Scientific Resources Associated

May 16, 2013

Mr. Dennis Campbell
Land Use and Environmental Planner
County of San Diego
Department of Planning and Land Use
5510 Overland Avenue, Suite 310
San Diego, CA 92123

RE: Addendum: Rancho Cielo – SPA 3813 05-004, EA 3910-86-06-0268, TM 3100-5441
24 Single-Family Dwelling Unit Development Plan

Dear Mr. Campbell:

Scientific Resources Associated (SRA) has reviewed the current proposal for the Rancho Cielo project, which replaces the originally proposed 42-unit condominium project with a 24-unit single-family residential development.

The original air quality analysis was prepared in 2007, and concluded that no significant impacts would result from construction or operation of the project. The analysis was based on construction of 38 condominium units, and relied on default trip generation rates, energy use, and emissions based on the URBEMIS Model. It was assumed that the project would commence operation in 2008.

The main source of air emissions for the project would be attributable to vehicle trips. The default trip generation rates analyzed in the original air quality analysis assumed that the project would generate 10 trips per dwelling unit, for a total of 380 average daily trips. SANDAG's trip generation recommendations for single-family trip generation rates for a density of 1-2 dwelling units per acre is 12 trips per dwelling unit.[1] With 24 single-family dwelling units proposed for the project, the trip generation rate would decrease to 288 trips. Furthermore, emissions have decreased from 2008 levels due to phase-out of older vehicles and more stringent emission standards for newer vehicles; therefore the emission factors from the EMFAC model indicate that emissions per mile would be lower in 2013 and would continue to decrease with time.

[1] SANDAG. 2002. *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*. April.

Additional energy efficiency measures have been implemented, including adoption of more stringent Title 24 energy efficiency standards. These standards would reduce the amount of indirect emissions anticipated from energy use, further reducing emissions from the project.

Accordingly, based on my review of the approved air quality analysis and the currently proposed site plan, impacts would be less than calculated in the air quality analysis, and the conclusions of the analysis would be unchanged.

Sincerely,

Valorie L. Thompson, Ph.D.
Principal

1328 Kaimalino Lane *San Diego, CA 92109* *(858) 488-2987*

Air Quality Technical Report

for the

Rancho Cielo Specific Plan Amendment
SPA05-004
TM5440; TM5441; TM5442
R05-010; R05-011; STP05-043; STP05-044

Submitted To:

Helix Environmental Planning, Inc.
Attention: Tim Belzman
8100 La Mesa Blvd., Suite 150
La Mesa, CA 91941

Prepared By:

Scientific Resources Associated
1328 Kaimalino Lane
San Diego, CA 92109

February 14, 2007~~13, 2006~~

Prepared by: Valorie J. Thompson

Table of Contents

1.0 Introduction 1
2.0 Existing Conditions ..... 2~~1~~
2.1 Existing Setting ..... 2~~1~~
2.2 Climate and Meteorology ..... 2~~1~~
2.3 Regulatory Setting ..... 3~~1~~
2.4 Background Air Quality ..... 8~~1~~
2.5 Impacts from R.E. Badger Water Filtration Plant ..... 9~~1~~
3.0 Thresholds of Significance ..... 10~~1~~
4.0 Impacts ..... 13~~1~~
4.1 Construction ..... 14~~1~~
4.2 Operational Impacts ..... 18~~1~~
4.3 Odors ..... 22~~1~~
5.0 Cumulative Impacts ..... 22~~1~~
6.0 Conclusions and Recommendations ..... 24~~1~~
7.0 References ..... 26~~1~~

RANCHO CIELO SPECIFIC PLAN AMENDMENT; 3813-05-004 (SPA); 3100-5440 (TM); 3600-05-010 (R); 3500-05-043 (STP); 3100-5441 (TM); 3600-05-011 (R); 3500-05-044 (STP); LOG 86-06-026B: ADDENDUM TO THE Air Quality Technical Report FOR THE RANCHO CIELO SPECIFIC PLAN AMENDMENT AND TENTATIVE MAPS

