AIR QUALITY IMPACT ANALYSIS

LYONS CANYON RANCH

COUNTY OF LOS ANGELES

LSA

July 2005

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EXECUTIVE SUMMARY

The proposed project would result in criteria pollutants exceeding the South Coast Air Quality Management District (SCAQMD) daily emissions thresholds during construction. The project is not consistent with the regional air quality plan. Long-term carbon monoxide (CO) concentrations would remain below both State and federal CO standards. The proposed project would not result in exceedances of daily emissions thresholds established by the SCAQMD for criteria pollutants from project operations. In addition, no significant cumulative air quality impacts would occur as a result of the proposed project.

INTRODUCTION

This air quality impact analysis has been prepared to evaluate the potential air quality impacts associated with the development of Lyons Canyon Ranch in the unincorporated County of Los Angeles (County), California. This report is intended to satisfy the requirements for a project-specific air quality impact analysis by examining the impacts of the proposed project and evaluating the measures recommended to be incorporated as part of the project design.

The air quality study provides a discussion of the proposed project, the physical setting of the project area, and the regulatory framework for air quality. The analysis also provides data on existing air quality, evaluates potential air quality impacts associated with the proposed project, and identifies - measures recommended to limit potential impacts. Modeled air quality levels are based upon vehicle data and project trip generation included in a traffic study prepared for the proposed project (Austin-Foust Associates, Inc. [AFA] August 2004).

The evaluation was prepared in conformance with appropriate standards, utilizing procedures and methodologies in the SCAQMD *California Environmental Quality Act (CEQA) Air Quality Handbook* (SCAQMD, April 1993).

Project Description

The proposed project is located on an approximately 358-acre site and includes the development of 111 lots comprised of 95 detached single-family lots, 5 senior housing lots, 1 condominium lot proposed for development with approximately 90 senior condominium units, 4 open space lots, 5 debris/detention basin lots, and 1 park lot. The single-family detached, detached senior units, and attached senior condominium uses are characterized by a lot orientation with a gross target density of 0.82 single-family dwelling units per acre. The site is generally bounded by The Old Road and the Interstate 5 (I-5) freeway to the east, existing residential development (Stevenson Ranch) to the north, Towsley Canyon to the south, and the Santa Sussana mountains to the west. Regional trail connections also exist to the west and south. Figure 1 illustrates the location and vicinity of the proposed project. Figure 2 illustrates the project's site plan. As shown in Figure 2, two primary entrances to the neighborhood are proposed from The Old Road.

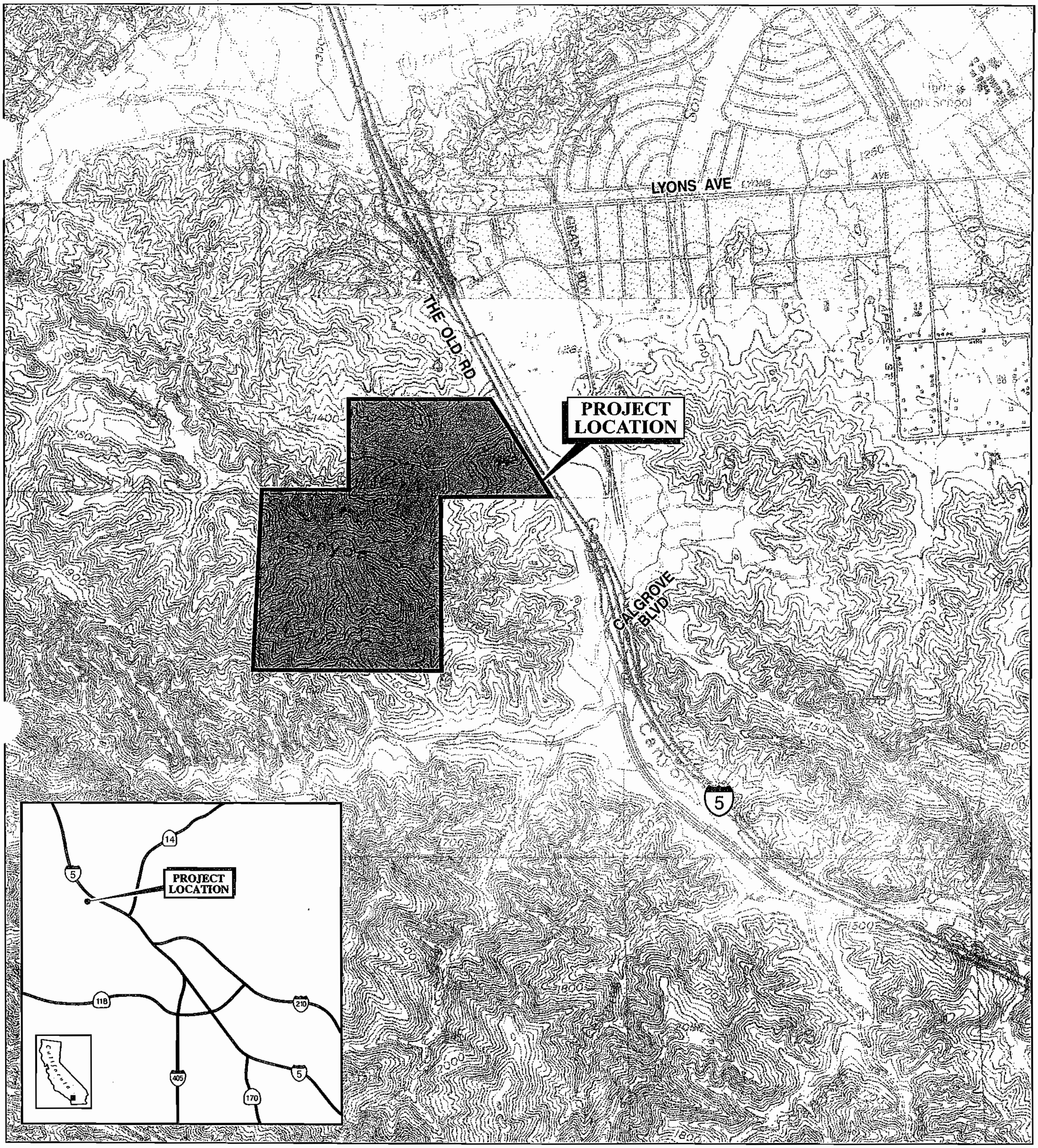

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FIGURE 1

1000 2000

FEET

SOURCE: USGS 7.5' Quad - Oat Mountain, Ca.

Lyons Canyon Ranch

Project Location

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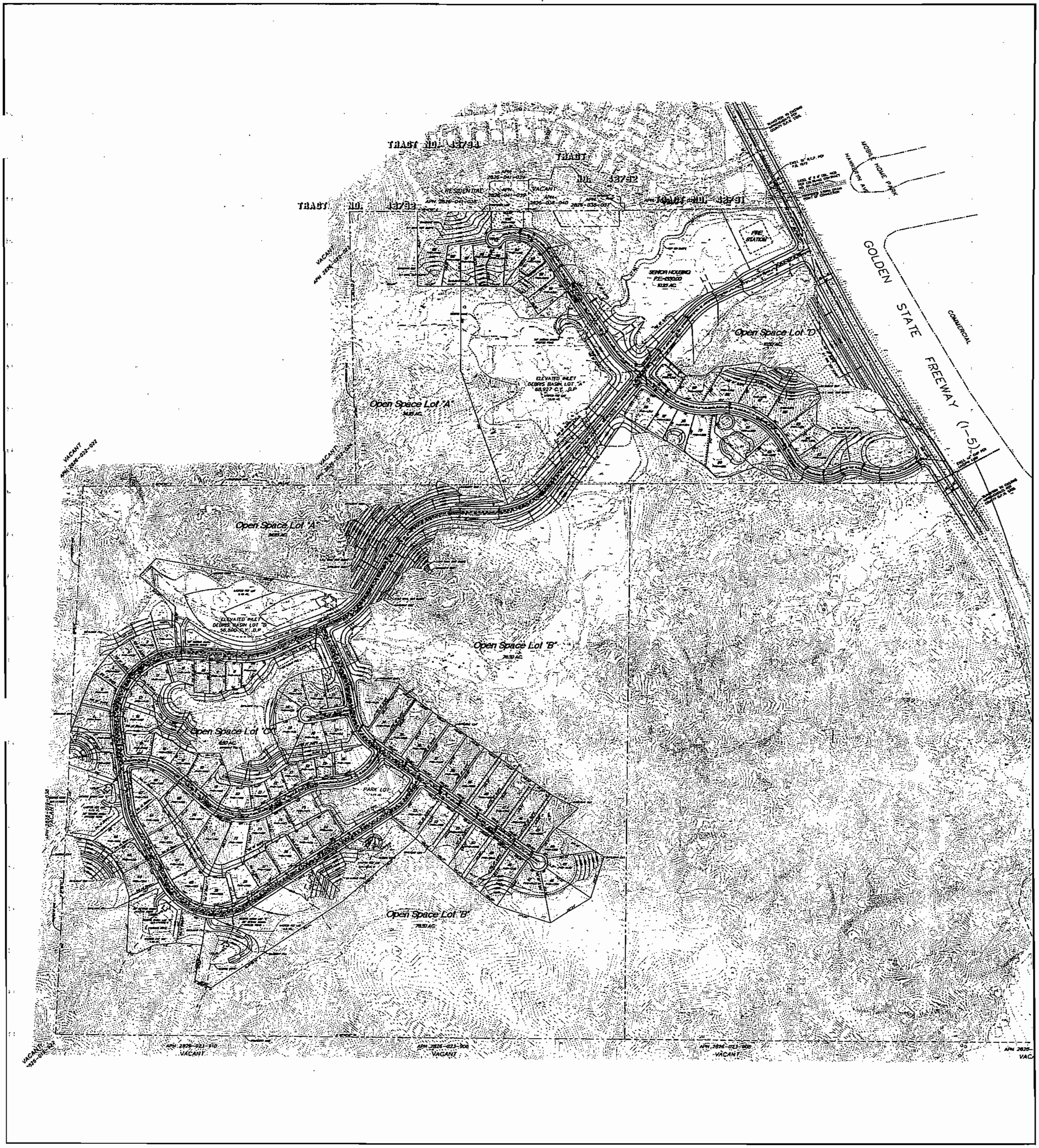

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FIGURE 2

350 700

SOURCE: McDonalds Corporation

Lyons Canyon Ranch

Site Plan

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Existing Environmental Setting

Regional Air Quality. The project site is located in an unincorporated portion of Los Angeles County, near the City of Santa Clarita. The project site is located within the South Coast Air Basin (Basin), which includes Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality regulation in the Basin is administered by the SCAQMD, a regional agency created for the Basin.

The Basin climate is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern boundary, and high mountains surround the rest of the Basin. The region lies in the semipermanent high pressure zone of the eastern Pacific. The resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms, and Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than that of inland areas. The climatological station closest to the site is the San Fernando Station.[1] Although this station was closed after 1974, the monitored temperatures are considered representative for the project area. The annual average maximum temperature recorded between 1927 and 1974 at this station is 78.2°F, and the annual average minimum is 49.3°F. January is typically the coldest month in this area of the Basin.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin along the coastal side of the mountains. Average rainfall measured at the San Fernando Station varied from 3.53 inches in January to 0.41 inch or less between May and October, with an average annual total of 16.16 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of a semipermanent high pressure cell over the Pacific Ocean (the Pacific high). This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in midafternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Winds in the vicinity of the project area blow predominantly from the east-southeast, with relatively low velocities. Wind speeds in the project area average about four miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

1 Western Regional Climatic Center, at Web site wrcc.dri.edu, 2004.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide (CO) and oxides of nitrogen (NO_X) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

Local Air Quality. The proposed site is located within the SCAQMD's jurisdiction. The SCAQMD maintains ambient air quality monitoring stations throughout the Basin. The air quality monitoring station closest to the site with more complete air quality data is the Santa Clarita Station. The criteria pollutants monitored at this station are shown in Tables A and B. CO and nitrogen dioxide (NO_2) levels monitored at this station have not exceeded State and federal standards in the past three years. Ozone (O_3) concentrations monitored at this station exceeded the State one-hour O_3 standard from 69 to 89 days per year in the past three years. The federal one-hour O_3 standard was exceeded at this station from 13 to 35 days per year over the three-year period. The federal eight-hour O_3 standard was exceeded from 52 to 69 days per year. Particulate matter less than 10 microns in diameter (PM_{10}) monitored at this station exceeded the State 24-hour standard from 1 to 8 days per year, but did not exceed the federal standard in the past three years. The Burbank-West Palm Avenue Station is the closest station that monitors particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) and sulfur dioxide (SO_2). Data for $PM_{2.5}$ and SO_2 taken from the Burbank-West Palm Avenue Station are included in Tables A and B. The federal $PM_{2.5}$ standard was exceeded from zero to one day per year. There is no State $PM_{2.5}$ standard. The federal and State standards for SO_2 were not exceeded in the past ten years.

Regulatory Setting. The following discusses federal, State, and regional regulatory requirements.

Federal Regulations/Standards. Pursuant to the federal Clean Air Act (CAA) of 1970, the U.S. Environmental Protection Agency (EPA) established national ambient air quality standards (NAAQS). The NAAQS were established for six major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Table A: Ambient Air Quality at Santa Clarita Air Monitoring Station

	One-Hour Carbon Monoxide		One-Hour Ozone		Coarse Suspended Particulate (PM_{10})		Nitrogen Dioxide	
	Max. 1-Hour Conc. (ppm)[1]	Number of Days Exceeded	Max. 1-Hour Conc. (ppm)	Number of Days Exceeded	Max. 24-Hour Conc. ($\mu g/m^3$)	Number of Days Exceeded	Max. 1-Hour Conc. (ppm)	Number of Days Exceeded
State Stds.	> 20 ppm/1 hr		> .09 ppm/1 hr		> 50 $\mu g/m^3$, 24 hrs		> .25 ppm/1 hr	
2004	5.2	0	0.16	69	54	1	0.09	0
2003	3.3	0	0.19	89	72	8	0.12	0
2002	3.3	0	0.17	81	61	6	0.09	0
MAXIMUM	**3.3**		**0.19**		**72**		**0.12**	
Federal Stds.	> 35 ppm/1 hr		> .12 ppm/1 hr		> 150 $\mu g/m^3$, 24 hrs		0.053 ppm, annual average	
2004	5.2	0	0.16	13	54	0	0.020	0
2003	3.3	0	0.19	35	72	0	0.021	0
2002	3.3	0	0.17	32	61	0	0.019	0
MAXIMUM	**3.3**		**0.19**		**72**		**0.021**	

Source: ARB and EPA 2002–2004.

[1] Data taken from the EPA Web site; others taken from Air Resources Board (ARB) Web site.

