATION DAYS  
 PRIMARY VIOLATIONS 4  
 SECONDARY VIOLATIONS 12  
 VALID DAYS MONITORED 12  
 349

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2008  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0072	1	Clark	2008/07/07	.079	0	3	3
			2008/07/10	.078	0	3	3
			2008/08/14	.076	0	1	1
			2008/08/15	.078	0	3	3
			2008/08/27	.081	0	4	4
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.081

32-003-0072 POC 1 YEAR 2008  
 VIOLATION DAYS 5  
 PRIMARY VIOLATIONS 14  
 SECONDARY VIOLATIONS 14  
 VALID DAYS MONITORED 357

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2008  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0073	1	Clark	2008/07/07	.078	0	2	2
			2008/07/10	.079	0	3	3
			2008/08/27	.078	0	2	2
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.079

VIOLATION DAYS  
 PRIMARY VIOLATIONS 3  
 SECONDARY VIOLATIONS 7  
 VALID DAYS MONITORED 7  
 351

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2008  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0075	1	Clark	2008/05/30	.076	0	1	1
			2008/07/07	.078	0	3	3
			2008/07/10	.080	0	4	4
			2008/07/18	.080	0	4	4
			2008/08/14	.079	0	4	4
			2008/08/15	.083	0	5	5
			2008/08/16	.082	0	5	5
			2008/08/27	.077	0	2	2
SUMMARY FOR SITE			1 YEAR	2008	MAXIMUM VIOLATION VALUE		.083

VIOLATION DAYS  
 PRIMARY VIOLATIONS 8  
 SECONDARY VIOLATIONS 28  
 VALID DAYS MONITORED 359

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2008  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	1	YEAR	2008	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-1019	1	Clark	32-003-1019	POC	1	2008	.078	0	7	7
SUMMARY FOR SITE										
32-003-1019 POC 1 YEAR 2008 MAXIMUM VIOLATION VALUE .078										
VIOLATION DAYS										
PRIMARY VIOLATIONS 1										
SECONDARY VIOLATIONS 7										
VALID DAYS MONITORED 7										
347										

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2008  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-1021	1	Clark	2008/07/07	.077	0	2	2
			2008/08/14	.077	0	2	2
			2008/08/27	.076	0	2	2
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.077

32-003-1021 POC 1 YEAR 2008  
 VIOLATION DAYS 3  
 PRIMARY VIOLATIONS 6  
 SECONDARY VIOLATIONS 6  
 VALID DAYS MONITORED 356

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2009  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	1	YEAR	2009	DATE OF VIOLATION	2009/07/28	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	0	NUMBER OF PRIMARY VIOLATIONS	1	NUMBER OF SECONDARY VIOLATIONS	1
32-003-0020	1	Clark	32-003-0020	POC	1	2009	2009/07/28	.076	0	0	1	1	1	.076	
SUMMARY FOR SITE															
32-003-0020 POC 1 YEAR 2009 MAXIMUM VIOLATION VALUE .076															
VIOLATION DAYS															
PRIMARY VIOLATIONS 1															
SECONDARY VIOLATIONS 1															
VALID DAYS MONITORED 352															

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2009  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	1	YEAR	2009	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0022	1	Clark	32-003-0022	POC	1	2009	.077	0	3	3
SUMMARY FOR SITE										
VIOLATION DAYS										
PRIMARY VIOLATIONS										
SECONDARY VIOLATIONS										
VALID DAYS MONITORED										
							MAXIMUM VIOLATION VALUE			.077

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2009  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0071	1	Clark	2009/07/28	.077	0	3	3		
			2009/07/30	.078	0	2	2		
			2009/08/18	.081	2	4	4		
SUMMARY FOR SITE			32-003-0071	POC	1	YEAR	2009	MAXIMUM VIOLATION VALUE	.081

VIOLATION DAYS  
 PRIMARY VIOLATIONS 3  
 SECONDARY VIOLATIONS 9  
 VALID DAYS MONITORED 9  
 362

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2009  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	YEAR	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0075	1	Clark	32-003-0075	2009	2009/07/28	.077	0	2	2
					2009/08/18	.079	2	3	3
SUMMARY FOR SITE 32-003-0075 POC 1 YEAR 2009 MAXIMUM VIOLATION VALUE .079									

VIOLATION DAYS  
 PRIMARY VIOLATIONS 2  
 SECONDARY VIOLATIONS 5  
 VALID DAYS MONITORED 359

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2009  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	1	YEAR	2009	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0601	1	Clark	32-003-0601	POC	1	2009	.076	0	3	3
SUMMARY FOR SITE										
32-003-0601 POC 1 YEAR 2009 MAXIMUM VIOLATION VALUE .076										
VIOLATION DAYS										
PRIMARY VIOLATIONS 1										
SECONDARY VIOLATIONS 3										
VALID DAYS MONITORED 311										