The attached report titled "Air Quality Technical Report for Rancho Ciel Specific Plan Amendment SPA 005-004, TM 5440, TM 5441, TM 5442, R05-010, R05-011, STP05-043, STP05-044" prepared by Scientific Resources Associated dated 02.14.2007, analyzes the impacts of implementation of Specific Plan Amendment and three associated residential subdivisions in accordance with the California Environmental Quality Act (CEQA). Since the completion of the report, the project description has been revised to: 1) increase the number of dwelling units in TM 5440 from 9 to 11; 2) increase the number of dwelling units in TM 5441 from 29 to 31; and 3) delete TM 5442, a three-lot subdivision. The analysis of the property assumed greater site disturbance, than that of the proposed project. The grading limits were maintained in TM 5440 and 5441 even though there is a net increase of four dwelling units between the two lots. Therefore, the reduction of the three-lots does not affect the findings, conclusions, or recommended mitigation measures contained in the report. Accordingly, the report provides an adequate analysis pursuant to CEQA and the County of San Diego Guidelines for Determining Significance.

AMENDED PROJECT DESCRIPTION

The proposed project represents the seventh amendment to the Rancho Cielo Specific Plan in response to the reclassification of three parcels, the deletion of a water reclamation facility and reclaimed water reservoirs and changing the implementation of the Village Estates areas.

Changing the Classifications of Three Parcels

The first reclassification involves the water reclamation facility site that is currently classified as WR in the Specific Plan. The new classification will be CE, Country Estates. The water reservoir site will also be reclassified as CR, Community Recreation. The third reclassification involves changing the VC or Village Center site to VE, Village Estate.

TM 5440

The Village Center site would be reclassified to Village Estate, reflecting a change in the proposed use. The area would be subdivided into one parcel for 11 condominium units. The southern portion of this parcel includes an existing open space easement that would not be affected by the proposed reclassification. The area between the northern edge of the existing open space and southern edge of the development or Zone B brush management area, which ever extends further south, will be dedicated as open space.

TM 5441

The Village Estate site ("H") would be subdivided into one parcel for 31 condominium purposes. The thirty-one condominium units will be constructed over the eastern portion of the site. The existing open space easement will be slightly altered.

Water Reclamation Facility Site

TM 5442 has been withdrawn and this parcel is not being proposed for subdivision.

Changing the Implementation of the Village Estates Areas

The major use permit requirements within the Village Estates areas will be deleted. A major use permit was previously required by a "P" Special Area Regulation, which is a part of the zoning of RV-3, Variable Family Residential Use Regulation. The "P" Special Area Regulation symbolizes a planned development. The applicant is no longer proposing a planned development.

A "D" Special Area Designator will be added to the zoning of both Village Estate sites. Changing the "P" Special Area Regulation to a "D" Special Area Regulation will require approvals of two Rezones. The "D" Special Area Designator will require approvals of two site plans to verify conformance with the design of the other development within the Rancho Cielo Project.

1.0 Introduction

This report presents an assessment of potential air quality impacts associated with the proposed Rancho Cielo Specific Plan Amendment in the unincorporated County of San Diego in the North County Metropolitan Subregional planning area. The evaluation addresses the potential for air emissions during construction and after full buildout of the project, including an assessment of the potential for CO "hot spots" to form due to traffic associated with the proposed project.

The Rancho Cielo Specific Plan area is located within the unincorporated County of San Diego. The study area is located between Del Dios Highway and Elfin Forest Road/Harmony Grove Road, east of Rancho Santa Fe. The proposed Rancho Cielo Specific Plan Amendment involves a change in designation for a parcel from a water reclamation facility to three residential lots with a minimum lot size of 1 acre, a change in designator from a Village Center to multi-family residential development, and change in designation of a reclaimed water reservoir to an open space area. The project applicant proposes three separate tentative maps. The first subdivision, TM 5440, proposes to divide a parcel into two lots, one with a 9-unit condominium development and the other with a common area. This parcel is located in the southwest corner of the intersection of Via Ambiente and El Brazo. The second subdivision, TM 5441, proposed would divide a single parcel into five lots, of which three would consist of a total of 29 condominium units and the fourth and fifth lots would be open space lots. These parcels are located in the northwest corner of the intersection of Via Ambiente and El Brazo. The third subdivision, TM 5442, is a project for three estate lots. Existing water reclamation settling ponds, jointly owned by the Santa Fe Irrigation District and the San Dieguito Water District, are located directly north of the project site.

Figure 1 presents a map showing the project location. Figure 1 also shows the location of sensitive receptors (i.e., existing residential areas) relative to the proposed project.