Table B: Ambient Air Quality at Santa Clarita Air Monitoring Station

	Eight-Hour Carbon Monoxide		Eight-Hour Ozone		Fine Suspended Particulate ($PM_{2.5}$)[1]		Sulfur Dioxide[1]	
	Max. 8-Hour Conc. (ppm)	Number of Days Exceeded	Max. 8-Hour Conc. (ppm)	Number of Days Exceeded	Max. 24-Hour Conc. (μg/m)	Number of Days Exceeded	Max. 24-Hour Conc. (ppm)	Number of Days Exceeded
State Stds.	≥ 9.0 ppm/8 hrs		No State Standard		No State Standard		> .04 ppm/24 hrs	
2004	3.7	0	0.13	NA[2]	60	NA	0.009	0
2003	1.7	0	0.15	NA	121	NA	0.005	0
2002	1.7	0	0.14	NA	63	NA	0.007	0
MAXIMUM	**2.2**		**0.15**		**121**		**0.009**	
Federal Stds.	≥ 9.0 ppm/8 hrs		> .08 ppm/8 hrs		> 65 $\mu g/m^3$, 24 hrs		0.14 ppm/24 hrs	
2004	3.7	0	0.13	52	60	0	0.003	0
2003	1.7	0	0.15	69	121	1	0.001	0
2002	1.7	0	0.14	52	63	0	0.002	0
MAXIMUM	**2.2**		**0.15**		**121**		**0.003**	

Source: ARB 2002–2004.

1 Data taken from Burbank-W Palm Avenue Station, the closest station that monitors $PM_{2.5}$ and sulfur dioxide data.
2 No State standard.

The NAAQS are two tiered: primary, to protect public health, and secondary, to prevent degradation of the environment (e.g., impairment of visibility, damage to vegetation and property). The six criteria pollutants are O_3, CO, PM_{10}, NO_2, SO_2, and lead (Pb). The primary standards for these pollutants are shown in Table C, and the health effects from exposure to the criteria pollutants are described in Table D. In July 1997, the EPA adopted new standards for eight-hour O_3 and $PM_{2.5}$, as shown in Table C.

Data collected at permanent monitoring stations are used by the EPA to classify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA.

The CAA Amendments designated the Basin as "extreme" for O_3, requiring attainment of the federal O_3 standard by 2010; "serious" for CO, requiring attainment of federal CO standards by 2000; and "serious" for PM_{10}, requiring attainment of federal standards by 2001. Table E lists the air quality attainment status for the Basin.

The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization (MPO) responsible for ensuring compliance with the requirements of the CAA.

In 1997, the EPA established new national air quality standards for ground-level O_3 and $PM_{2.5}$. On May 14, 1999, the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the CAA, as applied in setting the new public health standards for O_3 and particulate matter, was unconstitutional as an improper delegation of legislative authority to the EPA. On February 27, 2001, the U.S. Supreme Court upheld the way the government sets air quality standards under the CAA. The Court unanimously rejected industry arguments that the EPA must consider financial cost as well as health benefits in writing standards. The justices also rejected arguments that the EPA took too much lawmaking power from Congress when it set tougher standards for O_3 and soot in 1997. Nevertheless, the Court threw out the EPA's policy for implementing new O_3 rules, saying the agency ignored a section of the law that restricts its authority. It ordered the agency to come up with a more "reasonable" interpretation of the law.

The EPA issued the final eight-hour ozone nonattainment designations/boundaries on April 15, 2004. States will be provided three years, to April 2007, to develop eight-hour ozone State Implementation Plans (SIPs) following the final designations. States will need to demonstrate conformity by April 15, 2005, in eight-hour ozone nonattainment areas, given the one-year grace period following the final designations. Various areas in the State of California have different attainment dates based on their corresponding classifications.

The eight-hour ozone implementation rule revokes the one-hour standard issued in April 2005. This will change the attainment status in some areas; however, it does not change any commitment each area made for attaining the one-hour ozone standard.

Table C: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[2,5]	Secondary[2,6]	Method[7]
Ozone (O_3)	1-Hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	0.12 ppm (235 $\mu g/m^3$)[8]	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 $\mu g/m^3$)		0.08 ppm (157 $\mu g/m^3$)		
Respirable Particulate Matter (PM_{10})	24-Hour	50 $\mu g/m^3$	Gravimetric or Beta Attenuation*	150 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	20 $\mu g/m^3$*		50 $\mu g/m^3$		
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	No Separate State Standard		65 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	12 $\mu g/m^3$*	Gravimetric or Beta Attenuation*	15 $\mu g/m^3$		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Nondispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Nondispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	–	Gas Phase Chemiluminescence	0.053 ppm (100 $\mu g/m^3$)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.25 ppm (470 $\mu g/m^3$)		–		
Lead	30-day average	1.5 $\mu g/m^3$	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 $\mu g/m^3$	Same as Primary Standard	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	Ultraviolet Fluorescence	0.030 ppm (80 $\mu g/m^3$)	–	Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 $\mu g/m^3$)		0.14 ppm (365 $\mu g/m^3$)	–	
	3-Hour	–		–	0.5 ppm (1300 $\mu g/m^3$)	
	1-Hour	0.25 ppm (655 $\mu g/m^3$)		–	–	
Visibility-Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24-Hour	25 $\mu g/m^3$	Ion Chromatography*			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 $\mu g/m^3$)	Ultraviolet Fluorescence			
Vinyl Cloride[9]	24-Hour	0.01 ppm (26 $\mu g/m^3$)	Gas Chromatography			

Source: ARB (July 2005).

Footnotes:

1 California standards for ozone; carbon monoxide (except Lake Tahoe); sulfur dioxide (1 and 24 hour); nitrogen dioxide; suspended particulate matter, PM_{10}; and visibility reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure that can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8 New federal eight-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18, 1997. Contact U.S. EPA for further clarification and current federal policies.

9 The ARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Table D: Health Effects Summary of the Major Criteria Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O_3)	Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	Aggravation of respiratory and cardiovascular diseases. Irritation of eyes. Impairment of cardiopulmonary function. Plant leaf injury.
NO_2	Motor vehicle exhaust. High-temperature stationary combustion. Atmospheric reactions.	Aggravation of respiratory illness. Reduced visibility. Reduced plant growth. Formation of acid rain.
CO	Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. Natural Events, such as decomposition of organic mater.	Reduced tolerance for exercise. Impairment of mental function. Impairment of fetal development. Death at high levels of exposure. Aggravation of some heart diseases (angina).
PM_{10}	Stationary combustion of solid fuels. Construction activities. Industrial processes. Atmospheric chemical reactions.	Reduced lung function. Aggravation of the effects of gaseous pollutants. Aggravation of respiratory and cardiorespiratory diseases. Increased cough and chest discomfort. Soiling. Reduced visibility.
SO_2	Combustion of sulfur-containing fossil fuels. Smelting of sulfur-bearing metal ores. Industrial processes.	Aggravation of respiratory diseases (asthma, emphysema). Reduced lung function. Irritation of eyes. Reduced visibility. Plant injury. Deterioration of metals, textiles, leather, finishes, coatings, etc.
Lead (Pb)	Contaminated soil.	Impairment of blood function and nerve construction. Behavioral and hearing problems in children.

Source: ARB 2000.

Table E: South Coast Air Basin Attainment Status

	State	Federal
One-Hour O_3	Nonattainment	Extreme Nonattainment (attainment date 2010)
Eight-Hour O_3	Not Established	Severe 17 Nonattainment (attainment date 2021)
$PM_{2.5}$	Not Established	Nonattainment
PM_{10}	Nonattainment	Serious Nonattainment
CO	Nonattainment (only Los Angeles County)	Nonattainment
NO_2	Attainment	Attainment/Maintenance
All Others	Attainment/Unclassified	Attainment/Unclassified

Source: ARB and SCAQMD, July 2005.

State Regulations/Standards. The State of California began to set California ambient air quality standards (CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. The CAAQS are generally more stringent than the NAAQS. In addition to the six criteria pollutants covered by the NAAQS, there are CAAQS for sulfates (SO_4), hydrogen sulfide (H_2S), vinyl chloride (VC), and visibility-reducing particles. These standards are also listed in Table C.

Originally, there were no attainment deadlines for the CAAQS. However, the California Clean Air Act (CCAA) of 1988 provided a time frame and planning structure to promote their attainment.

The CCAA required nonattainment areas in the State to prepare attainment plans and proposed to classify each such area on the basis of the submitted plan, as follows: moderate, if CAAQS attainment could not occur before December 31, 1994; serious, if CAAQS attainment could not occur before December 31, 1997; and severe, if CAAQS attainment could not be conclusively demonstrated at all.

Regional Air Quality Planning Framework. The 1976 Lewis Air Quality Management Act established the SCAQMD and other air districts throughout the State. The CAA Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the state.

The ARB coordinates and oversees both State and federal air pollution control programs in California. The ARB oversees activities of local air quality management agencies and is responsible for incorporating air quality management plans for local air basins into a SIP for EPA approval. The ARB maintains air quality monitoring stations throughout the State in conjunction with local air districts. Data collected at these stations are used by the ARB to classify air basins as "attainment" or "nonattainment" with respect to each pollutant and to monitor progress in attaining air quality standards. The ARB has divided the State into 15 air basins. Significant authority for air quality control within the basins has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans. The CCAA provides the SCAQMD with the authority to manage transportation activities at indirect sources and regulate stationary source emissions. Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution. An example of this would be the motor vehicles at an intersection, at a mall, and on highways. As a State agency, the ARB regulates motor vehicles and fuels for their emissions.

Regional Air Quality Management Plan. The SCAQMD and SCAG are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. Every three years, the SCAQMD prepares a new AQMP, updating the previous plan and having a twenty-year horizon. The SCAQMD adopted the 2003 AQMP in August 2003 and forwarded it to the ARB for review and approval. The ARB approved a modified version of the 2003 AQMP and forwarded it to the EPA in October 2003 for review and approval.

The 2003 AQMP updates the attainment demonstration for the federal standards for O_3 and PM_{10}; replaces the 1997 attainment demonstration for the federal CO standard and provides a basis for a maintenance plan for CO for the future; and updates the maintenance plan for the federal NO_2 standard that the Basin has met since 1992.

This revision to the AQMP also addresses several State and federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2003 AQMP is consistent with and builds upon the approaches taken in the 1997 AQMP and the 1999 Amendments to the Ozone SIP for the Basin for the attainment of the federal ozone air quality standard. However, this revision points to the urgent need for additional emission reductions (beyond those incorporated in the 1997/1999 Plan) from all sources, specifically those under the jurisdiction of the ARB and the U.S. EPA, which account for approximately 80 percent of the ozone precursor emissions in the Basin.

METHODOLOGY AND THRESHOLDS OF SIGNIFICANCE

Methodology

A number of modeling tools are available to assess air quality impacts of projects. In addition, certain air districts, such as the SCAQMD, have created guidelines and requirements to conduct air quality analysis. The SCAQMD's current guidelines, *CEQA Air Quality Handbook* (April 1993), were adhered to in the assessment of air quality impacts for the proposed project.

The air quality assessment includes estimating emissions associated with short-term construction and long-term operation of the proposed project. Criteria pollutants with regional impacts would be emitted by project-related vehicular trips. In addition, localized air quality impacts, i.e., slight increase in CO concentrations (CO hot spots) near intersections or roadway segments in the project vicinity, would come from project-related vehicle trips.

Although the project has been reduced from the previously proposed 835 dwelling units to the current 190 dwelling units, for a worst-case scenario, future noise impacts were based on the cumulative traffic conditions under the previously proposed conditions.

CO concentrations were predicted for the existing (2004), interim year (2015) without the project, and interim year (2015) with the project, based on traffic data provided in the traffic study (Austin-Foust Associates, Inc., August 2004) for this project. CALINE4, the fourth generation California Line Source Dispersion Model developed by the California Department of Transportation (Caltrans), was used to calculate the CO concentrations. Input data for this model include meteorology, street network geometrics, traffic information, and emission generation rates. Meteorological data required include temperature, sigma theta (standard deviation of wind direction change), wind direction, and wind speed. Street network geometrics require use of an "x, y" coordinate system onto which the modeled roadway can be overlaid in order to identify the relative locations of the traffic lane(s) and nearby receptor(s). Required traffic information included peak-hour traffic volumes, speed limit, level of service, and signal cycle times. Emission factors were calculated using the ARB EMFAC 2002 emission factors.

Output from the model includes one-hour CO concentrations in parts per million (ppm) at selected receptor locations. To reflect total concentrations, the ambient CO concentration of the vicinity must be added to the CO concentration predicted by CALINE4. Based on the methodology suggested by the EPA and included in Caltrans CO Protocol, the existing ambient concentration was determined as the higher of the second highest annual one-hour and annual eight-hour observation at the nearest representative monitoring station over the past two years. Ambient concentrations for the year 2005 and year 2015 scenarios are assumed to be the same as the existing levels, which were determined to be the higher of the second highest CO concentrations monitored in the past two years at the nearest monitoring station, for the worst-case scenario. The predicted CALINE4 concentration is calculated for the one-hour averaging time. The one-hour CO concentrations predicted by CALINE4 were multiplied by a persistence factor of 0.7 to determine the predicted eight-hour CO concentrations.

Regional emissions were calculated from motor vehicles. Predictions for air pollutant emissions generated by the project traffic were calculated with the URBEMIS 2002 model, based on the trip generations projected for the currently proposed project. Emissions from stationary sources such as natural gas usage were also calculated with URBEMIS 2002.

Thresholds of Significance

Specific criteria for determining whether the potential air quality impacts of a project are significant are set forth in the SCAQMD's *CEQA Air Quality Handbook*. The criteria include emissions thresholds, compliance with State and national air quality standards, and consistency with the current AQMP.

Thresholds for Construction Emissions. The following significance thresholds for construction emissions have been established by the SCAQMD:

- 75 pounds per day of reactive organic compounds (ROC)

- 100 pounds per day of NO_X
- 550 pounds per day of CO
- 150 pounds per day of PM_{10}
- 150 pounds per day of SO_X

Projects in the Basin with construction-related emissions that exceed any of the emission thresholds above are considered significant per CEQA.

Thresholds for Pollutants with Regional Effects from Project Operations. The daily operational emissions "significance" thresholds are as follows:

- 55 pounds per day of ROC
- 55 pounds per day of NO_X
- 550 pounds per day of CO
- 150 pounds per day of PM_{10}
- 150 pounds per day of SO_X

Projects in the Basin with operation-related emissions that exceed any of the emission thresholds are considered significant per CEQA.

Standards for Pollutants with Localized "Hot Spot" Effects. Air pollutant standards for CO are as follows:

- California State one-hour CO standard of 20.0 ppm
- California State eight-hour CO standard of 9.0 ppm

The significance of localized project impacts depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. When ambient levels are below the standards without the project emissions, a project is considered to have significant impacts if project-related emissions result in an exceedance of one or more of these standards. According to Section 9.4 of the SCAQMD *CEQA Air Quality Handbook*, if ambient levels already exceed a State or federal standard, project emissions are considered significant if they increase one-hour CO concentrations by 1.0 ppm or more or eight-hour CO concentrations by 0.45 ppm or more.

IMPACTS AND RECOMMENDED MEASURES

Project Impacts

Air pollutant emissions associated with the project would occur over the short term from construction activities, such as fugitive dust from site preparation and grading and emissions from equipment exhaust. Although the project has been reduced from the previously proposed 835 dwelling units to the current 190 dwelling units, based on the site plans and assuming a worst-case scenario, about two-thirds of the grading estimated previously would be required for this smaller-sized development. Assuming a two-thirds reduction of the total number of days, daily grading activities and associated emissions would be similar to those under the previously proposed conditions. There would be long-term regional emissions associated with project-related vehicular trips and stationary source emissions due to energy consumption such as natural gas and electricity usage by the proposed project. Long-term local CO emissions at intersections in the project vicinity would also be affected by project-related traffic.