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2009  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	YEAR	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-1019	1	Clark	32-003-1019	2009	2009/04/30	.076	0	1	1
					2009/08/17	.079	2	5	5
SUMMARY FOR SITE 32-003-1019 POC 1 YEAR 2009 MAXIMUM VIOLATION VALUE .079									
VIOLATION DAYS									
PRIMARY VIOLATIONS 2									
SECONDARY VIOLATIONS 6									
VALID DAYS MONITORED 356									

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2009  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	1	YEAR	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-2002	1	Clark	32-003-2002	POC	1	2009/07/28	.076	0	1	1
SUMMARY FOR SITE										
32-003-2002 POC 1 YEAR 2009 MAXIMUM VIOLATION VALUE .076										
VIOLATION DAYS										
PRIMARY VIOLATIONS 1										
SECONDARY VIOLATIONS 1										
VALID DAYS MONITORED 354										

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2010  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	1	YEAR	2010	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0071	1	Clark	32-003-0071	POC	1	2010	.077	2	3	3
SUMMARY FOR SITE										
32-003-0071 POC 1 YEAR 2010 MAXIMUM VIOLATION VALUE .077										
VIOLATION DAYS										
PRIMARY VIOLATIONS 1										
SECONDARY VIOLATIONS 3										
VALID DAYS MONITORED 355										

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2010  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	1	YEAR	2010	DATE OF VIOLATION	2010/06/22	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	2	NUMBER OF PRIMARY VIOLATIONS	5	NUMBER OF SECONDARY VIOLATIONS	5
32-003-0075	1	Clark	32-003-0075	POC	1	2010			.082	2		5		.082	
SUMMARY FOR SITE															
VIOLATION DAYS															
PRIMARY VIOLATIONS															
SECONDARY VIOLATIONS															
VALID DAYS MONITORED															
360															

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2010  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	1	YEAR	2010	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-2002	1	Clark	32-003-2002	POC	1	2010	.076	2	2	2
SUMMARY FOR SITE										
32-003-2002 POC 1 YEAR 2010 MAXIMUM VIOLATION VALUE .076										
VIOLATION DAYS										
PRIMARY VIOLATIONS 1										
SECONDARY VIOLATIONS 2										
VALID DAYS MONITORED 363										

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2011  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	1	YEAR	2011	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0022	1	Clark	32-003-0022	POC	1	2011	.078	2	5	5
SUMMARY FOR SITE										
32-003-0022 POC 1 YEAR 2011 MAXIMUM VIOLATION VALUE .078										
VIOLATION DAYS										
PRIMARY VIOLATIONS 1										
SECONDARY VIOLATIONS 5										
VALID DAYS MONITORED 5										
125										

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2011  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0043	1	Clark	2011/06/14	.078	0	3	3		
			2011/06/16	.079	2	8	8		
			2011/06/21	.078	0	2	2		
			2011/07/01	.090	0	8	8		
			2011/07/02	.082	0	5	5		
			2011/07/21	.077	2	3	3		
SUMMARY FOR SITE			32-003-0043	POC	1	YEAR	2011	MAXIMUM VIOLATION VALUE	.090

VIOLATION DAYS  
 PRIMARY VIOLATIONS 6  
 SECONDARY VIOLATIONS 29  
 VALID DAYS MONITORED 29

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2011  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0071	1	Clark	2011/06/14	.079	0	3	3		
			2011/06/16	.077	2	5	5		
			2011/06/26	.077	0	3	3		
			2011/07/01	.089	0	7	7		
			2011/07/02	.079	0	4	4		
			2011/08/28	.076	2	1	1		
SUMMARY FOR SITE			32-003-0071	POC	1	YEAR	2011	MAXIMUM VIOLATION VALUE	.089

VIOLATION DAYS  
 PRIMARY VIOLATIONS 6  
 SECONDARY VIOLATIONS 23  
 VALID DAYS MONITORED 23

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2011  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0073	1	Clark	2011/07/01	.088	0	7	7
			2011/07/02	.080	0	4	4
			2011/07/21	.081	2	6	6
			2011/08/28	.077	2	3	3
SUMMARY FOR SITE			1 YEAR	MAXIMUM VIOLATION VALUE			.088

VIOLATION DAYS  
 PRIMARY VIOLATIONS 4  
 SECONDARY VIOLATIONS 20  
 VALID DAYS MONITORED 20  
 270

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2011  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS		
32-003-0075	1	Clark	2011/06/14	.076	0	2	2		
			2011/06/16	.076	2	1	1		
			2011/06/18	.076	0	2	2		
			2011/06/26	.076	0	3	3		
			2011/07/01	.079	0	3	3		
			2011/07/02	.079	0	4	4		
			2011/07/21	.077	2	3	3		
			2011/08/28	.077	2	3	3		
SUMMARY FOR SITE			32-003-0075	POC	1	YEAR	2011	MAXIMUM VIOLATION VALUE	.079