This report presents an evaluation of existing conditions in the project vicinity, an assessment of potential impacts associated with project construction and operation, an evaluation of impacts associated with project-generated traffic, and a discussion of cumulative impacts.

2.0 Existing Conditions

2.1 Existing Setting

The land on which the project is proposed is currently undeveloped. As stated above, there are existing water reclamation settling ponds, jointly owned by the Santa Fe Irrigation District and the San Dieguito Water District, to the north of the proposed TM5442 project site.

2.2 Climate and Meteorology

The project site is located in the San Diego Air Basin (SDAB). The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. Figure 2 provides a graphic representation of the prevailing winds in the project vicinity, as measured at the San Diego Air Pollution Control District's (APCD's) Escondido Monitoring Station (the closest meteorological monitoring station to the site). The high pressure cell also creates two types of temperature inversions that may act to degrade local air quality.

Subsidence inversions occur during the warmer months as descending air associated with the Pacific high pressure cell comes into contact with cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce ozone, commonly known as smog.

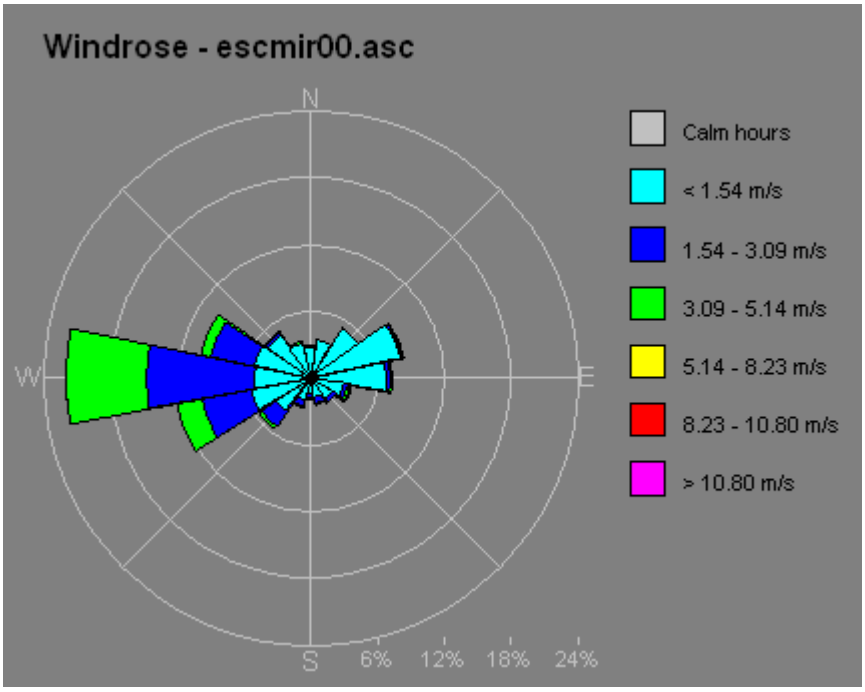

Figure 2. Wind Rose – Escondido Monitoring Station

2.3 Regulatory Setting

Air quality is defined by ambient air concentrations of specific pollutants identified by the United States Environmental Protection Agency (USEPA) to be of concern with respect to health and welfare of the general public. The USEPA is responsible for enforcing the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several pollutants (called "criteria" pollutants). Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere.

In September 1997, the EPA promulgated 8-hour O_3 and 24-hour and annual $PM_{2.5}$ national standards (particulate matter less than 2.5 microns in diameter). However, due to a lawsuit in May 1999, the United States District Court rescinded these standards and the EPA's authority to enforce them. Subsequent to an appeal of this decision by the EPA, the United States Supreme

Court upheld these standards in February 2001. As a result, this action has initiated a new planning process to monitor and evaluate emission control measures for these pollutants. The EPA is moving forward to develop policies to implement these standards.

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. The California Air Resources Board (ARB) has established the more stringent California Ambient Air Quality Standards (CAAQS) for the six criteria pollutants through the California Clean Air Act of 1988, and also has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are considered to be "nonattainment areas" for that pollutant. In December 2002, the APCD submitted a maintenance plan for the 1-hour NAAQS for O_3 and requested redesignation from a serious O_3 nonattainment area to attainment. As of July 28, 2003, the San Diego Air Basin has been reclassified as an attainment area for the 1-hour NAAQS for O_3. On April 15, 2004, the SDAB was designated a basic nonattainment area for the 8-hour NAAQS for O_3. The SDAB is in attainment for the NAAQS for all other criteria pollutants. The SDAB is currently classified as a nonattainment area under the CAAQS for O_3 and PM_{10}.

The ARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The ARB is responsible for the development, adoption, and enforcement of the state's motor vehicle emissions program, as well as the adoption of the CAAQS. The ARB also reviews operations and programs of the local air districts, and requires each air district with jurisdiction over a nonattainment area to develop its own strategy for achieving the NAAQS and CAAQS. The local air district has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations. The APCD is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County.

The APCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, and most recently in 2004. The RAQS outlines APCD's plans and control measures designed to attain the state air quality standards for O_3. The APCD has also developed the air basin's input to the SIP, which is required under the Federal Clean Air Act for areas that are out of attainment of air quality standards. The SIP includes the APCD's plans and control measures for attaining the O_3 NAAQS. The SIP is also updated on a triennial basis. The latest SIP update was submitted by the ARB to the EPA in 1998. The attainment schedule in the SIP called for the SDAB to attain the NAAQS for O_3 by 1999. The San Diego APCD has determined that the SDAB has achieved its O_3 attainment goal, and has applied to the EPA for redesignation as an O_3 attainment area. As of July 28, 2003, the SDAB has been redesignated as an O_3 attainment area for the one-hour NAAQS for ozone; however, as discussed below, the SDAB has been designated as a basic nonattainment area for the new 8-hour NAAQS for ozone.

The RAQS relies on information from ARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The ARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of the County's General Plan. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS. In the event that a project would propose development which is less dense than anticipated within the general plan, the project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the general plan and SANDAG's growth projections, the project might be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin.

The SIP also includes rules and regulations that have been adopted by the APCD to control emissions from stationary sources. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for O_3.

Table 1 presents a summary of the ambient air quality standards adopted by the federal and California Clean Air Acts.

Table 1
AMBIENT AIR QUALITY STANDARDS

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS		NATIONAL STANDARDS		
		Concentration	Method	Primary	Secondary	Method
Ozone	1 hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	0.12 ppm (235 µg/m^3)	0.12 ppm (235 µg/m^3)	Ethylene Chemiluminescence
	8 hour	0.07 ppm[1] (137 µg/m^3)		0.08 ppm (157 µg/m^3)	0.08 ppm (157 µg/m^3)	
Carbon Monoxide	8 hours	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
Nitrogen Dioxide (NO_2)	Annual Average	--	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	0.053 ppm (100 µg/m^3)	Gas Phase Chemiluminescence
	1 hour	0.25 ppm (470 µg/m^3)		--	--	
Sulfur Dioxide (SO_2)	Annual Average	--	Ultraviolet Fluorescence	0.03 ppm (80 µg/m^3)	--	Pararosaniline
	24 hours	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	--	
	3 hours	--		--	0.5 ppm (1300 µg/m^3)	
	1 hour	0.25 ppm (655 µg/m^3)		--	--	
Respirable Particulate Matter (PM_{10})	24 hours	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	150 µg/m^3	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		50 µg/m^3	50 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3	--	Inertial Separation and Gravimetric Analysis
	24 hours	--		65 µg/m^3	--	
Sulfates	24 hours	25 µg/m^3	Ion Chromatography	--	--	--
Lead	30-day Average	1.5 µg/m^3	Atomic Absorption	--	--	Atomic Absorption
	Calendar Quarter	--		1.5 µg/m^3	1.5 µg/m^3	
Hydrogen Sulfide Vinyl Chloride	24 hours	0.010 ppm (26 µg/m^3)	Gas Chromatography	--	--	--

ppm= parts per million
µg/m^3 = micrograms per cubic meter
mg/m^3= milligrams per cubic meter
Source: California Air Resources Board September 2005
[1]The 8-hour CAAQS for ozone was approved by the ARB on April 28, 2005 and is anticipated to become effective in early 2006.

2.4 Background Air Quality

The APCD operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring stations to the project site are the Escondido East Valley Parkway station, and the San Diego 12th Avenue station (which is the closest station that measures SO_2). Because both the Escondido and San Diego 12th Avenue monitoring stations are located in areas where there is substantial traffic congestion, it is likely that pollutant concentrations measured at those monitoring stations are higher than concentrations that would be observed or measured in the Project area, and would thus provide a conservative estimate of background ambient air quality. Ambient concentrations of pollutants over the last three years are presented in Table 2.