Construction Impacts. Construction activities produce combustion emissions from various sources such as utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions from construction activities envisioned on site would vary daily as construction activity levels change. The use of construction equipment on site would result in localized exhaust emissions.

Construction activities associated with new development occurring on the project site would temporarily increase localized PM_{10}, ROC, NO_X, and CO concentrations in the project vicinity. The primary sources of construction-related ROC and NO_X emissions are gasoline- and diesel-powered, heavy-duty mobile construction equipment such as scrapers and motor graders. Primary sources of PM_{10} emissions would be clearing activities, excavation and grading operations, construction vehicle traffic on unpaved ground, and wind blowing over exposed earth surfaces.

Emissions generated from construction activities are anticipated to cause temporary increases in pollutant concentrations that could contribute to the continuing violations of the federal and State maximum concentration standards. The frequency and concentrations of such violations would depend on several factors, including the soil composition on the site, the amount of soil disturbed, wind speed, the number and type of machinery used, the construction schedule, and the proximity of other construction and demolition projects.

The project site is anticipated to be mass graded, and, therefore, there would be only one grading phase. In addition, it is assumed that building construction would occur in one phase as well.

Grading Activities. With the assumption of grading two-thirds of the previously estimated 5.8 million cubic yards of earth over a period of 24 months, it is anticipated the proposed project will need grading of 3.8 million cubic yards of earth over a period of 18 months. The total quantity of cut and fill will be approximately 3.8 million cubic yards, resulting in a balanced operation. Equipment exhaust, material transport, and construction crew commutes will generate gaseous emissions. It is assumed that on a peak day during the grading phase, the following equipment could be used: 10 rubber-tired dozers, 5 scrapers, 10 rubber-tired loaders, 5 tractors/loaders/backhoes, 5 crawler tractors, 1 water truck, 1 mechanic truck, 1 fuel truck, and 1 foreman truck. Based on emission factors in the EPA AP-42 documents and the SCAQMD *CEQA Air Quality Handbook*, Table F lists the construction equipment exhaust emissions during a peak grading day. Table F also lists the vehicle exhaust emissions associated with the worker commute on a peak grading day, assuming a crew of 50 and an average round-trip commute of 50 miles. Table F shows that on a peak grading day, emissions from the construction activities would exceed the SCAQMD established daily emissions thresholds for construction. On a typical average grading day, it is estimated that only 60 percent of the workload, or proportionally the air pollutant emissions, would be emitted.

Fugitive dust emissions are generally associated with grading, land clearing, exposure, vehicle and equipment travel on unpaved roads, and dirt/debris pushing. Dust generated during construction activities would vary substantially depending on the level of activity, the specific operations, and weather conditions. Sensitive receptors in the project vicinity and on-site construction workers may be exposed to blowing dust, depending upon prevailing wind conditions.

Regional rules exist that would help reduce fugitive dust emissions during construction periods, which would reduce short-term air quality impacts. Fugitive dust from a construction site must be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Dust suppression techniques would be implemented to prevent fugitive dust from creating a nuisance off site. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component) by 50 percent or more. Compliance with these rules would reduce impacts on nearby sensitive receptors.

PM_{10} emissions from site clearance and grading operations during a peak construction day for the project site are based on assumptions and past experience on similarly sized projects. The SCAQMD estimates that each acre of graded surface creates about 26.4 pounds of PM_{10} per workday during the construction phase of the project and 21.8 pounds of PM_{10} per hour from dirt/debris pushing per dozer. Based on the construction estimates, fugitive dust emissions from excavation, hauling/transport, dumping/reclamation, wind erosion, and miscellaneous activities during grading days, the uncontrolled PM_{10} emissions would be 962.5 pounds per day (lbs/day). However, with the implementation of the Standard Air Pollution Control Measures, fugitive dust emissions from construction activities are expected to be reduced by 50 percent. The PM_{10} emissions under the controlled condition would be reduced to 481.3 lbs/day. Table G lists fugitive dust emissions and construction equipment exhausts.

Table G shows that, during peak grading days, daily total construction emissions with compliance with the Standard Air Pollution Control Measures would exceed the SCAQMD thresholds for CO, ROC, NO_X, and PM_{10}. This is considered a significant impact. However, as will be discussed later, CO concentrations under the future with project scenarios would not exceed the federal or State CO standards.

Table F: Peak-Day Construction Equipment Exhaust Emissions

Number and Equipment Type[1]	No. of Hours in Operation	Pollutants[2] (pounds/day)				
		CO	ROC	NO_X	SO_X	PM_{10}
10 Rubber-Tired Dozers	8	249.7	45.4	522.2	45.5	22.7
5 Scrapers	8	142.3	12.9	245.8	25.9	19.4
10 Rubber-Tired Loaders	8	247.1	44.9	516.7	44.9	33.7
5 Tractors/Loaders/Backhoes	8	30.7	6.1	45.0	4.1	2.0
5 Crawler Tractors	8	119.9	21.8	250.7	21.8	10.9
1 Water Truck	40 miles	1.6	0.1	0.6	0.0	0.0
1 Mechanic Truck	10 miles	0.4	0.0	0.2	0.0	0.0
1 Fuel Truck	10 miles	0.4	0.0	0.2	0.0	0.0
1 Foreman Truck	10 miles	0.1	0.0	0.0	0.0	0.0
Workers Commute[3]	50 miles	18.8	1.0	3.7	0.0	0.0
TOTAL		**811**	**132**	**1,585**	**142**	**89**
SCAQMD Threshold		**550**	**75**	**100**	**150**	**150**
Exceeds Threshold?		**Yes**	**Yes**	**Yes**	**No**	**No**

Source: LSA 2004; SCAQMD *CEQA Air Quality Handbook* 1993; and EPA *AP-42, Fifth Edition,* 1995.

Table G: Peak Grading Day Total Emissions (lbs/day)

Category	CO	ROC	NO_X	SO_X	PM_{10}
Vehicle/Equipment Exhaust (Table F)	811	132	1,585	142	89
Fugitive Dust from Soil Disturbance, No Controls	—	—	—	—	963
Fugitive Dust from Soil Disturbance, with 50 Percent Control Efficiency	—	—	—	—	481
Total Grading, No Controls	811	132	1,585	142	1,052
Total Grading, with Controls	811	132	1,585	142	570
SCAQMD Threshold	**550**	**75**	**100**	**150**	**150**
Significant? (With Controls)	**Yes**	**Yes**	**Yes**	**No**	**Yes[4]**

Source: LSA 2004; EPA *AP-42, Fifth Edition,* 1995.

1 Number of equipment, equipment type, and number of workers are based on estimates provided to LSA by Diamond West Engineering, November 2004.

2 Emissions factors are from the SCAQMD *CEQA Air Quality Handbook*, Table A9-8-A, Table A9-8-B, and Table A9-8-C.

3 Assumption based on 50 workers traveling 50 miles (round-trip) per worker.

4 With control measures for fugitive dust implemented.

Building Activities. Building construction will be completed after mass grading is completed. Building construction uses different types of equipment on the project site than during the grading period. Similarities do exist in terms of equipment exhaust emissions and fugitive dust emissions. However, it is anticipated that emissions during building construction would be below peak grading day emissions. Therefore, air pollution control measures implemented for the peak grading day emissions would be adequate to reduce emissions during other construction periods.

Architectural Coatings. Architectural coatings contain volatile organic compounds (VOC) that are similar to ROC and are part of the O_3 precursors. At this time, there is no project-specific information available for the types and volumes of architectural coatings needed for the proposed on-site buildings. An emissions estimate for architectural coatings is, therefore, not provided in this analysis. Based on the number of proposed dwelling units, the proposed project is expected to result in architectural coatings-related ROC emissions exceeding the SCAQMD daily threshold of 75 lbs/day. The proposed project will comply with the SCAQMD Rule 1113 on the use of architectural coatings. Following the SCAQMD Rule 1113, emissions associated with architectural coatings could be reduced by using precoated/natural colored building materials, water-based or low-VOC coating, and coating transfer or spray equipment with high transfer efficiency. For example, a high-volume, low-pressure (HVLP) spray method is a coating application system operated at air pressure between 0.1 and 10 pounds per square inch gauge (psig), with 65 percent transfer efficiency. Manual coating applications such as a paintbrush, hand roller, trowel, spatula, dauber, rag, or sponge have 100 percent transfer efficiency.

Summary of Construction Emissions. Based on the above, with implementation of feasible measures during construction of the proposed project, emissions from construction equipment exhaust and soil disturbance would be minimized. However, construction emissions from the project would exceed the daily emissions thresholds for CO, ROC, NO_X, and PM_{10} established by the SCAQMD. Construction of the proposed project would result in potentially significant air quality impacts.

Long-Term Project-Related Emissions Impacts. The following discusses project-related long-term air quality impacts.

Area Sources Emissions. The proposed project would result in stationary source emissions from natural gas usage and consumer products. The emissions associated with area sources would be small when compared to mobile source emissions. Emissions associated with area sources were calculated with URBEMIS 2002 and are included in Table H.

Mobile Sources Emissions. The proposed project is estimated to generate 1,261 vehicular trips per day (AFA, July 2005). Using the default emission factors included in URBEMIS 2002, emissions associated with project-related vehicular trips were calculated and are included in Table H.

Table H shows that total project-related emissions for CO, ROC, and NO_X would be less than the SCAQMD daily emissions thresholds. Therefore, no significant regional operational air quality impacts would occur with the implementation of the proposed project.

Table H: Project Emissions

Source	Pollutants, lbs/day				
	CO	**ROC**	**NO_X**	**SO_2**	**PM_{10}**
Stationary Sources: Summer	8.96	17.17	2.42	0.09	0.04
Vehicular Traffic: Summer	156.22	14.23	14.00	0.14	12.82
Subtotal Summer	165.17	31.40	16.42	0.23	12.85
Stationary Sources: Winter	1.01	15.95	2.38	0.00	0.00
Vehicular Traffic: Winter	147.84	12.41	20.38	0.13	12.82
Subtotal Winter	148.85	28.36	22.76	0.13	12.82
SCAQMD Threshold	**550**	**55**	**55**	**150**	**150**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**
Significant Impact?	**No**	**No**	**No**	**No**	**No**

Source: LSA, July 2005.

Long-Term Microscale (CO Hot Spot) Analysis. Although the project has been reduced from the previously proposed 835 dwelling units to the current 190 dwelling units, for a worst-case scenario, future noise impacts were based on the cumulative traffic conditions under the previously proposed conditions. Based on the project's traffic study report (Austin-Foust Associates, Inc., August 2004), the intersection vehicle turn volumes were used in Caltrans CALINE4 model to evaluate the local CO concentrations at intersections most affected by project traffic. Eight intersections that either have the highest turn volumes or worst level of service (LOS) in the project vicinity most affected by the project traffic were selected for the CO hot spot analysis. Table I lists the CO concentrations for eight intersections in the project vicinity under the existing (2004) conditions. Table J lists the CO level in the interim year (2015) under the with and without project scenarios. It should be pointed out that, due to technology improvements, emission factors (for vehicle exhaust) for future years would decrease. In addition, background concentrations in future years are anticipated to continue to decrease as the concerted effort to improve regional air quality progresses. Therefore, CO concentrations in the future years would generally be lower than existing conditions or more recent years in the future.

The proposed project would contribute to increased CO concentrations at intersections in the project vicinity. As shown in Tables I and J, none of the eight intersections analyzed would have a one-hour CO concentration exceeding State standards of 20 ppm under existing and 2015 with and without project conditions. The eight-hour CO concentration at these intersections would also be below the State standard of 9.0 ppm.

The project-related increase in CO concentrations at all eight intersections would be 0.2 ppm or less for the one-hour period and 0.1 ppm or less for the eight-hour period. Since no federal or State standards would be exceeded, no CO hot spot would occur. Therefore, no air pollution control measures are necessary or recommended for CO emissions.

Air Quality Management Plan Consistency. In order to accurately assess the environmental impacts as a result of new or renovated developments, environmental pollution and population growth are projected for future scenarios in the general plans of local jurisdictions and incorporated into the regional AQMPs. The project pollutants emissions would not contribute to new exceedances of the SCAQMD's established daily emission thresholds. The project will need amendments to the projections of the County's General Plan and the SCAQMD's 1997 AQMP. The project is therefore considered not consistent with the most recently adopted AQMP.

Cumulative Impacts. The traffic study included vehicular trips from all present and future projects in the project vicinity. Therefore, CO hot spot concentrations calculated at these intersections include the cumulative traffic effect. Based on Table J, no significant cumulative CO impacts would occur.

Construction of the project would contribute cumulatively to the local and regional air pollutants together with other projects under construction. Emissions associated with operations of the proposed project would contribute to long-term regional air pollutants but would be below the SCAQMD daily emissions thresholds. Therefore, implementation of the proposed project would not be considered to have significant cumulative air quality impacts.

Table I: Existing CO Concentrations

Intersection	Receptor to Road Centerline Distance (Meters)	Existing One-Hour CO Concentration (ppm)	Existing Eight-Hour CO Concentration (ppm)	Exceeds State Standards	
				1-Hr	8-Hr
Wiley Canyon Road and Lyons Avenue	15	5.7	3.7	No	No
	15	5.7	3.5	No	No
	16	5.5	3.4	No	No
	17	5.5	3.4	No	No
Orchard Village Road and Wiley Canyon Road	14	5.0	3.0	No	No
	14	4.9	3.0	No	No
	15	4.9	3.0	No	No
	15	4.8	2.9	No	No
The Old Road and Valencia Boulevard	19	4.7	2.8	No	No
	21	4.7	2.8	No	No
	22	4.5	2.7	No	No
	22	4.5	2.7	No	No
The Old Road and McBean Parkway	15	5.5	3.4	No	No
	17	5.5	3.4	No	No
	17	5.4	3.3	No	No
	19	5.1	3.1	No	No
The Old Road and Pico Canyon Road	14	5.3	3.2	No	No
	14	5.3	3.2	No	No
	15	4.9	3.0	No	No
	17	4.8	2.9	No	No
Chiquella Lane and Pico Canyon Road	7	5.4	3.3	No	No
	7	5.4	3.3	No	No
	13	5.4	3.3	No	No
	14	5.4	3.3	No	No
Marriott Way and The Old Road	7	4.1	2.4	No	No
	7	4.1	2.4	No	No
	7	4.1	2.4	No	No
	7	4.1	2.4	No	No
Chiquella Lane and The Old Road	7	4.2	2.5	No	No
	7	4.2	2.5	No	No
	7	4.1	2.4	No	No
	7	4.1	2.4	No	No

Source: LSA Associates, Inc., November 2004.