VIOLATION DAYS  
 PRIMARY VIOLATIONS 8  
 SECONDARY VIOLATIONS 21  
 VALID DAYS MONITORED 265

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2011  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	POC	YEAR	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0538	2	Clark	32-003-0538	2011	2011/06/16	.076	2	2	2
SUMMARY FOR SITE									
32-003-0538 POC 2 YEAR 2011 MAXIMUM VIOLATION VALUE .076									
VIOLATION DAYS									
PRIMARY VIOLATIONS 1									
SECONDARY VIOLATIONS 2									
VALID DAYS MONITORED 267									

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2011  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	SUMMARY FOR SITE	POC	1	YEAR	2011	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-0601	1	Clark	VIOLATION DAYS PRIMARY VIOLATIONS SECONDARY VIOLATIONS VALID DAYS MONITORED	32-003-0601		1	2011	.081	2	8	8
								MAXIMUM VIOLATION VALUE			.081

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)  
 Parts per million (007)  
 8-HR RUN AVG BEGIN HOUR (W)  
 2011  
 Nevada

CBSA: (29820) Las Vegas-Paradise, NV

SITE ID	POC	COUNTY NAME	DATE OF VIOLATION	MAXIMUM VIOLATION VALUE	EXCEPT DATA?	NUMBER OF PRIMARY VIOLATIONS	NUMBER OF SECONDARY VIOLATIONS
32-003-1019	1	Clark	2011/06/15	.079	2	6	6
			2011/06/16	.083	2	11	11
			2011/07/21	.080	2	8	8
SUMMARY FOR SITE 32-003-1019 POC 1 YEAR 2011				MAXIMUM VIOLATION VALUE			.083

VIOLATION DAYS  
 PRIMARY VIOLATIONS 3  
 SECONDARY VIOLATIONS 25  
 VALID DAYS MONITORED 271

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2004

Nevada

DATE OF VIOLATION	HIGHEST VIOLATION SITE	COUNTY NAME	NUMBER OF VIOLATION SITES	MAXIMUM VIOLATION VALUE	EXCEPT DATA?
2004/04/13	32-003-1019	Clark	1	.076	0
2004/04/28	32-003-0601	Clark	2	.078	0
2004/05/09	32-003-0022	Clark	1	.077	0
2004/05/10	32-003-0022	Clark	9	.085	0
2004/05/14	32-003-1019	Clark	2	.080	0
2004/05/15	32-003-0022	Clark	3	.085	0
2004/06/04	32-003-0075	Clark	1	.076	0
2004/06/05	32-003-0075	Clark	1	.078	0
2004/06/06	32-003-0075	Clark	9	.082	0
2004/06/08	32-003-0073	Clark	6	.080	0
2004/06/13	32-003-0075	Clark	1	.076	0
2004/06/26	32-003-0075	Clark	1	.076	0
2004/07/04	32-003-0075	Clark	2	.080	0
2004/07/05	32-003-0075	Clark	3	.078	0
2004/07/07	32-003-0075	Clark	6	.082	0
2004/07/18	32-003-0075	Clark	1	.076	0
2004/07/24	32-003-0075	Clark	1	.077	0
2004/07/25	32-003-0075	Clark	1	.076	0
2004/07/27	32-003-0075	Clark	7	.081	0
2004/07/28	32-003-0075	Clark	6	.088	0
2004/07/29	32-003-0538	Clark	7	.078	0

VIOLATION DAYS 21

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2005

Nevada

DATE OF VIOLATION	HIGHEST VIOLATION SITE	COUNTY NAME	NUMBER OF VIOLATION SITES	MAXIMUM VIOLATION VALUE	EXCEPT DATA?
2005/04/17	32-003-0073	Clark	6	.080	0
2005/05/22	32-003-0072	Clark	2	.077	0
2005/05/25	32-003-1019	Clark	2	.081	0
2005/05/28	32-003-0073	Clark	2	.078	0
2005/05/31	32-003-0075	Clark	2	.076	0
2005/06/01	32-003-1019	Clark	3	.081	0
2005/06/02	32-003-1019	Clark	1	.076	0
2005/06/05	32-003-0073	Clark	5	.078	0
2005/06/12	32-003-0072	Clark	10	.089	0
2005/06/13	32-003-0073	Clark	4	.080	0
2005/06/16	32-003-1019	Clark	1	.079	0
2005/06/26	32-003-0022	Clark	4	.078	0
2005/06/29	32-003-0538	Clark	14	.100	2
2005/06/30	32-003-0075	Clark	13	.105	2
2005/07/01	32-003-1019	Clark	3	.081	0
2005/07/02	32-003-1019	Clark	9	.085	0
2005/07/03	32-003-0075	Clark	11	.087	0
2005/07/04	32-003-0072	Clark	1	.076	0
2005/07/05	32-003-0075	Clark	1	.076	0
2005/07/06	32-003-1019	Clark	5	.081	0
2005/07/07	32-003-0075	Clark	4	.078	0
2005/07/08	32-003-0075	Clark	11	.086	0
2005/07/14	32-003-0075	Clark	4	.081	0
2005/07/15	32-003-0073	Clark	5	.086	0
2005/07/16	32-003-0020	Clark	7	.083	0
2005/07/17	32-003-0007	Clark	3	.080	0
2005/07/18	32-003-0072	Clark	9	.095	2
2005/07/20	32-003-0075	Clark	1	.076	0
2005/07/21	32-003-0075	Clark	1	.076	0
2005/07/22	32-003-0022	Clark	1	.076	0
2005/07/30	32-003-0075	Clark	1	.077	0

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2005

Nevada

DATE OF VIOLATION	HIGHEST VIOLATION SITE	COUNTY NAME	NUMBER OF VIOLATION SITES	MAXIMUM VIOLATION VALUE	EXCEPT DATA?
2005/08/06	32-003-0072	Clark	4	.086	0
2005/08/10	32-003-0075	Clark	2	.078	0
2005/08/12	32-003-0075	Clark	6	.083	0
VIOLATION DAYS 34					

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2006

Nevada

DATE OF VIOLATION	HIGHEST VIOLATION SITE	COUNTY NAME	NUMBER OF VIOLATION SITES	MAXIMUM VIOLATION VALUE	EXCEPT DATA?
2006/05/03	32-003-1019	Clark	3	.077	0
2006/05/07	32-003-0538	Clark	3	.077	0
2006/05/08	32-003-0022	Clark	1	.076	0
2006/05/12	32-003-0538	Clark	9	.084	0
2006/05/13	32-003-0022	Clark	3	.079	0
2006/06/02	32-003-1019	Clark	1	.077	0
2006/06/10	32-003-0022	Clark	4	.077	0
2006/06/11	32-003-0072	Clark	5	.079	0
2006/06/17	32-003-0072	Clark	1	.077	0
2006/06/20	32-003-1019	Clark	8	.083	0
2006/06/21	32-003-0072	Clark	5	.080	0
2006/06/22	32-003-0071	Clark	8	.085	2
2006/06/23	32-003-0072	Clark	6	.081	0
2006/06/24	32-003-0043	Clark	1	.076	0
2006/06/25	32-003-0043	Clark	3	.080	0
2006/06/27	32-003-1019	Clark	1	.077	0
2006/06/28	32-003-0022	Clark	1	.078	0
2006/06/29	32-003-0072	Clark	6	.085	2
2006/06/30	32-003-0072	Clark	11	.098	2
2006/07/01	32-003-0071	Clark	10	.094	2
2006/07/02	32-003-0072	Clark	3	.079	0
2006/07/08	32-003-0071	Clark	1	.077	0
2006/07/10	32-003-0022	Clark	1	.077	0
2006/07/14	32-003-0022	Clark	1	.076	0
2006/07/16	32-003-0073	Clark	5	.083	0
2006/07/18	32-003-0075	Clark	8	.088	0
2006/07/21	32-003-0071	Clark	7	.090	0
2006/07/23	32-003-0075	Clark	6	.083	0
2006/07/25	32-003-1021	Clark	11	.090	2
2006/07/28	32-003-0073	Clark	6	.085	2
2006/08/17	32-003-1021	Clark	8	.080	0

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2006

Nevada

DATE OF VIOLATION	HIGHEST VIOLATION SITE	COUNTY NAME	NUMBER OF VIOLATION SITES	MAXIMUM VIOLATION VALUE	EXCEPT DATA?
2006/08/26	32-003-1021	Clark	5	.082	0
2006/09/14	32-003-1019	Clark	1	.076	0

VIOLATION DAYS 33

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2007

Nevada

DATE OF VIOLATION	HIGHEST VIOLATION SITE	COUNTY NAME	NUMBER OF VIOLATION SITES	MAXIMUM VIOLATION VALUE	EXCEPT DATA?
2007/05/10	32-003-0022	Clark	4	.080	0
2007/05/12	32-003-1019	Clark	1	.077	0
2007/05/26	32-003-1019	Clark	2	.080	0
2007/05/28	32-003-1019	Clark	1	.076	0
2007/05/29	32-003-1019	Clark	3	.083	0
2007/06/15	32-003-1019	Clark	6	.085	0
2007/06/16	32-003-1019	Clark	13	.088	0
2007/06/17	32-003-0075	Clark	6	.083	0
2007/06/18	32-003-1019	Clark	1	.076	0
2007/06/21	32-003-0071	Clark	2	.078	0
2007/06/25	32-003-0022	Clark	6	.081	0
2007/06/27	32-003-0043	Clark	12	.087	0
2007/06/28	32-003-0043	Clark	8	.082	0
2007/06/29	32-003-0022	Clark	2	.077	0
2007/07/05	32-003-0072	Clark	3	.078	0
2007/07/28	32-003-0071	Clark	5	.090	0
2007/07/29	32-003-0071	Clark	5	.081	0
2007/08/03	32-003-0601	Clark	3	.084	0
2007/08/04	32-003-0071	Clark	8	.082	0
2007/08/21	32-003-0022	Clark	9	.085	0
2007/08/22	32-003-0007	Clark	2	.078	0
2007/08/31	32-003-0071	Clark	7	.086	0
2007/09/02	32-003-0071	Clark	2	.078	0