Table J: Interim Year 2015 CO Concentrations

Intersection	Receptor to Road Centerline Distance (Meters)	Project Related Increase 1-hr/8-hr (ppm)	Without/With Project One-Hour CO Concentration (ppm)	Without/With Project Eight-Hour CO Concentration (ppm)	Exceeds State Standards	
					1-Hr	8-Hr
Wiley Canyon Road and Lyons Avenue	21/21	0.0/0.0	4.6/4.6	2.8/2.8	No	No
	19/19	0.0/0.0	4.6/4.6	2.8/2.8	No	No
	19/19	0.0/0.0	4.5/4.5	2.7/2.7	No	No
	17/17	0.0/0.0	4.5/4.5	2.7/2.7	No	No
Orchard Village Road and Wiley Canyon Road	17/17	0.0/0.0	4.7/4.8	2.9/2.9	No	No
	17/17	0.0/0.0	4.6/4.6	2.8/2.8	No	No
	17/17	0.0/0.0	4.4/4.4	2.6/2.6	No	No
	14/14	0.0/0.0	4.4/4.4	2.6/2.6	No	No
The Old Road and Valencia Boulevard	24/24	0.0/0.0	4.2/4.2	2.5/2.5	No	No
	24/24	0.0/0.0	4.2/4.2	2.5/2.5	No	No
	24/24	0.0/0.0	4.2/4.2	2.5/2.5	No	No
	22/22	0.1/0.1	4.1/4.2	2.4/2.5	No	No
The Old Road and McBean Parkway	21/21	0.1/0.1	4.7/4.8	2.8/2.9	No	No
	21/21	0.0/0.0	4.7/4.7	2.8/2.8	No	No
	19/19	0.0/0.0	4.7/4.7	2.8/2.8	No	No
	17/17	0.1/0.0	4.6/4.7	2.8/2.8	No	No
The Old Road and Pico Canyon Road	17/17	0.0/0.0	4.5/4.5	2.7/2.7	No	No
	17/17	0.1/0.1	4.4/4.5	2.6/2.7	No	No
	15/17	0.0/0.0	4.3/4.3	2.5/2.5	No	No
	15/15	0.0/0.0	4.2/4.2	2.5/2.5	No	No
Chiquella Lane and Pico Canyon Road	14/14	0.0/0.0	4.7/4.7	2.8/2.8	No	No
	14/14	0.1/0.0	4.6/4.7	2.8/2.8	No	No
	13/13	0.1/0.0	4.6/4.7	2.8/2.8	No	No
	13/13	0.0/0.0	4.6/4.6	2.8/2.8	No	No
Marriott Way and The Old Road	8/8	0.1/0.0	3.6/3.7	2.1/2.1	No	No
	8/8	0.1/0.0	3.6/3.7	2.1/2.1	No	No
	8/8	0.1/0.0	3.6/3.7	2.1/2.1	No	No
	8/8	0.1/0.0	3.6/3.7	2.1/2.1	No	No
Chiquella Lane and The Old Road	12/12	0.2/0.1	3.5/3.7	2.0/2.1	No	No
	8/12	0.1/0.1	3.5/3.6	2.0/2.1	No	No
	8/8	0.1/0.1	3.5/3.6	2.0/2.1	No	No
	8/8	0.1/0.1	3.5/3.6	2.0/2.1	No	No

Source: LSA Associates, Inc., November 2004.

Recommended Standard Project Measures. Because project-related construction emissions would exceed the SCAQMD thresholds for criteria pollutants, the following measures are recommended to minimize air pollutant emissions. Compliance with the fugitive dust palliative SCAQMD Rules 402 and 403 have been utilized in the impact analyses to reduce potential PM_{10} emissions to within SCAQMD thresholds.

- During construction, the contractor shall be responsible for ensuring that all measures listed in Table K are implemented. To achieve the particulate control efficiencies shown, it is assumed that finished surfaces will be stabilized with water and/or dust palliatives and isolated from traffic flows to prevent emissions of fugitive dust from these areas. In addition, the following water application rates are assumed:
  - Roads traveled by autos, rock trucks, water trucks, fuel trucks, and maintenance trucks: up to twice per hour
  - Roads traveled by scrapers and loaders; active excavation area: up to three times per hour
  - Finish grading area: up to once every two hours
- All construction equipment shall be maintained in good operating condition so as to reduce operational emissions. The contractor will ensure that all construction equipment is being properly serviced and maintained.
- The construction contractor shall utilize, as much as possible, precoated/natural colored building materials, water-based or low-VOC coating, and coating transfer or spray equipment with high transfer efficiency, such as HVLP spray method, or manual coatings application such as a paintbrush, hand roller, trowel, spatula, dauber, rag, or sponge.
- Project design will incorporate energy-saving features throughout the project, including low-emission water heaters, central water heating systems, and built-in energy efficient appliances.
- Parking areas will be planted with trees to insure shading and prevent heat buildup.
- The facility will be designed to use low-emitting paints and solvents throughout.

Conclusion

The proposed project would result in criteria pollutants exceeding the SCAQMD daily emissions thresholds during construction. The project is not consistent with the adopted regional air quality plan.

CO concentrations would remain below both State and federal CO standards. The proposed project would not result in exceedances of daily emissions thresholds established by the SCAQMD for criteria pollutants from project operations. In addition, no significant cumulative air quality impacts would occur as a result of the proposed project.

Table K: Standard Measures for Construction-Related Emissions

Construction Vehicle/Equipment Operation
• Configure construction parking to minimize traffic interference. • Provide temporary traffic control during all phases of construction activities to improve traffic flow (e.g., flag person). • Provide on-site food service for construction workers. • Prohibit truck idling in excess of 10 minutes. • Apply four to six degree injection timing retard to diesel IC engines, whenever feasible. • Use reformulated low-sulfur diesel fuel in all equipment, whenever feasible. • Use catalytic converters on all gasoline-powered equipment. • Minimize concurrent use of equipment through equipment phasing. • Use low NO_X engines, alternative fuels, and electrification, whenever feasible. • Substitute electric and gasoline-powered equipment for diesel-powered equipment, whenever feasible. • Turn off engines when not in use. • Wash truck wheels before the trucks leave the construction site. • When operating on site, do not leave trucks idling for periods in excess of 10 minutes. • Operate clean fuel van(s), preferably vans that run on compressed natural gas or propane, to transport construction workers to and from the construction site. • Provide documentation to the City prior to beginning construction, demonstrating that the project proponents will comply with all SCAQMD regulations including 402, 403, 1113, and 1403. • Suspend use of all construction equipment operations during second stage smog alerts.
Grading
• Apply nontoxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more). • Enclose, cover, water twice daily, or apply nontoxic soil binders, according to manufacturers' specifications, to exposed piles (i.e., gravel, sand, dirt) with 5 percent or greater silt content. • Water active sites at least twice daily. • Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph. • Cover all trucks hauling dirt, sand, soil, or other loose materials on site or maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer) in accordance with the requirements of CDC Section 23114. • Cover all trucks hauling these materials off site.
Paved Roads
• Sweep streets at the end of the day if visible soil material is carried onto adjacent public paved road (water sweepers with reclaimed water are recommended). • Sweep public streets at the conclusion of construction work. • Install adequate storm water control systems to prevent mud deposition onto paved areas.
Unpaved Roads
• Apply water three times daily, or nontoxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces.

Source: SCAQMD Rules 402 and 403; LSA, 2004.

APPENDIX A

URBEMIS 2002 MODEL OUTPUTS

URBEMIS 2002 For Windows 8.7.0

File Name: P:\DOG530\Project.urb
Project Name: Lyons Canyon Ranch
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	17.17	2.42	8.96	0.09	0.04

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	14.23	14.00	156.22	0.14	12.82

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	31.40	16.42	165.17	0.23	12.85

URBEMIS 2002 For Windows 8.7.0

File Name: P:\DOG530\Project.urb
Project Name: Lyons Canyon Ranch
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

AREA SOURCE EMISSION ESTIMATES (Winter Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.18	2.38	1.01	0	0.00
Hearth	0.00	0.00	0.00	0.00	0.00
Landscaping - No winter emissions					
Consumer Prdcts	9.30	-	-	-	-
Architectural Coatings	6.47	-	-	-	-
TOTALS(lbs/day,unmitigated)	15.95	2.38	1.01	0.00	0.00

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Area

The hearth option switch changed from on to off.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2006.

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	9.51	10.09	112.57	0.10	9.23
Retirement community	4.72	3.91	43.64	0.04	3.58
TOTAL EMISSIONS (lbs/day)	14.23	14.00	156.22	0.14	12.82

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2006 Temperature (F): 90 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	31.67	9.57 trips/dwelling unit	95.00	909.15
Retirement community	19.00	3.71 trips/dwelling unit	95.00	352.45

Sum of Total Trips 1,261.60
Total Vehicle Miles Traveled 8,440.73

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.60	2.20	97.30	0.50
Light Truck < 3,750 lbs	15.10	4.00	93.40	2.60
Light Truck 3,751- 5,750	15.90	1.90	96.90	1.20
Med Truck 5,751- 8,500	7.00	1.40	95.70	2.90
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.70	82.40	17.60	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.20	0.00	91.70	8.30

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Rural Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Trip Speeds (mph)	35.0	40.0	40.0	40.0	40.0	40.0
% of Trips - Residential	20.0	37.0	43.0			

APPENDIX B

CALINE4 MODEL OUTPUTS

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2004 Existin (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

```
      U=    .5 M/S            Z0= 100. CM          ALT=     3. (M)
    BRG= WORST CASE           VD=   .0 CM/S
   CLAS=      7 (G)           VS=   .0 CM/S
   MIXH= 1000. M             AMB=   .0 PPM
  SIGTH=   10. DEGREES      TEMP= 10.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Wiley CanNBA	*	9	-150	9	0	*	AG	588	7.1	.0	13.5
B. Wiley CanNBD	*	9	0	9	150	*	AG	945	7.1	.0	10.0
C. Wiley CanNBL	*	5	-150	0	0	*	AG	152	7.1	.0	10.0
D. Wiley CanSBA	*	-9	150	-9	0	*	AG	627	7.1	.0	13.5
E. Wiley CanSBD	*	-9	0	-9	-150	*	AG	644	7.1	.0	10.0
F. Wiley CanSBL	*	-5	150	0	0	*	AG	190	7.1	.0	10.0
G. Lyons AveEBA	*	-150	-12	0	-12	*	AG	1226	7.1	.0	13.5
H. Lyons AveEBD	*	0	-12	150	-12	*	AG	1527	7.1	.0	10.0
I. Lyons AveEBL	*	-150	-9	0	0	*	AG	441	7.1	.0	10.0
J. Lyons AveWBA	*	150	9	0	9	*	AG	1019	7.1	.0	13.5
K. Lyons AveWBD	*	0	9	-150	9	*	AG	1318	7.1	.0	11.8
L. Lyons AveWBL	*	150	5	0	0	*	AG	191	7.1	.0	10.0
M. Wiley CanNBA	*	9	-750	9	-150	*	AG	740	7.1	.0	13.5
N. Wiley CanNBD	*	9	150	9	750	*	AG	945	7.1	.0	10.0
O. Wiley CanSBA	*	-9	750	-9	150	*	AG	817	7.1	.0	13.5
P. Wiley CanSBD	*	-9	-150	-9	-750	*	AG	644	7.1	.0	10.0
Q. Lyons AveEBA	*	-750	-12	-150	-12	*	AG	1667	7.1	.0	13.5
R. Lyons AveEBD	*	150	-12	750	-12	*	AG	1527	7.1	.0	10.0
S. Lyons AveWBA	*	750	9	150	9	*	AG	1210	7.1	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2004 Existin (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	278.	2.6	.3	.0	.0	.0	.1	.0	.9	.4
2. NW	98.	2.4	.0	.2	.0	.3	.0	.0	.0	.2
3. SW	81.	2.4	.1	.0	.0	.0	.3	.0	.2	1.0
4. NE	261.	2.6	.0	.4	.0	.2	.0	.0	.2	.0
5. ES mdblk	278.	2.4	.0	.0	.0	.0	.0	.0	.1	1.4
6. WN mdblk	98.	2.3	.0	.0	.0	.0	.0	.0	.1	.2
7. WS mdblk	82.	2.2	.0	.0	.0	.0	.0	.0	1.1	.1
8. EN mdblk	262.	2.0	.0	.0	.0	.0	.0	.0	.2	.1
9. SE mdblk	353.	1.5	.5	.1	.0	.1	.0	.0	.0	.0
10. NW mdblk	172.	1.5	.1	.1	.0	.6	.0	.1	.0	.0
11. SW mdblk	7.	1.6	.1	.2	.0	.0	.6	.0	.0	.0
12. NE mdblk	188.	1.8	.0	.9	.0	.1	.1	.0	.0	.0
13. ES blk	277.	2.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	2.2	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	2.4	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	2.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	353.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	1.5	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	1.7	.0	.0	.0	.0	.0	.0	.0	.0

s□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2004 Existin (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	353.	2.2	.0	.8	.0	.0	.0	.2	.0	.4
2. NW	96.	2.2	.0	.2	.0	.1	.0	.1	.0	.1
3. SW	82.	1.6	.0	.0	.0	.0	.1	.0	.0	.6
4. NE	261.	1.7	.0	.5	.0	.0	.0	.1	.0	.0
5. ES mdblk	280.	1.5	.0	.0	.0	.0	.0	.0	.0	.8
6. WN mdblk	95.	1.5	.0	.0	.0	.0	.0	.0	.0	.1
7. WS mdblk	84.	1.1	.0	.0	.0	.0	.0	.0	.3	.1
8. EN mdblk	262.	1.7	.0	.0	.0	.0	.0	.0	.0	.1
9. SE mdblk	355.	1.2	.4	.1	.0	.0	.0	.0	.0	.0
10. NW mdblk	167.	1.3	.0	.3	.0	.3	.0	.4	.0	.0
11. SW mdblk	6.	1.1	.0	.2	.0	.0	.3	.0	.0	.0
12. NE mdblk	188.	1.6	.0	1.0	.0	.0	.0	.2	.0	.0
13. ES blk	277.	1.6	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	1.8	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	172.	1.5	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.9	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	1.7	.0	.0	.0	.0	.0	.0	.0	.0

s□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2004 Existin (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 3. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. ChiquellaNBA	7	-150	7	0	AG	292	6.4	.0	10.0
B. ChiquellaNBD	7	0	7	150	AG	0	6.4	.0	10.0
C. ChiquellaNBL	5	-150	0	0	AG	45	6.4	.0	10.0
D. ChiquellaSBA	0	150	0	0	AG	0	6.4	.0	10.0
E. ChiquellaSBD	0	0	0	-150	AG	303	6.4	.0	10.0
F. ChiquellaSBL	-2	150	0	0	AG	0	6.4	.0	10.0
G. Pico CanyEBA	-150	-5	0	-5	AG	1401	6.4	.0	13.5
H. Pico CanyEBD	0	-5	150	-5	AG	1596	6.4	.0	11.8
I. Pico CanyEBL	-150	-2	0	0	AG	0	6.4	.0	10.0
J. Pico CanyWBA	150	9	0	9	AG	1496	6.4	.0	13.5
K. Pico CanyWBD	0	9	-150	9	AG	1541	6.4	.0	13.5
L. Pico CanyWBL	150	5	0	0	AG	206	6.4	.0	10.0
M. ChiquellaNBA	7	-750	7	-150	AG	337	6.4	.0	10.0
N. ChiquellaNBD	7	150	7	750	AG	0	6.4	.0	10.0
O. ChiquellaSBA	0	750	0	150	AG	0	6.4	.0	10.0
P. ChiquellaSBD	0	-150	0	-750	AG	303	6.4	.0	10.0
Q. Pico CanyEBA	-750	-5	-150	-5	AG	1401	6.4	.0	13.5
R. Pico CanyEBD	150	-5	750	-5	AG	1596	6.4	.0	11.8
S. Pico CanyWBA	750	9	150	9	AG	1702	6.4	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2004 Existin (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	A	B	C	D	E	F	G	H
			CONC/LINK (PPM)							
1. SE	277.	2.3	.1	.0	.0	.0	.0	.0	1.0	.2
2. NW	97.	2.1	.0	.0	.0	.0	.0	.0	.0	.3
3. SW	82.	2.3	.0	.0	.0	.0	.1	.0	.0	1.1
4. NE	98.	2.1	.0	.0	.0	.0	.0	.0	.0	.2
5. ES mdblk	278.	2.3	.0	.0	.0	.0	.0	.0	.1	1.3
6. WN mdblk	97.	2.1	.0	.0	.0	.0	.0	.0	.2	.2
7. WS mdblk	83.	2.0	.0	.0	.0	.0	.0	.0	1.1	.2
8. EN mdblk	262.	2.2	.0	.0	.0	.0	.0	.0	.2	.3
9. SE mdblk	349.	.8	.3	.0	.0	.0	.2	.0	.1	.0
10. NW mdblk	178.	.5	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	11.	.8	.2	.0	.0	.0	.3	.0	.0	.1
12. NE mdblk	182.	.5	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	277.	2.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	2.1	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	2.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	2.3	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.8	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	179.	.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	.8	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	180.	.2	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2004 Existin (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 3. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Marriott NBA	0	-150	0	0	AG	0	6.4	.0	10.0
B. Marriott NBD	0	0	0	150	AG	52	6.4	.0	10.0
C. Marriott NBL	2	-150	0	0	AG	0	6.4	.0	10.0
D. Marriott SBA	0	150	0	0	AG	52	6.4	.0	10.0
E. Marriott SBD	0	0	0	-150	AG	0	6.4	.0	10.0
F. Marriott SBL	-2	150	0	0	AG	109	6.4	.0	10.0
G. The Old REBA	-150	-2	0	-2	AG	328	6.4	.0	10.0
H. The Old REBD	0	-2	150	-2	AG	437	6.4	.0	10.0
I. The Old REBL	-150	-2	0	0	AG	15	6.4	.0	10.0
J. The Old RWBA	150	2	0	2	AG	529	6.4	.0	10.0
K. The Old RWBD	0	2	-150	2	AG	544	6.4	.0	10.0
L. The Old RWBL	150	2	0	0	AG	0	6.4	.0	10.0
M. Marriott NBA	0	-750	0	-150	AG	0	6.4	.0	10.0
N. Marriott NBD	0	150	0	750	AG	52	6.4	.0	10.0
O. Marriott SBA	0	750	0	150	AG	161	6.4	.0	10.0
P. Marriott SBD	0	-150	0	-750	AG	0	6.4	.0	10.0
Q. The Old REBA	-750	-2	-150	-2	AG	343	6.4	.0	10.0
R. The Old REBD	150	-2	750	-2	AG	437	6.4	.0	10.0
S. The Old RWBA	750	2	150	2	AG	529	6.4	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2004 Existin (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	84.	.9	.0	.0	.0	.0	.0	.0	.0	.4
2. NW	96.	1.0	.0	.0	.0	.0	.0	.0	.0	.2
3. SW	84.	.9	.0	.0	.0	.0	.0	.0	.0	.4
4. NE	264.	1.0	.0	.0	.0	.0	.0	.0	.2	.0
5. ES mdblk	276.	.9	.0	.0	.0	.0	.0	.0	.0	.4
6. WN mdblk	96.	.9	.0	.0	.0	.0	.0	.0	.2	.0
7. WS mdblk	84.	.9	.0	.0	.0	.0	.0	.0	.3	.0
8. EN mdblk	264.	1.0	.0	.0	.0	.0	.0	.0	.0	.2
9. SE mdblk	359.	.2	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	172.	.4	.0	.0	.0	.0	.0	.2	.0	.0
11. SW mdblk	1.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	188.	.3	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	276.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	.9	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	84.	.9	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	360.	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	175.	.4	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	1.	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	185.	.4	.0	.0	.0	.0	.0	.0	.0	.0

s□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2004 Existin (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