VIOLATION DAYS 23

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2008

Nevada

DATE OF VIOLATION	HIGHEST VIOLATION SITE	COUNTY NAME	NUMBER OF VIOLATION SITES	MAXIMUM VIOLATION VALUE	EXCEPT DATA?
2008/05/11	32-003-1019	Clark	1	.078	0
2008/05/30	32-003-0075	Clark	2	.076	0
2008/07/07	32-003-0071	Clark	6	.083	0
2008/07/08	32-003-0043	Clark	1	.076	0
2008/07/10	32-003-0075	Clark	5	.080	0
2008/07/18	32-003-0075	Clark	1	.080	0
2008/08/14	32-003-0075	Clark	4	.079	0
2008/08/15	32-003-0075	Clark	2	.083	0
2008/08/16	32-003-0075	Clark	3	.082	0
2008/08/27	32-003-0072	Clark	7	.081	0

VIOLATION DAYS 10

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2009

Nevada

DATE OF VIOLATION	HIGHEST VIOLATION SITE	COUNTY NAME	NUMBER OF VIOLATION SITES	MAXIMUM VIOLATION VALUE	EXCEPT DATA?
2009/04/30	32-003-0022	Clark	3	.077	0
2009/07/28	32-003-0071	Clark	4	.077	0
2009/07/30	32-003-0071	Clark	1	.078	0
2009/08/17	32-003-1019	Clark	1	.079	2
2009/08/18	32-003-0071	Clark	2	.081	2
VIOLATION DAYS			5		

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2010

Nevada

DATE OF VIOLATION	HIGHEST VIOLATION SITE	COUNTY NAME	NUMBER OF VIOLATION SITES	MAXIMUM VIOLATION VALUE	EXCEPT DATA?
2010/06/22	32-003-0075	Clark	3	.082	2
VIOLATION DAYS	1				

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >

VIOLATION DAY COUNT REPORT

Jan. 17, 2012

Ozone (44201)

Parts per million (007)

8-HR RUN AVG BEGIN HOUR (W)

2011

Nevada

DATE OF VIOLATION	HIGHEST VIOLATION SITE	COUNTY NAME	NUMBER OF VIOLATION SITES	MAXIMUM VIOLATION VALUE	EXCEPT DATA?
2011/06/14	32-003-0071	Clark	3	.079	0
2011/06/15	32-003-1019	Clark	1	.079	2
2011/06/16	32-003-1019	Clark	7	.083	2
2011/06/18	32-003-0075	Clark	1	.076	0
2011/06/21	32-003-0043	Clark	1	.078	0
2011/06/26	32-003-0071	Clark	2	.077	0
2011/07/01	32-003-0043	Clark	4	.090	0
2011/07/02	32-003-0043	Clark	4	.082	0
2011/07/21	32-003-0073	Clark	4	.081	2
2011/08/28	32-003-0075	Clark	3	.077	2

VIOLATION DAYS 10

< THIS REPORT CONTAINS EXCEPTIONAL EVENT DATA >



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 9

75 Hawthorne Street  
San Francisco, CA 94105-3901

January 12, 2015

Lewis Wallenmeyer, Director  
Clark County, NV, Department of Air Quality  
4701 W. Russell Road Suite 200  
Las Vegas, NV 89118-2231

SUBJECT: Review of the Clark County Criteria Pollutant Quality Assurance Project Plan  
(EPA QA Office Document Control Number AIRP0323QV3)

Dear Mr. Wallenmeyer:

Thank you for submitting your Criteria Pollutant Quality Assurance Project Plan (QAPP) for ambient air monitoring of Particulate Matter (PM), Ozone (O<sub>3</sub>), Nitrogen Dioxide (NO<sub>2</sub>), Carbon Monoxide (CO), and Lead (Pb). U.S. EPA (EPA) has reviewed this revised document and is approving it for criteria pollutant monitoring. All previous concerns were addressed and their resolutions are attached. Several additional comments are included for your consideration.

This review was based on regulation and guidance provided in "EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations" (EAP QA/R-5, March 2001), "Guidance for the Data Quality Objectives Process (EPA QA/G-4, February 2006), and the QA Handbook for Air Pollution Measurement Systems, Volume II (EPA-454/b-13-003, May 2013).

If you have any questions regarding QA requirements for ambient air monitoring, please contact Mathew Plate, EPA Region 9 QA Office at (415) 972-3799.

Sincerely,

Eugenia McNaughton, Ph.D.  
Manager, Quality Assurance Office (MTS-3)  
Management and Technical Services Division

## Major Concerns

1. **[General, Method Quality Objectives/Quality Control; Section A7.4, Data Quality]** Details of quality control measures and criteria are not fully summarized in this QAPP and the associated standard operating procedures (SOPs). In addition to references to EPA regulation and guidance, quality control criteria should be specified. This QAPP and the associated SOPs should be stand-alone documents describing quality control measures and criteria undertaken and that can easily be referenced by the user. These documents should also substantiate that the program is following and is committed to following appropriate quality control. Clark County Department of Air Quality (DAQ) could establish most of these by including the appropriate tables, modified as needed, from the *QA Handbook for Air Pollution Measurement Systems, Volume II*, Appendix D, and referencing these in the QAPP.

This concern was addressed. Quality control is summarized in the templates in Appendix C. Please note that the Table of Contents was not updated and still lists Appendix C as "LEADS Data Collection Model." It is also recommended that Section D3 (Data Validation) include a reference to Appendix C.

2. **[General, Data Handling, Management, and Validation]** Throughout this QAPP and associated SOPs, clear instructions are given on how quality control information and data processed by the Leading Environmental Analysis and Display System (LEADS) are handled. However, data collected outside the LEADS (i.e., manual filter data) and quality control to support data collected by the LEADS (i.e., automated PM flow/temperature/pressure checks and automated particulate and gaseous performance audit data) are not well defined in this QAPP and the associated SOPs. This plan should explain how this information is managed, validated, and associated to the related data in the LEADS pertaining to data review, data validation, and uploading into AQS.

This concern was addressed. Information was added to the QAPP that clarifies data management. DAQ should ensure that associated SOPs reflect non-LEADS data management when they are routinely updated.

3. **[Section C1.2, Performance Evaluations; SOP 101, SOP for Quality Assurance Field Audits and Corrective Action Requests]** Section C1.2 has limited information on the type, frequency, and extent of performance audits conducted by the DAQ independent auditor. While a reference to regulatory requirements is provided, the QAPP and associated performance audit SOP should include specifics on these audits such that conformance to regulatory requirements can be confirmed. At a minimum, the QAPP should include a discussion accompanied by a table listing the audits performed, measurements collected during each audit, frequency of audits, information on the equipment used to perform audits, and the criteria for evaluating audit results. The associated SOP should include step-by-step

**performance audit procedures for each type of audit performed with specific requirements for each instrument.**

This concern was addressed. Section C1.2 was expanded to include details of the performance evaluation program.

- 4. [Section B7.2, Gas Analyzer Calibration; Table 12, Gas Analyzer QC Checks; Appendix F, Section 3.0, Calibration and Span Check Sequences and Calculating Pollutant Concentration Generated by the Calibration System] The low calibration levels and precision levels used are programmed into the LEADS to be conducted at 18% of full scale. This translates to 9 ppm for carbon monoxide (CO) and 0.09 ppm for nitrogen dioxide (NO<sub>2</sub>) and ozone (O<sub>3</sub>). For O<sub>3</sub> calibrations, this concentration is above the 8-hour NAAQS and should be lowered so that the calibration range brackets the NAAQS concentration (some Region 9 agencies have a low calibration point for O<sub>3</sub> around 0.050 ppm). Additionally it is recommended that these low calibration / precision point levels be lowered for each of these gaseous pollutants to be consistent with 40 CFR Part 58, Appendix A, Section 3.2.1, which states, “*The QC check gas [precision] concentration selected should be related to the routine concentrations normally measured at sites within the monitoring network in order to appropriately reflect the precision and bias at these routine concentration ranges.*”**

This concern was addressed. DAQ lowered the low level calibration and precision concentrations. It is recommended that DAQ evaluate potential data impacts that may result if concentrations higher than EPA’s decision thresholds are used. This could be done by reviewing low concentration audit data, including National Performance Audit Program (NPAP) audit results.

- 5. [Section A9.2, Records Management] This section states that exposed, low-volume filters will be archived for one year or longer. However 40 CFR Part 58, Section 58.16, directs filters to be stored for a minimum of 5 years, the first 12 months in “cold storage.”**

This concern was addressed. The plan clarifies that filters are stored frozen for one year and for four years after that in a controlled environment.

## **Other Concerns**

- 1. [Section A4, Project Task Organization; Figure 1, DAQ Monitoring Division Organization Chart] The organizational structure defined in Section A4 and in Figure 1 should be updated to reflect the current organization and staffing changes. Figure 1 is not consistent with the DAQ organizational chart that is currently on the Departmental website and both of these are inconsistent with the organizational chart provided in the NCore and Meteorology QAPP submitted to EPA. If the DAQ has a project-specific organization that is different than the departmental organization this should be discussed in the QAPP.**

This concern was partially addressed. The chart provided reflects the current organization of DAQ. However, the plan states that this is subject to change. For quality management purposes, having a stable organization structure helps provide data consistency. During the next scheduled technical systems audit (TSA), EPA will evaluate DAQ's updated organizational structure to determine whether the changes have impacted data quality or consistency.