```
    U=    .5 M/S              Z0= 100. CM            ALT=     3. (M)
  BRG= WORST CASE             VD=    .0 CM/S
 CLAS=      7 (G)             VS=    .0 CM/S
 MIXH= 1000. M               AMB=    .0 PPM
SIGTH=    10. DEGREES       TEMP= 10.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. ChiquellaNBA	0	-120	0	0	AG	0	7.1	.0	10.0
B. ChiquellaNBD	0	0	0	150	AG	169	7.1	.0	10.0
C. ChiquellaNBL	2	-120	0	0	AG	0	7.1	.0	10.0
D. ChiquellaSBA	0	120	0	0	AG	79	7.1	.0	10.0
E. ChiquellaSBD	0	0	0	-150	AG	0	7.1	.0	10.0
F. ChiquellaSBL	-2	120	0	0	AG	112	7.1	.0	10.0
G. The Old REBA	-120	-5	0	-5	AG	245	7.1	.0	10.0
H. The Old REBD	0	-5	150	-5	AG	357	7.1	.0	10.0
I. The Old REBL	-120	-5	0	0	AG	67	7.1	.0	10.0
J. The Old RWBA	120	2	0	2	AG	580	7.1	.0	10.0
K. The Old RWBD	0	2	-150	2	AG	557	7.1	.0	10.0
L. The Old RWBL	120	2	0	0	AG	0	7.1	.0	10.0
M. ChiquellaNBA	0	-750	0	-150	AG	0	7.1	.0	10.0
N. ChiquellaNBD	0	150	0	750	AG	169	7.1	.0	10.0
O. ChiquellaSBA	0	750	0	150	AG	191	7.1	.0	10.0
P. ChiquellaSBD	0	-150	0	-750	AG	0	7.1	.0	10.0
Q. The Old REBA	-750	-5	-150	-5	AG	312	7.1	.0	10.0
R. The Old REBD	150	-5	750	-5	AG	357	7.1	.0	10.0
S. The Old RWBA	750	2	150	2	AG	580	7.1	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2004 Existin (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	A	B	C	D	E	F	G	H
			CONC/LINK (PPM)							
1. SE	355.	.8	.0	.2	.0	.0	.0	.1	.0	.2
2. NW	96.	1.1	.0	.0	.0	.0	.0	.0	.0	.2
3. SW	84.	.8	.0	.0	.0	.0	.0	.0	.0	.4
4. NE	264.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	277.	.9	.0	.0	.0	.0	.0	.0	.0	.4
6. WN mdblk	96.	1.0	.0	.0	.0	.0	.0	.0	.1	.0
7. WS mdblk	277.	.8	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	97.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	359.	.3	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	6.	.5	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	1.	.3	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	354.	.5	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	276.	.9	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	84.	.9	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	360.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	175.	.6	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	1.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	185.	.6	.0	.0	.0	.0	.0	.0	.0	.0