- 2. [Section A6.2; Air Quality Monitoring Network] The discussion of collocated monitoring notes that there are two continuous PM<sub>2.5</sub> Federal Equivalent Method (FEM) monitors collocated with filter-based Federal Reference Method (FRM) monitors. However, only one of the continuous FEM monitors is designated as a primary monitor in the QAPP. This is inconsistent with EPA's PM<sub>2.5</sub> collocation requirements and also does not match what is presented in the Clark County 2014 Network Design Plan. It is recommended that DAQ re-evaluate PM<sub>2.5</sub> collocation requirements and update the QAPP and Network Design Plan accordingly.**

This concern was addressed. The plan clarifies that FEM monitor at the Jerome Mack site is not a primary FEM and it therefore not officially collocated.

- 3. [Section A7.1, Developing Data Quality Objectives] This section should introduce information inputs and boundaries that require different quality assurance approaches. Specifically, temporal boundaries should be discussed. NAAQS decisions require quarterly and annual data reporting requirements and involve evaluating up to three years of data. Real time and AQI decisions require that data have hourly reporting requirements and decisions are made on an hourly and daily basis. These different boundaries/requirements lead to the different quality assurance steps integrated into DAQ's monitoring system.**

This concern was addressed. A reference to Section A7.2 was added to Section A7.1 and some additional information on temporal boundaries was added to Section A7.2. In addition, the QAPP and SOPs define clearly how quality is managed given the different time scales.

- 4. [Section A8, Special Training/Certification] Section A8 should include training on this QAPP and relevant SOPs for DAQ staff. It is recommended that this training be tracked for each staff person and updated periodically.**

This concern was addressed. Information on training, including training on DAQ QA plans and SOPs has been added to Section A8.

- 5. [Section B9, Non-direct Measurements] This section should include a provision for evaluating data quality if an occasion arises where secondary data are used.**

This concern was addressed. Language was added that commits the organization to further evaluation prior to using secondary data.

### **Additional Comments**

1. [Section A6.2, Air Quality Monitoring Network] Some of the language in this section is outdated, referencing a future near-road station in 2014 and the 2014 Annual Network Plan as a future document.
2. [B3.1, Federal Reference Method Filters] The filter holding time, “37 days,” should read “30 days” in Section B3.1. It is correct in other parts of the QAPP and related SOPs.
3. [Table 11, MQO for QC Verification and Span Checks] This table indicates that annual multipoint checks are for temperature and pressure. Other parts of the plan indicate that multipoint flow is also conducted. Please note that 40 CFR Part 50 Appendix L, Section 9.1.1 states that for PM<sub>2.5</sub> “multipoint calibration and single-point verification of the sampler's flow rate measurement device must be performed periodically.”



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH TRIANGLE PARK, NC 27711

March 27, 2014

OFFICE OF  
AIR QUALITY PLANNING  
AND STANDARDS

Mr. Mike Sword  
Engineering Manager  
Clark County Department of Air Quality  
4701 W. Russell Road, Suite 200  
Las Vegas, Nevada 89118

Dear Mr. Sword:

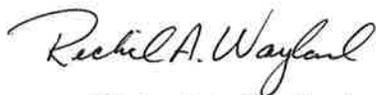
This letter transmits our approval of Clark County's NCore station at the Jerome Mack site, AQS # 32-003-0540, as required by the Ambient Air Monitoring Regulations. According to these rules (see 40 CFR 58.11(c)), NCore network design and changes must be approved by the Environmental Protection Agency's (EPA) Administrator. This authority has been delegated to the Director of the Air Quality Assessment Division in EPA's Office of Air Quality Planning and Standards.

In considering your proposed NCore monitoring station, we worked with your Regional Office on a review of your annual monitoring network plan and an assessment of the proposed location and characteristics of the area to be monitored. Region 9 staff inspected the Jerome Mack site and location in March of 2011. Region 9 reported to us that the site meets all siting criteria. Also, the location appears to be consistent with the network design criteria for urban NCore stations. Therefore, after careful consideration of your proposal, we are pleased to approve this station as part of the NCore network.

In reviewing the reporting of data and metadata information identified in the AQS database for the Jerome Mack site, we see that your agency is successfully measuring and reporting all the required NCore parameters for this site. Additionally, we note that your agency has been successfully reporting data since the required beginning of the NCore program in January of 2011.

Thank you for your program's efforts in developing the NCore station, establishing the site, and successfully reporting the data for all the required parameters. For questions you may contact Tim Hanley at [hanley.tim@epa.gov](mailto:hanley.tim@epa.gov) and 919-541-4417.

Sincerely,

A handwritten signature in black ink that reads "Richard A. Wayland". The signature is written in a cursive style with a large initial "R".

Richard A. Wayland  
Director  
Air Quality Assessment Division

cc: Matthew Lakin, EPA Region 9  
Meredith Kurpius, EPA Region 9



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

RECEIVED  
CC-DAQ

2012 DEC 18 A 9 25

November 28, 2012

Mr. Lewis Wallenmeyer, Director  
Clark County Department of Air Quality  
4701 West Russell Road, Suite 200  
Las Vegas, NV 89118-2231

SUBJECT: Quality Management Plan (QMP) for the Clark County Department of Air Quality, Las Vegas, Nevada (QA Program Document Control Number AIRP0279PV1)

Dear Mr. Wallenmeyer:

Thank you for submitting the Quality Management Plan for the Clark County Department of Air Quality (CCDAQ), dated September 28, 2012, as well as a Response to Comments (RTC) Letter and Quality Management Plan Review Checklist, all prepared by the Engineering Division. The QMP is a revised document prepared in response to Findings provided in EPA's April 2, 2010, Technical Systems Audit (TSA) Report. The TSA Findings contained specific comments on Clark County's QMP, which were included in the RTC and used as the basis for this review. In addition, the Quality Assurance Office and Air Division reviewed the subject document based on "EPA Requirements for Quality Management Plans," EPA R-2, December, 2001 (EPA/240/B-01/002).

The QMP addresses most of the concerns identified in the TSA QMP review and is conditionally approved by the Quality Assurance Office and the Air Quality Analysis Office. Additional information is needed regarding the subjects of Assessments, Validation, Data Certification and Data Quality Objectives (DQOs). Elements that should be expanded or strengthened are identified below. Work also should continue on the revision to the supporting Quality Assurance Project Plans/Quality Control and Assurance System (QAPPs/QCAS) documents identified in Section 1.2, Scope, which have not yet been approved by EPA.

If you have any questions concerning this memorandum, please call David Taylor of the QA Office at (415) 972-3803 or by email at Taylor.David@epa.gov.

Sincerely yours,

Eugenia McNaughton, Ph.D., Manager  
Quality Assurance Office

## Concerns

1. [Section 1.1.2, Assessment] Information regarding assessments have been added to several parts of the plan, but there is no detailed discussion of this topic. The EPA R-2 guidance includes a section on "Assessment and Response." It is recommended that such a section be added. Section 1.7, Continuous Improvement, satisfactorily defines "Assessment" in generic terms, but the example provided in this section is limited. The QMP should provide a more comprehensive perspective on CCDAQ's assessment program. The TSA Findings stated that both Assessment and Response (including internal and EPA technical and performance assessments) were to be described. In addition, Section 6 makes reference to participation in EPA's National Performance Audit Program (NPAP) and the Particulate Matter Performance Evaluation Program (PEP), but the frequency and nature of this participation and of internal performance audits should be described in greater detail. The response program should also be discussed. Note that the technical aspects of the program, including acceptance criteria, etc., can be deferred to the QA Program Plan or QA Project Plan level. A statement should be included to this effect.
2. [Section 10.2.2] The QMP states that the Data Specialist validates data by using the validation function in LEADS to review collected data for errors flags, outliers, and statistical anomalies. He/she may also review electronic logs, instrument operation metadata, and instrument verifications and calibrations, or discuss data with the QC Technician as part of the validation process. If the Data Specialist invalidates data, all changes are logged by LEADS with comments and error codes. The QMP should discuss the role of the QA Manager in the data validation process. The QMP should also include a statement that a more detailed discussion of validation can be found in the QA Program Plan or QA Project Plans for the different pollutants, or in appropriate Standard Operating Procedures. For example, the latter documents would discuss CCDAQ's criteria with respect to the acceptance, flagging, or rejection of data.
- 3A. [Section 3.0, User Requirements] This section indicates that EPA is the primary data user for air monitoring data, but does not state that it is the exclusive data user. If CCDAQ will also be using the data for its own internal purposes, then the discussion of DQOs should be expanded to discuss how they will be developed or indicate where this discussion will be found (for example, in a QA Program Plan or pollutant specific QAPPs).
- 3B. The statement that "planning and response efforts work together to reconcile reported data and ensure that they satisfy all EPA requirements which 40 CFR 58 defines as DQOs," is confusing. The DQOs defined in 40 CFR 58 were developed as a result of a systematic planning process. The data generated through monitoring must be reconciled with these DQOs before they can be certified and entered into AQS. It is recommended that the statement be rephrased.

Mr. Lewis Wallenmeyer  
November 28, 2012

4. [Section 5.0, User Requirement Reconciliation (Quality Control)] This section makes reference to QAPP/QCAS that are used in planning. It is recommended that the list of QAPP/QCAS documents provided in Section 1.2 be included here.
- 5A. [Section 9.1, Data Certification] The discussion of data certification should be expanded to describe the review and validation steps that CCDAQ takes before data are certified.
- 5B. The Quality Systems Manager is not shown in either of the organization charts in Section 4.1, Organization. Is this the Engineering Division Manager? This should be clarified.

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