s□

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	3. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Wiley CanNBA	*	9	-150	9	0	*	AG	681	3.2	.0	13.5
B. Wiley CanNBD	*	9	0	9	150	*	AG	1360	3.2	.0	10.0
C. Wiley CanNBL	*	5	-150	0	0	*	AG	163	3.2	.0	10.0
D. Wiley CanSBA	*	-9	150	-9	0	*	AG	689	3.2	.0	13.5
E. Wiley CanSBD	*	-9	0	-9	-150	*	AG	721	3.2	.0	10.0
F. Wiley CanSBL	*	-5	150	0	0	*	AG	210	3.2	.0	10.0
G. Lyons AveEBA	*	-150	-12	0	-12	*	AG	1814	3.2	.0	13.5
H. Lyons AveEBD	*	0	-12	150	-12	*	AG	2133	3.2	.0	10.0
I. Lyons AveEBL	*	-150	-9	0	0	*	AG	668	3.2	.0	10.0
J. Lyons AveWBA	*	150	9	0	9	*	AG	1330	3.2	.0	13.5
K. Lyons AveWBD	*	0	9	-150	9	*	AG	1541	3.2	.0	11.8
L. Lyons AveWBL	*	150	5	0	0	*	AG	200	3.2	.0	10.0
M. Wiley CanNBA	*	9	-750	9	-150	*	AG	844	3.2	.0	13.5
N. Wiley CanNBD	*	9	150	9	750	*	AG	1360	3.2	.0	10.0
O. Wiley CanSBA	*	-9	750	-9	150	*	AG	899	3.2	.0	13.5
P. Wiley CanSBD	*	-9	-150	-9	-750	*	AG	721	3.2	.0	10.0
Q. Lyons AveEBA	*	-750	-12	-150	-12	*	AG	2482	3.2	.0	13.5
R. Lyons AveEBD	*	150	-12	750	-12	*	AG	2133	3.2	.0	10.0
S. Lyons AveWBA	*	750	9	150	9	*	AG	1530	3.2	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	278.	1.5	.1	.0	.0	.0	.0	.0	.6	.2
2. NW	98.	1.3	.0	.1	.0	.1	.0	.0	.0	.1
3. SW	81.	1.4	.0	.0	.0	.0	.1	.0	.2	.6
4. NE	261.	1.5	.0	.3	.0	.0	.0	.0	.1	.0
5. ES mdblk	278.	1.4	.0	.0	.0	.0	.0	.0	.0	.8
6. WN mdblk	98.	1.2	.0	.0	.0	.0	.0	.0	.0	.1
7. WS mdblk	81.	1.3	.0	.0	.0	.0	.0	.0	.7	.0
8. EN mdblk	262.	1.1	.0	.0	.0	.0	.0	.0	.1	.0
9. SE mdblk	354.	.8	.3	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	172.	.8	.0	.0	.0	.3	.0	.0	.0	.0
11. SW mdblk	7.	.8	.0	.0	.0	.0	.3	.0	.0	.0
12. NE mdblk	188.	1.0	.0	.6	.0	.0	.0	.0	.0	.0
13. ES blk	278.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	98.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	82.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	262.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	353.	.7	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.8	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	.7	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	1.0	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 3. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Orchard VNBA	7	-150	7	0	AG	1130	3.6	.0	10.0
B. Orchard VNBD	7	0	7	150	AG	1459	3.6	.0	10.0
C. Orchard VNBL	5	-150	0	0	AG	87	3.6	.0	10.0
D. Orchard VSBA	-9	150	-9	0	AG	959	3.6	.0	13.5
E. Orchard VSBD	-9	0	-9	-150	AG	1208	3.6	.0	10.0
F. Orchard VSBL	-5	150	0	0	AG	480	3.6	.0	10.0
G. Wiley CanEBA	-150	-11	0	-11	AG	1054	3.6	.0	10.0
H. Wiley CanEBD	0	-11	150	-11	AG	1726	3.6	.0	10.0
I. Wiley CanEBL	-150	-9	0	0	AG	419	3.6	.0	10.0
J. Wiley CanWBA	150	9	0	9	AG	561	3.6	.0	13.5
K. Wiley CanWBD	0	9	-150	9	AG	527	3.6	.0	10.0
L. Wiley CanWBL	150	5	0	0	AG	230	3.6	.0	10.0
M. Orchard VNBA	7	-750	7	-150	AG	1217	3.6	.0	10.0
N. Orchard VNBD	7	150	7	750	AG	1459	3.6	.0	10.0
O. Orchard VSBA	-9	750	-9	150	AG	1439	3.6	.0	13.5
P. Orchard VSBD	-9	-150	-9	-750	AG	1208	3.6	.0	10.0
Q. Wiley CanEBA	-750	-11	-150	-11	AG	1473	3.6	.0	10.0
R. Wiley CanEBD	150	-11	750	-11	AG	1726	3.6	.0	10.0
S. Wiley CanWBA	750	9	150	9	AG	791	3.6	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	352.	1.7	.1	.5	.0	.1	.0	.1	.0	.4
2. NW	172.	1.2	.1	.0	.0	.0	.4	.0	.1	.0
3. SW	83.	1.5	.1	.0	.0	.0	.3	.0	.1	.6
4. NE	188.	1.3	.4	.2	.0	.0	.1	.0	.0	.2
5. ES mdblk	278.	1.2	.0	.0	.0	.0	.0	.0	.0	.8
6. WN mdblk	97.	.9	.0	.0	.0	.0	.0	.0	.0	.1
7. WS mdblk	83.	1.1	.0	.0	.0	.0	.0	.0	.5	.0
8. EN mdblk	262.	.8	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	1.2	.5	.0	.0	.0	.1	.0	.0	.0
10. NW mdblk	172.	1.1	.0	.1	.0	.4	.0	.1	.0	.0
11. SW mdblk	7.	1.2	.0	.1	.0	.0	.6	.0	.0	.0
12. NE mdblk	188.	1.3	.0	.7	.0	.1	.0	.0	.0	.0
13. ES blk	277.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	.7	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	262.	.9	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	353.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	1.3	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 3. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. The Old RNBA	11	-150	11	0	AG	981	2.8	.0	17.0
B. The Old RNBD	11	0	11	150	AG	1070	2.8	.0	13.5
C. The Old RNBL	5	-150	0	0	AG	292	2.8	.0	10.0
D. The Old RSBA	-14	150	-14	0	AG	935	2.8	.0	17.0
E. The Old RSBD	-14	0	-14	-150	AG	1925	2.8	.0	13.5
F. The Old RSBL	-9	150	0	0	AG	259	2.8	.0	10.0
G. ValenciaEBA	-150	-14	0	-14	AG	785	2.8	.0	17.0
H. ValenciaEBD	0	-14	150	-14	AG	1069	2.8	.0	13.5
I. ValenciaEBL	-150	-9	0	0	AG	100	2.8	.0	10.0
J. ValenciaWBA	150	14	0	14	AG	1121	2.8	.0	17.0
K. ValenciaWBD	0	14	-150	14	AG	1133	2.8	.0	13.5
L. ValenciaWBL	150	9	0	0	AG	724	2.8	.0	10.0
M. The Old RNBA	11	-750	11	-150	AG	1273	2.8	.0	17.0
N. The Old RNBD	11	150	11	750	AG	1070	2.8	.0	13.5
O. The Old RSBA	-14	750	-14	150	AG	1194	2.8	.0	17.0
P. The Old RSBD	-14	-150	-14	-750	AG	1925	2.8	.0	13.5
Q. ValenciaEBAX	-750	-14	-150	-14	AG	885	2.8	.0	17.0
R. ValenciaEBDX	150	-14	750	-14	AG	1069	2.8	.0	13.5
S. ValenciaWBAX	750	14	150	14	AG	1845	2.8	.0	17.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	351.	.9	.0	.3	.0	.0	.0	.0	.0	.2
2. NW	172.	1.1	.0	.0	.0	.0	.4	.0	.0	.0
3. SW	80.	1.1	.0	.0	.0	.0	.3	.0	.0	.3
4. NE	188.	1.1	.2	.1	.0	.0	.0	.0	.0	.0
5. ES mdblk	279.	.8	.0	.0	.0	.0	.0	.0	.0	.4
6. WN mdblk	97.	.8	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	83.	.7	.0	.0	.0	.0	.0	.0	.2	.0
8. EN mdblk	260.	.8	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	352.	.7	.3	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	173.	.8	.0	.0	.0	.3	.0	.0	.0	.0
11. SW mdblk	9.	1.0	.0	.0	.0	.0	.7	.0	.0	.0
12. NE mdblk	188.	.8	.0	.4	.0	.0	.1	.0	.0	.0
13. ES blk	278.	.8	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	.7	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.6	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	262.	.9	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	352.	.8	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.7	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	8.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	.7	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 3. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
		LINK COORDINATES (M)									
A. The Old RNBA	*	11	-150	11	0	*	AG	1391	3.6	.0	17.0
B. The Old RNBD	*	11	0	11	150	*	AG	1134	3.6	.0	13.5
C. The Old RNBL	*	5	-150	0	0	*	AG	180	3.6	.0	10.0
D. The Old RSBA	*	-9	150	-9	0	*	AG	1223	3.6	.0	13.5
E. The Old RSBD	*	-9	0	-9	-150	*	AG	1748	3.6	.0	10.0
F. The Old RSBL	*	-5	150	0	0	*	AG	551	3.6	.0	10.0
G. McBean PaEBA	*	-150	-11	0	-11	*	AG	588	3.6	.0	17.0
H. McBean PaEBD	*	0	-11	150	-11	*	AG	1689	3.6	.0	13.5
I. McBean PaEBL	*	-150	-5	0	0	*	AG	180	3.6	.0	10.0
J. McBean PaWBA	*	150	11	0	11	*	AG	1031	3.6	.0	10.0
K. McBean PaWBD	*	0	11	-150	11	*	AG	1220	3.6	.0	10.0
L. McBean PaWBL	*	150	9	0	0	*	AG	647	3.6	.0	10.0
M. The Old RNBA	*	11	-750	11	-150	*	AG	1571	3.6	.0	17.0
N. The Old RNBD	*	11	150	11	750	*	AG	1134	3.6	.0	13.5
O. The Old RSBA	*	-9	750	-9	150	*	AG	1774	3.6	.0	13.5
P. The Old RSBD	*	-9	-150	-9	-750	*	AG	1748	3.6	.0	10.0
Q. McBean PaEBA	*	-750	-11	-150	-11	*	AG	768	3.6	.0	17.0
R. McBean PaEBD	*	150	-11	750	-11	*	AG	1689	3.6	.0	13.5
S. McBean PaWBA	*	750	11	150	11	*	AG	1678	3.6	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	351.	1.5	.1	.4	.0	.1	.0	.0	.0	.4
2. NW	98.	1.6	.0	.1	.0	.3	.0	.0	.0	.1
3. SW	81.	1.6	.2	.0	.0	.0	.4	.0	.0	.5
4. NE	187.	1.6	.5	.1	.0	.0	.0	.0	.0	.2
5. ES mdblk	279.	1.3	.0	.0	.0	.0	.0	.0	.0	.7
6. WN mdblk	97.	1.2	.0	.0	.0	.0	.0	.0	.0	.1
7. WS mdblk	84.	.9	.0	.0	.0	.0	.0	.0	.2	.1
8. EN mdblk	260.	1.2	.0	.0	.0	.0	.0	.0	.0	.1
9. SE mdblk	352.	1.2	.6	.0	.0	.1	.0	.0	.0	.0
10. NW mdblk	172.	1.3	.1	.0	.0	.5	.0	.1	.0	.0
11. SW mdblk	8.	1.4	.1	.1	.0	.0	.8	.0	.0	.0
12. NE mdblk	187.	1.2	.0	.5	.0	.0	.1	.0	.0	.0
13. ES blk	278.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.8	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	262.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	353.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	8.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	1.1	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	3. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. The Old RNBA	*	7	-150	7	0	*	AG	410	3.2	.0	10.0
B. The Old RNBD	*	7	0	7	150	*	AG	1240	3.2	.0	10.0
C. The Old RNBL	*	5	-150	0	0	*	AG	218	3.2	.0	10.0
D. The Old RSBA	*	-11	150	-11	0	*	AG	522	3.2	.0	10.0
E. The Old RSBD	*	-11	0	-11	-150	*	AG	334	3.2	.0	10.0
F. The Old RSBL	*	-9	150	0	0	*	AG	831	3.2	.0	10.0
G. Pico CanyEBA	*	-150	-9	0	-9	*	AG	602	3.2	.0	13.5
H. Pico CanyEBD	*	0	-9	150	-9	*	AG	1461	3.2	.0	10.0
I. Pico CanyEBL	*	-150	-5	0	0	*	AG	121	3.2	.0	10.0
J. Pico CanyWBA	*	150	9	0	9	*	AG	1621	3.2	.0	13.5
K. Pico CanyWBD	*	0	9	-150	9	*	AG	1367	3.2	.0	10.0
L. Pico CanyWBL	*	150	5	0	0	*	AG	77	3.2	.0	10.0
M. The Old RNBA	*	7	-750	7	-150	*	AG	628	3.2	.0	10.0
N. The Old RNBD	*	7	150	7	750	*	AG	1240	3.2	.0	10.0
O. The Old RSBA	*	-11	750	-11	150	*	AG	1353	3.2	.0	10.0
P. The Old RSBD	*	-11	-150	-11	-750	*	AG	334	3.2	.0	10.0
Q. Pico CanyEBA	*	-750	-9	-150	-9	*	AG	723	3.2	.0	13.5
R. Pico CanyEBD	*	150	-9	750	-9	*	AG	1461	3.2	.0	10.0
S. Pico CanyWBA	*	750	9	150	9	*	AG	1698	3.2	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	352.	1.3	.0	.4	.0	.0	.0	.1	.0	.3
2. NW	97.	1.4	.0	.1	.0	.1	.0	.1	.0	.1
3. SW	82.	1.0	.0	.0	.0	.0	.0	.0	.0	.4
4. NE	262.	1.2	.0	.3	.0	.0	.0	.1	.0	.0
5. ES mdblk	279.	1.1	.0	.0	.0	.0	.0	.0	.0	.6
6. WN mdblk	96.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	83.	.8	.0	.0	.0	.0	.0	.0	.2	.0
8. EN mdblk	262.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	355.	.7	.2	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	167.	.9	.0	.2	.0	.2	.0	.3	.0	.0
11. SW mdblk	6.	.6	.0	.0	.0	.0	.2	.0	.0	.0
12. NE mdblk	189.	.9	.0	.5	.0	.0	.0	.1	.0	.0
13. ES blk	278.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	.9	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.7	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.5	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	172.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.5	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	.9	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 3. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. ChiquellaNBA	7	-150	7	0	AG	299	3.2	.0	10.0
B. ChiquellaNBD	7	0	7	150	AG	0	3.2	.0	10.0
C. ChiquellaNBL	5	-150	0	0	AG	153	3.2	.0	10.0
D. ChiquellaSBA	0	150	0	0	AG	0	3.2	.0	10.0
E. ChiquellaSBD	0	0	0	-150	AG	310	3.2	.0	10.0
F. ChiquellaSBL	-2	150	0	0	AG	0	3.2	.0	10.0
G. Pico CanyEBA	-150	-5	0	-5	AG	2491	3.2	.0	13.5
H. Pico CanyEBD	0	-5	150	-5	AG	2690	3.2	.0	11.8
I. Pico CanyEBL	-150	-2	0	0	AG	0	3.2	.0	10.0
J. Pico CanyWBA	150	9	0	9	AG	1643	3.2	.0	13.5
K. Pico CanyWBD	0	9	-150	9	AG	1796	3.2	.0	13.5
L. Pico CanyWBL	150	5	0	0	AG	210	3.2	.0	10.0
M. ChiquellaNBA	7	-750	7	-150	AG	452	3.2	.0	10.0
N. ChiquellaNBD	7	150	7	750	AG	0	3.2	.0	10.0
O. ChiquellaSBA	0	750	0	150	AG	0	3.2	.0	10.0
P. ChiquellaSBD	0	-150	0	-750	AG	310	3.2	.0	10.0
Q. Pico CanyEBA	-750	-5	-150	-5	AG	2491	3.2	.0	13.5
R. Pico CanyEBD	150	-5	750	-5	AG	2690	3.2	.0	11.8
S. Pico CanyWBA	750	9	150	9	AG	1853	3.2	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	278.	1.6	.0	.0	.0	.0	.0	.0	.8	.2
2. NW	262.	1.2	.0	.0	.0	.0	.0	.0	.2	.0
3. SW	82.	1.5	.0	.0	.0	.0	.0	.0	.0	.8
4. NE	262.	1.2	.0	.0	.0	.0	.0	.0	.2	.0
5. ES mdblk	278.	1.5	.0	.0	.0	.0	.0	.0	.0	1.0
6. WN mdblk	98.	1.3	.0	.0	.0	.0	.0	.0	.2	.1
7. WS mdblk	83.	1.4	.0	.0	.0	.0	.0	.0	.9	.1
8. EN mdblk	262.	1.3	.0	.0	.0	.0	.0	.0	.1	.2
9. SE mdblk	349.	.5	.1	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	178.	.3	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	11.	.5	.0	.0	.0	.0	.2	.0	.0	.0
12. NE mdblk	182.	.3	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	277.	1.5	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	98.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	262.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.5	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	179.	.1	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	.4	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	180.	.1	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	3. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Marriott NBA	0	-150	0	0	AG	0	2.8	.0	10.0
B. Marriott NBD	0	0	0	150	AG	60	2.8	.0	10.0
C. Marriott NBL	2	-150	0	0	AG	0	2.8	.0	10.0
D. Marriott SBA	0	150	0	0	AG	201	2.8	.0	10.0
E. Marriott SBD	0	0	0	-150	AG	0	2.8	.0	10.0
F. Marriott SBL	-2	150	0	0	AG	113	2.8	.0	10.0
G. The Old REBA	-150	-2	0	-2	AG	332	2.8	.0	10.0
H. The Old REBD	0	-2	150	-2	AG	445	2.8	.0	10.0
I. The Old REBL	-150	-2	0	0	AG	20	2.8	.0	10.0
J. The Old RWBA	150	2	0	2	AG	538	2.8	.0	10.0
K. The Old RWBD	0	2	-150	2	AG	699	2.8	.0	10.0
L. The Old RWBL	150	2	0	0	AG	0	2.8	.0	10.0
M. Marriott NBA	0	-750	0	-150	AG	0	2.8	.0	10.0
N. Marriott NBD	0	150	0	750	AG	60	2.8	.0	10.0
O. Marriott SBA	0	750	0	150	AG	314	2.8	.0	10.0
P. Marriott SBD	0	-150	0	-750	AG	0	2.8	.0	10.0
Q. The Old REBA	-750	-2	-150	-2	AG	352	2.8	.0	10.0
R. The Old REBD	150	-2	750	-2	AG	445	2.8	.0	10.0
S. The Old RWBA	750	2	150	2	AG	538	2.8	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	276.	.4	.0	.0	.0	.0	.0	.0	.1	.0
2. NW	96.	.5	.0	.0	.0	.0	.0	.0	.0	.1
3. SW	276.	.4	.0	.0	.0	.0	.0	.0	.1	.0
4. NE	264.	.5	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	276.	.4	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	96.	.5	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	84.	.4	.0	.0	.0	.0	.0	.0	.1	.0
8. EN mdblk	264.	.4	.0	.0	.0	.0	.0	.0	.0	.1
9. SE mdblk	359.	.1	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	172.	.2	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	1.	.1	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	189.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	276.	.4	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	.5	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	84.	.4	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	.4	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	359.	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	360.	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.2	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S
BRG= WORST CASE
CLAS= 7 (G)
MIXH= 1000. M
SIGTH= 10. DEGREES

Z0= 100. CM
VD= .0 CM/S
VS= .0 CM/S
AMB= .0 PPM
TEMP= 10.0 DEGREE (C)

ALT= 3. (M)

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. ChiquellaNBA	0	-120	0	0	AG	0	2.8	.0	10.0
B. ChiquellaNBD	0	0	0	150	AG	172	2.8	.0	10.0
C. ChiquellaNBL	2	-120	0	0	AG	0	2.8	.0	10.0
D. ChiquellaSBA	0	120	0	0	AG	80	2.8	.0	10.0
E. ChiquellaSBD	0	0	0	-150	AG	0	2.8	.0	10.0
F. ChiquellaSBL	-2	120	0	0	AG	120	2.8	.0	10.0
G. The Old REBA	-120	-5	0	-5	AG	247	2.8	.0	10.0
H. The Old REBD	0	-5	150	-5	AG	367	2.8	.0	10.0
I. The Old REBL	-120	-5	0	0	AG	70	2.8	.0	10.0
J. The Old RWBA	120	2	0	2	AG	590	2.8	.0	10.0
K. The Old RWBD	0	2	-150	2	AG	568	2.8	.0	10.0
L. The Old RWBL	120	2	0	0	AG	0	2.8	.0	10.0
M. ChiquellaNBA	0	-750	0	-150	AG	0	2.8	.0	10.0
N. ChiquellaNBD	0	150	0	750	AG	172	2.8	.0	10.0
O. ChiquellaSBA	0	750	0	150	AG	200	2.8	.0	10.0
P. ChiquellaSBD	0	-150	0	-750	AG	0	2.8	.0	10.0
Q. The Old REBA	-750	-5	-150	-5	AG	317	2.8	.0	10.0
R. The Old REBD	150	-5	750	-5	AG	367	2.8	.0	10.0
S. The Old RWBA	750	2	150	2	AG	590	2.8	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	355.	.3	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	97.	.4	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	84.	.3	.0	.0	.0	.0	.0	.0	.0	.1
4. NE	264.	.4	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	277.	.4	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	96.	.4	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	277.	.3	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	97.	.4	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	359.	.1	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	1.	.1	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	354.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	276.	.4	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	.4	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	84.	.4	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	.4	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	360.	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	1.	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.2	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 3. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Wiley CanNBA	9	-150	9	0	AG	730	3.2	.0	13.5
B. Wiley CanNBD	9	0	9	150	AG	1390	3.2	.0	10.0
C. Wiley CanNBL	5	-150	0	0	AG	161	3.2	.0	10.0
D. Wiley CanSBA	-9	150	-9	0	AG	730	3.2	.0	13.5
E. Wiley CanSBD	-9	0	-9	-150	AG	780	3.2	.0	10.0
F. Wiley CanSBL	-5	150	0	0	AG	210	3.2	.0	10.0
G. Lyons AveEBA	-150	-12	0	-12	AG	1820	3.2	.0	13.5
H. Lyons AveEBD	0	-12	150	-12	AG	2170	3.2	.0	10.0
I. Lyons AveEBL	-150	-9	0	0	AG	680	3.2	.0	10.0
J. Lyons AveWBA	150	9	0	9	AG	1340	3.2	.0	13.5
K. Lyons AveWBD	0	9	-150	9	AG	1561	3.2	.0	11.8
L. Lyons AveWBL	150	5	0	0	AG	230	3.2	.0	10.0
M. Wiley CanNBA	9	-750	9	-150	AG	891	3.2	.0	13.5
N. Wiley CanNBD	9	150	9	750	AG	1390	3.2	.0	10.0
O. Wiley CanSBA	-9	750	-9	150	AG	940	3.2	.0	13.5
P. Wiley CanSBD	-9	-150	-9	-750	AG	780	3.2	.0	10.0
Q. Lyons AveEBA	-750	-12	-150	-12	AG	2500	3.2	.0	13.5
R. Lyons AveEBD	150	-12	750	-12	AG	2170	3.2	.0	10.0
S. Lyons AveWBA	750	9	150	9	AG	1570	3.2	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	278.	1.5	.1	.0	.0	.0	.0	.0	.6	.2
2. NW	98.	1.3	.0	.1	.0	.1	.0	.0	.0	.1
3. SW	81.	1.4	.0	.0	.0	.0	.2	.0	.2	.6
4. NE	261.	1.5	.0	.3	.0	.0	.0	.0	.1	.0
5. ES mdblk	278.	1.4	.0	.0	.0	.0	.0	.0	.0	.8
6. WN mdblk	98.	1.2	.0	.0	.0	.0	.0	.0	.0	.1
7. WS mdblk	81.	1.3	.0	.0	.0	.0	.0	.0	.7	.0
8. EN mdblk	262.	1.2	.0	.0	.0	.0	.0	.0	.1	.0
9. SE mdblk	353.	.8	.3	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	172.	.8	.0	.0	.0	.3	.0	.0	.0	.0
11. SW mdblk	7.	.9	.0	.0	.0	.0	.3	.0	.0	.0
12. NE mdblk	188.	1.0	.0	.6	.0	.0	.0	.0	.0	.0
13. ES blk	278.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	98.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	82.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	262.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	353.	.7	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.8	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	.7	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	1.0	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 3. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Orchard VNBA	7	-150	7	0	AG	1130	3.6	.0	10.0
B. Orchard VNBD	7	0	7	150	AG	1460	3.6	.0	10.0
C. Orchard VNBL	5	-150	0	0	AG	90	3.6	.0	10.0
D. Orchard VSBA	-9	150	-9	0	AG	960	3.6	.0	13.5
E. Orchard VSBD	-9	0	-9	-150	AG	1210	3.6	.0	10.0
F. Orchard VSBL	-5	150	0	0	AG	480	3.6	.0	10.0
G. Wiley CanEBA	-150	-11	0	-11	AG	1080	3.6	.0	10.0
H. Wiley CanEBD	0	-11	150	-11	AG	1750	3.6	.0	10.0
I. Wiley CanEBL	-150	-9	0	0	AG	420	3.6	.0	10.0
J. Wiley CanWBA	150	9	0	9	AG	590	3.6	.0	13.5
K. Wiley CanWBD	0	9	-150	9	AG	560	3.6	.0	10.0
L. Wiley CanWBL	150	5	0	0	AG	230	3.6	.0	10.0
M. Orchard VNBA	7	-750	7	-150	AG	1220	3.6	.0	10.0
N. Orchard VNBD	7	150	7	750	AG	1460	3.6	.0	10.0
O. Orchard VSBA	-9	750	-9	150	AG	1440	3.6	.0	13.5
P. Orchard VSBD	-9	-150	-9	-750	AG	1210	3.6	.0	10.0
Q. Wiley CanEBA	-750	-11	-150	-11	AG	1500	3.6	.0	10.0
R. Wiley CanEBD	150	-11	750	-11	AG	1750	3.6	.0	10.0
S. Wiley CanWBA	750	9	150	9	AG	820	3.6	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 3. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. The Old RNBA	11	-150	11	0	AG	1010	2.8	.0	17.0
B. The Old RNBD	11	0	11	150	AG	1090	2.8	.0	13.5
C. The Old RNBL	5	-150	0	0	AG	300	2.8	.0	10.0
D. The Old RSBA	-14	150	-14	0	AG	950	2.8	.0	17.0
E. The Old RSBD	-14	0	-14	-150	AG	1970	2.8	.0	13.5
F. The Old RSBL	-9	150	0	0	AG	260	2.8	.0	10.0
G. ValenciaEBA	-150	-14	0	-14	AG	790	2.8	.0	17.0
H. ValenciaEBD	0	-14	150	-14	AG	1080	2.8	.0	13.5
I. ValenciaEBL	-150	-9	0	0	AG	100	2.8	.0	10.0
J. ValenciaWBA	150	14	0	14	AG	1120	2.8	.0	17.0
K. ValenciaWBD	0	14	-150	14	AG	1140	2.8	.0	13.5
L. ValenciaWBL	150	9	0	0	AG	750	2.8	.0	10.0
M. The Old RNBA	11	-750	11	-150	AG	1310	2.8	.0	17.0
N. The Old RNBD	11	150	11	750	AG	1090	2.8	.0	13.5
O. The Old RSBA	-14	750	-14	150	AG	1210	2.8	.0	17.0
P. The Old RSBD	-14	-150	-14	-750	AG	1970	2.8	.0	13.5
Q. ValenciaEBAX	-750	-14	-150	-14	AG	890	2.8	.0	17.0
R. ValenciaEBDX	150	-14	750	-14	AG	1080	2.8	.0	13.5
S. ValenciaWBAX	750	14	150	14	AG	1870	2.8	.0	17.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	351.	1.0	.0	.3	.0	.0	.0	.0	.0	.2
2. NW	172.	1.1	.0	.0	.0	.0	.4	.0	.0	.0
3. SW	80.	1.1	.0	.0	.0	.0	.3	.0	.0	.3
4. NE	188.	1.1	.2	.1	.0	.0	.0	.0	.0	.0
5. ES mdblk	279.	.8	.0	.0	.0	.0	.0	.0	.0	.4
6. WN mdblk	97.	.8	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	83.	.7	.0	.0	.0	.0	.0	.0	.3	.0
8. EN mdblk	260.	.8	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	352.	.8	.3	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	173.	.8	.0	.0	.0	.3	.0	.0	.0	.0
11. SW mdblk	9.	1.1	.0	.0	.0	.0	.7	.0	.0	.0
12. NE mdblk	188.	.9	.0	.4	.0	.0	.1	.0	.0	.0
13. ES blk	278.	.8	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	.7	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.6	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	262.	.9	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	352.	.8	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.7	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	8.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	.8	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT=	3. (M)
BRG= WORST CASE	VD= .0 CM/S		
CLAS= 7 (G)	VS= .0 CM/S		
MIXH= 1000. M	AMB= .0 PPM		
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. The Old RNBA	*	11	-150	11	0	*	AG	1460	3.6	.0	17.0
B. The Old RNBD	*	11	0	11	150	*	AG	1170	3.6	.0	13.5
C. The Old RNBL	*	5	-150	0	0	*	AG	180	3.6	.0	10.0
D. The Old RSBA	*	-9	150	-9	0	*	AG	1270	3.6	.0	13.5
E. The Old RSBD	*	-9	0	-9	-150	*	AG	1810	3.6	.0	10.0
F. The Old RSBL	*	-5	150	0	0	*	AG	550	3.6	.0	10.0
G. McBean PaEBA	*	-150	-11	0	-11	*	AG	590	3.6	.0	17.0
H. McBean PaEBD	*	0	-11	150	-11	*	AG	1720	3.6	.0	13.5
I. McBean PaEBL	*	-150	-5	0	0	*	AG	180	3.6	.0	10.0
J. McBean PaWBA	*	150	11	0	11	*	AG	1030	3.6	.0	10.0
K. McBean PaWBD	*	0	11	-150	11	*	AG	1220	3.6	.0	10.0
L. McBean PaWBL	*	150	9	0	0	*	AG	660	3.6	.0	10.0
M. The Old RNBA	*	11	-750	11	-150	*	AG	1640	3.6	.0	17.0
N. The Old RNBD	*	11	150	11	750	*	AG	1170	3.6	.0	13.5
O. The Old RSBA	*	-9	750	-9	150	*	AG	1820	3.6	.0	13.5
P. The Old RSBD	*	-9	-150	-9	-750	*	AG	1810	3.6	.0	10.0
Q. McBean PaEBA	*	-750	-11	-150	-11	*	AG	770	3.6	.0	17.0
R. McBean PaEBD	*	150	-11	750	-11	*	AG	1720	3.6	.0	13.5
S. McBean PaWBA	*	750	11	150	11	*	AG	1690	3.6	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	A	B	C	D	E	F	G	H
			CONC/LINK (PPM)							
1. SE	351.	1.6	.1	.4	.0	.1	.0	.0	.0	.4
2. NW	98.	1.6	.0	.1	.0	.3	.0	.0	.0	.1
3. SW	81.	1.7	.2	.0	.0	.0	.4	.0	.0	.6
4. NE	187.	1.6	.5	.1	.0	.0	.0	.0	.0	.2
5. ES mdblk	279.	1.3	.0	.0	.0	.0	.0	.0	.0	.8
6. WN mdblk	97.	1.2	.0	.0	.0	.0	.0	.0	.0	.1
7. WS mdblk	84.	.9	.0	.0	.0	.0	.0	.0	.2	.1
8. EN mdblk	260.	1.2	.0	.0	.0	.0	.0	.0	.0	.1
9. SE mdblk	352.	1.2	.6	.0	.0	.1	.0	.0	.0	.0
10. NW mdblk	172.	1.3	.1	.0	.0	.6	.0	.1	.0	.0
11. SW mdblk	8.	1.5	.1	.1	.0	.0	.8	.0	.0	.0
12. NE mdblk	187.	1.2	.0	.5	.0	.0	.1	.0	.0	.0
13. ES blk	278.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.8	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	262.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	353.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	8.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	1.1	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

```
     U=    .5 M/S             Z0= 100. CM             ALT=      3. (M)
   BRG= WORST CASE            VD=    .0 CM/S
  CLAS=     7 (G)             VS=    .0 CM/S
  MIXH= 1000. M              AMB=    .0 PPM
 SIGTH=   10. DEGREES       TEMP= 10.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. The Old RNBA	7	-150	7	0	AG	516	3.2	.0	10.0
B. The Old RNBD	7	0	7	150	AG	1339	3.2	.0	10.0
C. The Old RNBL	5	-150	0	0	AG	230	3.2	.0	10.0
D. The Old RSBA	-11	150	-11	0	AG	620	3.2	.0	10.0
E. The Old RSBD	-11	0	-11	-150	AG	446	3.2	.0	10.0
F. The Old RSBL	-9	150	0	0	AG	820	3.2	.0	10.0
G. Pico CanyEBA	-150	-9	0	-9	AG	610	3.2	.0	13.5
H. Pico CanyEBD	0	-9	150	-9	AG	1446	3.2	.0	10.0
I. Pico CanyEBL	-150	-5	0	0	AG	119	3.2	.0	10.0
J. Pico CanyWBA	150	9	0	9	AG	1610	3.2	.0	13.5
K. Pico CanyWBD	0	9	-150	9	AG	1370	3.2	.0	10.0
L. Pico CanyWBL	150	5	0	0	AG	76	3.2	.0	10.0
M. The Old RNBA	7	-750	7	-150	AG	746	3.2	.0	10.0
N. The Old RNBD	7	150	7	750	AG	1339	3.2	.0	10.0
O. The Old RSBA	-11	750	-11	150	AG	1440	3.2	.0	10.0
P. The Old RSBD	-11	-150	-11	-750	AG	446	3.2	.0	10.0
Q. Pico CanyEBA	-750	-9	-150	-9	AG	729	3.2	.0	13.5
R. Pico CanyEBD	150	-9	750	-9	AG	1446	3.2	.0	10.0
S. Pico CanyWBA	750	9	150	9	AG	1686	3.2	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	A	B	C	D	E	F	G	H
			CONC/LINK (PPM)							
1. SE	352.	1.4	.0	.4	.0	.0	.0	.1	.0	.3
2. NW	97.	1.4	.0	.1	.0	.1	.0	.1	.0	.1
3. SW	82.	1.1	.0	.0	.0	.0	.0	.0	.0	.4
4. NE	262.	1.2	.0	.3	.0	.0	.0	.1	.0	.0
5. ES mdblk	279.	1.1	.0	.0	.0	.0	.0	.0	.0	.6
6. WN mdblk	96.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	83.	.8	.0	.0	.0	.0	.0	.0	.2	.0
8. EN mdblk	262.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	355.	.8	.2	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	168.	.9	.0	.2	.0	.3	.0	.3	.0	.0
11. SW mdblk	6.	.7	.0	.0	.0	.0	.2	.0	.0	.0
12. NE mdblk	189.	1.0	.0	.6	.0	.0	.0	.1	.0	.0
13. ES blk	278.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	.9	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.7	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.6	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	172.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.5	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	1.0	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

```
    U=    .5 M/S            Z0= 100. CM          ALT=      3. (M)
  BRG= WORST CASE           VD=    .0 CM/S
 CLAS=     7 (G)            VS=    .0 CM/S
 MIXH= 1000. M             AMB=    .0 PPM
SIGTH=   10. DEGREES      TEMP= 10.0 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. ChiquellaNBA	*	7	-150	7	0	*	AG	344	3.2	.0	10.0
B. ChiquellaNBD	*	7	0	7	150	*	AG	0	3.2	.0	10.0
C. ChiquellaNBL	*	5	-150	0	0	*	AG	150	3.2	.0	10.0
D. ChiquellaSBA	*	0	150	0	0	*	AG	0	3.2	.0	10.0
E. ChiquellaSBD	*	0	0	0	-150	*	AG	338	3.2	.0	10.0
F. ChiquellaSBL	*	-2	150	0	0	*	AG	0	3.2	.0	10.0
G. Pico CanyEBA	*	-150	-5	0	-5	*	AG	2476	3.2	.0	13.5
H. Pico CanyEBD	*	0	-5	150	-5	*	AG	2720	3.2	.0	11.8
I. Pico CanyEBL	*	-150	-2	0	0	*	AG	0	3.2	.0	10.0
J. Pico CanyWBA	*	150	9	0	9	*	AG	1633	3.2	.0	13.5
K. Pico CanyWBD	*	0	9	-150	9	*	AG	1783	3.2	.0	13.5
L. Pico CanyWBL	*	150	5	0	0	*	AG	238	3.2	.0	10.0
M. ChiquellaNBA	*	7	-750	7	-150	*	AG	494	3.2	.0	10.0
N. ChiquellaNBD	*	7	150	7	750	*	AG	0	3.2	.0	10.0
O. ChiquellaSBA	*	0	750	0	150	*	AG	0	3.2	.0	10.0
P. ChiquellaSBD	*	0	-150	0	-750	*	AG	338	3.2	.0	10.0
Q. Pico CanyEBA	*	-750	-5	-150	-5	*	AG	2476	3.2	.0	13.5
R. Pico CanyEBD	*	150	-5	750	-5	*	AG	2720	3.2	.0	11.8
S. Pico CanyWBA	*	750	9	150	9	*	AG	1871	3.2	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	278.	1.6	.0	.0	.0	.0	.0	.0	.8	.2
2. NW	98.	1.2	.0	.0	.0	.0	.0	.0	.0	.2
3. SW	82.	1.5	.0	.0	.0	.0	.0	.0	.0	.8
4. NE	98.	1.2	.0	.0	.0	.0	.0	.0	.0	.2
5. ES mdblk	278.	1.6	.0	.0	.0	.0	.0	.0	.0	1.0
6. WN mdblk	98.	1.3	.0	.0	.0	.0	.0	.0	.2	.1
7. WS mdblk	83.	1.4	.0	.0	.0	.0	.0	.0	.9	.1
8. EN mdblk	262.	1.3	.0	.0	.0	.0	.0	.0	.1	.2
9. SE mdblk	349.	.5	.2	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	178.	.3	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	11.	.5	.0	.0	.0	.0	.2	.0	.0	.0
12. NE mdblk	182.	.3	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	277.	1.6	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	262.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	353.	.5	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	179.	.1	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	.5	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	180.	.1	.0	.0	.0	.0	.0	.0	.0	.0

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APPENDIX C

CONSTRUCTION EMISSIONS SPREADSHEET

FUGITIVE PM10 EMISSION FACTORS

(I) POTENTIAL SOURCES:

Fugitive PM10 emissions result from the following sources:
(1) Scraper loading
(2) Ripping operations by dozer prior to scraper loading material
(3) Scrapers traveling on Haul Roads
(4) Dumping of material
(5) Road and other maintenance using a grader
(6) Redistribution of material with a dozer/compactor
(7) Wind erosion of disturbed areas.

(II) EMISSION FACTORS AND ASSUMPTIONS:

(1) Scraper Loading

Emission Factor (Table 13.2.3-1, AP-42, 1995):

E = 20.2 lb/VMT

From Caterpillar Performance Handbook

Width of Cut =	12.67	feet
Max Depth of Cut =	1.54	feet
Load per trip =	30	c.y.

Using a 1 foot depth of cut, distance required to load 30 c.y.
Distance = 0.0121 miles

Emissions per Trip EF(1) = 0.2446 lb/trip

(2) Ripping operations by dozer prior to scraper loading material

Emission Factor (Table 11.9-1, AP-42, 1995):

EF(2) = [(1.0)(s^1.5)/(M^1.4)](K) lb/hour

where:

s = Silt Loading (percent):	see table below
M = Moisture content surface material (percent):	see table below
K =Particle size multiplier (dimensionless)	0.75

EF(2) =

DOZER			
Soil Type	Silt Content(%)	Moisture content(%)	PM10 Emission Rate (lb/hour)
Topsoil	7.5	15	0.35
Overburden	5	15	0.19
Aggregate	5	15	0.19

(3) Scrapers traveling on Haul Roads

Emission Factor (Section 13.2.2, AP-42, 1995):

EF(3) = K(5.9)(s/12)(S/30)[(W/3)^0.7][(w/4)^0.5][(365-p)/365] lb/vehicle mile traveled (VMT)

where:

s = Silt Loading (percent):	see table below	
S = Mean Vehicle Speed (mph):	5	
W = Mean Vehicle Weight (tons)	see table below	(Caterpillar 1995)
w= Number of Wheels	4	(Caterpillar 1995)
p = Number of Days > 0.01 in. Precipitation:	0	(recommended when considering effects of dust control measures)
K=Particle size multiplier (dimensionless)	0.36	

EF(3) =

SCRAPER					
Soil type	Silt content(%)	Loaded Vehicle(tons)	Empty Vehicle(tons)	Mean Vehicle Weight (tons)	Mean PM10 Emission Rate (lb/VMT)
Topsoil	7.5	115.39	73.4	94.39	2.47
Overburden	5	94.81	73.39	84.1	1.52
Aggregate	5	94.81	73.39	84.10	1.52

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	352.	1.4	.0	.4	.0	.0	.0	.1	.0	.3
2. NW	97.	1.4	.0	.1	.0	.1	.0	.1	.0	.1
3. SW	82.	1.1	.0	.0	.0	.0	.0	.0	.0	.4
4. NE	262.	1.2	.0	.3	.0	.0	.0	.1	.0	.0
5. ES mdblk	279.	1.1	.0	.0	.0	.0	.0	.0	.0	.6
6. WN mdblk	96.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	83.	.8	.0	.0	.0	.0	.0	.0	.2	.0
8. EN mdblk	262.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	355.	.8	.2	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	168.	.9	.0	.2	.0	.3	.0	.3	.0	.0
11. SW mdblk	6.	.7	.0	.0	.0	.0	.2	.0	.0	.0
12. NE mdblk	189.	1.0	.0	.6	.0	.0	.0	.1	.0	.0
13. ES blk	278.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	.9	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.7	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.6	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	172.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.5	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	1.0	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 3. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
	*	LINK COORDINATES (M)				*					
A. ChiquellaNBA	*	7	-150	7	0	*	AG	344	3.2	.0	10.0
B. ChiquellaNBD	*	7	0	7	150	*	AG	0	3.2	.0	10.0
C. ChiquellaNBL	*	5	-150	0	0	*	AG	150	3.2	.0	10.0
D. ChiquellaSBA	*	0	150	0	0	*	AG	0	3.2	.0	10.0
E. ChiquellaSBD	*	0	0	0	-150	*	AG	338	3.2	.0	10.0
F. ChiquellaSBL	*	-2	150	0	0	*	AG	0	3.2	.0	10.0
G. Pico CanyEBA	*	-150	-5	0	-5	*	AG	2476	3.2	.0	13.5
H. Pico CanyEBD	*	0	-5	150	-5	*	AG	2720	3.2	.0	11.8
I. Pico CanyEBL	*	-150	-2	0	0	*	AG	0	3.2	.0	10.0
J. Pico CanyWBA	*	150	9	0	9	*	AG	1633	3.2	.0	13.5
K. Pico CanyWBD	*	0	9	-150	9	*	AG	1783	3.2	.0	13.5
L. Pico CanyWBL	*	150	5	0	0	*	AG	238	3.2	.0	10.0
M. ChiquellaNBA	*	7	-750	7	-150	*	AG	494	3.2	.0	10.0
N. ChiquellaNBD	*	7	150	7	750	*	AG	0	3.2	.0	10.0
O. ChiquellaSBA	*	0	750	0	150	*	AG	0	3.2	.0	10.0
P. ChiquellaSBD	*	0	-150	0	-750	*	AG	338	3.2	.0	10.0
Q. Pico CanyEBA	*	-750	-5	-150	-5	*	AG	2476	3.2	.0	13.5
R. Pico CanyEBD	*	150	-5	750	-5	*	AG	2720	3.2	.0	11.8
S. Pico CanyWBA	*	750	9	150	9	*	AG	1871	3.2	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	278.	1.6	.0	.0	.0	.0	.0	.0	.8	.2
2. NW	98.	1.2	.0	.0	.0	.0	.0	.0	.0	.2
3. SW	82.	1.5	.0	.0	.0	.0	.0	.0	.0	.8
4. NE	98.	1.2	.0	.0	.0	.0	.0	.0	.0	.2
5. ES mdblk	278.	1.6	.0	.0	.0	.0	.0	.0	.0	1.0
6. WN mdblk	98.	1.3	.0	.0	.0	.0	.0	.0	.2	.1
7. WS mdblk	83.	1.4	.0	.0	.0	.0	.0	.0	.9	.1
8. EN mdblk	262.	1.3	.0	.0	.0	.0	.0	.0	.1	.2
9. SE mdblk	349.	.5	.2	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	178.	.3	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	11.	.5	.0	.0	.0	.0	.2	.0	.0	.0
12. NE mdblk	182.	.3	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	277.	1.6	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	262.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	353.	.5	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	179.	.1	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	.5	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	180.	.1	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	84.	.5	.0	.0	.0	.0	.0	.0	.0	.2
2. NW	96.	.6	.0	.0	.0	.0	.0	.0	.0	.1
3. SW	84.	.5	.0	.0	.0	.0	.0	.0	.0	.2
4. NE	264.	.6	.0	.0	.0	.0	.0	.0	.1	.0
5. ES mdblk	276.	.5	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	96.	.6	.0	.0	.0	.0	.0	.0	.1	.0
7. WS mdblk	84.	.5	.0	.0	.0	.0	.0	.0	.2	.0
8. EN mdblk	264.	.5	.0	.0	.0	.0	.0	.0	.0	.1
9. SE mdblk	359.	.1	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	172.	.3	.0	.0	.0	.0	.0	.1	.0	.0
11. SW mdblk	1.	.1	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	189.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	276.	.6	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	.6	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	84.	.5	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	.6	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	359.	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.3	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	360.	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.3	.0	.0	.0	.0	.0	.0	.0	.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	3. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. ChiquellaNBA	0	-120	0	0	AG	0	2.8	.0	10.0
B. ChiquellaNBD	0	0	0	150	AG	214	2.8	.0	10.0
C. ChiquellaNBL	2	-120	0	0	AG	0	2.8	.0	10.0
D. ChiquellaSBA	0	120	0	0	AG	80	2.8	.0	10.0
E. ChiquellaSBD	0	0	0	-150	AG	0	2.8	.0	10.0
F. ChiquellaSBL	-2	120	0	0	AG	148	2.8	.0	10.0
G. The Old REBA	-120	-5	0	-5	AG	426	2.8	.0	10.0
H. The Old REBD	0	-5	150	-5	AG	574	2.8	.0	10.0
I. The Old REBL	-120	-5	0	0	AG	70	2.8	.0	10.0
J. The Old RWBA	120	2	0	2	AG	750	2.8	.0	10.0
K. The Old RWBD	0	2	-150	2	AG	686	2.8	.0	10.0
L. The Old RWBL	120	2	0	0	AG	0	2.8	.0	10.0
M. ChiquellaNBA	0	-750	0	-150	AG	0	2.8	.0	10.0
N. ChiquellaNBD	0	150	0	750	AG	214	2.8	.0	10.0
O. ChiquellaSBA	0	750	0	150	AG	228	2.8	.0	10.0
P. ChiquellaSBD	0	-150	0	-750	AG	0	2.8	.0	10.0
Q. The Old REBA	-750	-5	-150	-5	AG	496	2.8	.0	10.0
R. The Old REBD	150	-5	750	-5	AG	574	2.8	.0	10.0
S. The Old RWBA	750	2	150	2	AG	750	2.8	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Lyons Canyon
RUN: 2015 Interim (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	83.	.5	.0	.0	.0	.0	.0	.0	.0	.2
2. NW	97.	.6	.0	.0	.0	.0	.0	.0	.0	.1
3. SW	83.	.5	.0	.0	.0	.0	.0	.0	.0	.2
4. NE	263.	.5	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	277.	.5	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	96.	.5	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	277.	.4	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	97.	.5	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	359.	.1	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	1.	.1	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	354.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	276.	.5	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	.5	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	84.	.5	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	.5	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	360.	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.3	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	1.	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.3	.0	.0	.0	.0	.0	.0	.0	.0

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APPENDIX C

CONSTRUCTION EMISSIONS SPREADSHEET

FUGITIVE PM10 EMISSION FACTORS

(I) POTENTIAL SOURCES:

Fugitive PM10 emissions result from the following sources:

(1) Scraper loading
(2) Ripping operations by dozer prior to scraper loading material
(3) Scrapers traveling on Haul Roads
(4) Dumping of material
(5) Road and other maintenance using a grader
(6) Redistribution of material with a dozer/compactor
(7) Wind erosion of disturbed areas.

(II) EMISSION FACTORS AND ASSUMPTIONS:

(1) Scraper Loading

Emission Factor (Table 13.2.3-1, AP-42, 1995):

E = 20.2 lb/VMT

From Caterpillar Performance Handbook

Width of Cut =	12.67	feet
Max Depth of Cut =	1.54	feet
Load per trip =	30	c.y.

Using a 1 foot depth of cut, distance required to load 30 c.y.
Distance = 0.0121 miles

Emissions per Trip EF(1) = 0.2446 lb/trip

(2) Ripping operations by dozer prior to scraper loading material

Emission Factor (Table 11.9-1, AP-42, 1995):

EF(2) = [(1.0)(s^1.5)/(M^1.4)](K) lb/hour

where:

s = Silt Loading (percent):	see table below
M = Moisture content surface material (percent):	see table below
K =Particle size multiplier (dimensionless)	0.75

EF(2) =

DOZER			
Soil Type	Silt Content(%)	Moisture content(%)	PM10 Emission Rate (lb/hour)
Topsoil	7.5	15	0.35
Overburden	5	15	0.19
Aggregate	5	15	0.19

(3) Scrapers traveling on Haul Roads

Emission Factor (Section 13.2.2, AP-42, 1995):

EF(3) = K(5.9)(s/12)(S/30)[(W/3)^0.7][(w/4)^0.5][(365-p)/365] lb/vehicle mile traveled (VMT)

where:

s = Silt Loading (percent):	see table below	
S = Mean Vehicle Speed (mph):	5	
W = Mean Vehicle Weight (tons)	see table below	(Caterpillar 1995)
w= Number of Wheels	4	(Caterpillar 1995)
p = Number of Days > 0.01 in. Precipitation:	0	(recommended when considering effects of dust control measures)
K=Particle size multiplier (dimensionless)	0.36	

EF(3) =

SCRAPER					
Soil type	Silt content(%)	Loaded Vehicle(tons)	Empty Vehicle(tons)	Mean Vehicle Weight (tons)	Mean PM10 Emission Rate (lb/VMT)
Topsoil	7.5	115.39	73.4	94.39	2.47
Overburden	5	94.81	73.39	84.1	1.52
Aggregate	5	94.81	73.39	84.10	1.52

(4) Dumping of topsoil using scraper

Emission Factor (Section 13.2.4.3, AP-42, 1995)

EF(4)=(K)(0.0032)[(U/5)^1.3]/[M/2)^1.4]lb/ton

where:

K =Particle size multiplier (dimensionless)	0.35	
U = Mean Wind Speed (mph)	7.3	(McClellan AFB, 1939 to1972, DWR 1978)
M = Material Moisture content (percent)	see table below	

EF(4) =

SCRAPER		
Soil type	Moisture content(%)	PM10 Emission Rate (lb/ton)
Topsoil	15	0.0001
Overburden	15	0.0001
Aggregate	15	0.0001

(5) Redistribution of material with a grader

Emission Factor (Table 11.9-1, AP-42, 1995):

EF(5) =(0.051)(S^2)(K) lb/VMT

where:

S = Mean vehicle speed (mph)	5	(assumed)
K = Particle size multiplier (dimensionless)	0.6	

EF(5) = 0.77 lb/VMT

(6) Redistribution of material with a dozer/compactor

Emission Factor (Table 11.9-1, AP-42, 1995):

EF(6) = Same emission factor and calculation as EF(2)

(7) Wind erosion of disturbed areas

Emission Factor (SCAQMD Table A9-9-E):

EF(8) = (1.7)(s/1.5)[(365-p)/235](I/15)(W) lb/acre-day

where:

s = Silt Loading (percent):	see table below	(Teichert 1996)
p = Number of days >= 0.01 in. precip/yr:	0	(recommended when considering effects of dust control measures)
I = Percent time WS > 12 mph (5.4 m/sec):	14	(McClellan AFB, 1939 to1972, DWR 1978)
W = PM10 fraction:	0.5	(SCAQMD Table A9-9-E)

EF(8) = see table below

WIND EROSION		
DISTURBED AREA	Silt content(%)	PM10 Emission Rate (lb/acre-day)
QUARRY	5	4.11
OVERBURDEN DISPOSAL	5	4.11
RECLAMATION	5	4.11