Air quality has shown improvement in the San Diego Air Basin such that the 1-hour federal ozone standard has only been exceeded once at the Escondido monitoring station (in 2001). The federal 8-hour ozone standard, which was formally adopted in 2001 after legal arguments with the EPA, was exceeded at the Escondido monitoring station once in 2001. Due to measured exceedances at other monitoring stations, however, the SDAB was classified as nonattainment for the 8-hour NAAQS for O_3. The federal 24-hour PM_{10} standard was exceeded once at the Escondido monitoring station in 2003; however, the exceedance occurred during the Cedar Fire event in San Diego County. The federal annual $PM_{2.5}$ standard was exceeded in 2001 and 2002. Likewise, the Escondido monitoring station measured high short-term levels of CO and NO_2 in 2003 during the Cedar Fire event. The Escondido monitoring station measured exceedances of the state PM_{10} and $PM_{2.5}$ standards during the period from 2001 to 2003. The data from the monitoring stations indicate that air quality is in attainment of all other federal standards.

Concentrations of CO at the Escondido monitoring station tend to be among the highest in the San Diego Air Basin, due to the fact that the monitor is located along East Valley Parkway in a congested area in downtown Escondido. The station sees higher concentrations of CO than have historically been measured elsewhere in San Diego County and the background data are not

likely to be representative of background ambient CO concentrations at the Project site, due to the site's location in a less developed area. Since 2000, CO has not been monitored at other stations in northern San Diego County.

Table 2

Ambient Background Concentrations
(ppm unless otherwise indicated)

Pollutant	Averaging Time	2001	2002	2003	Most Stringent Ambient Air Quality Standard	Monitoring Station
Ozone	8 hour	0.098	0.081	0.083	0.08	Escondido
	1 hour	0.141	0.100	0.105	0.09	Escondido
PM_{10}	Annual	30.6 µg/m^3	25.1 µg/m^3	32.7 µg/m^3	20 µg/m^3	Escondido
	24 hour	74 µg/m^3	51 µg/m^3	179 µg/m^3	50 µg/m^3	Escondido
$PM_{2.5}$	Annual	17.5 µg/m^3	16.0 µg/m^3	14.2 µg/m^3	12 µg/m^3	Escondido
	24 hour	60 µg/m^3	53.6 µg/m^3	69.2 µg/m^3	65 µg/m^3	Escondido
NO_2	Annual	0.020	0.021	0.020	0.053	Escondido
	1 hour	0.088	0.084	0.135	0.25	Escondido
CO	8 hour	5.11	3.85	10.64	9.0	Escondido
	1 hour	8.5	8.5	12.7	20	Escondido
SO_2	Annual	0.003	0.003	0.005	80	San Diego
	24 hour	0.010	0.007	0.008	105	San Diego
	3 hour	0.036	0.015	0.019	1300[1]	San Diego
	1 hour	0.052	0.028	0.036	655	San Diego

[1]Secondary NAAQS

Source: www.arb.ca.gov/aqd/aqd.htm (Measurements of all pollutants at Escondido-E Valley Parkway station, except SO_2)
www.epa.gov/air/data/monvals.html (1-hour and 3-hour SO_2 and 1-hour CO)

2.5 Impacts from R.E. Badger Water Filtration Plant

The project involves development of TM 5442 into three estate lots. The three estate lots are located directly south of existing~~, but currently inactive,~~ settling ponds. ~~Because the settling ponds are currently inactive, there are no existing odor or air quality issues associated with the ponds.~~ The project is located south of the R.E. Badger Water Filtration Plant, which is jointly owned by the Santa Fe Irrigation District and the San Dieguito Water District. The Water Filtration Plant is designed to treat raw water from Lake Hodges and Lake Skinner, and is not involved in the treatment of wastewater. The plant provides treated water to the communities of Rancho Santa Fe, Solana Beach, Fairbanks Ranch, Encinitas, Cardiff, and Leucadia. Because

the plant treats raw water, there are no odor sources associated with water filtration plant operations or the existing settling ponds; the raw water does not contain appreciable amounts of wastes or treat wastewater that could contain substances that would generate odors such as hydrogen sulfide. The ~~; however, the~~ plant utilizes chlorine in its water treatment processes. A catastrophic release of chlorine could pose a risk to nearby receptors. The facility is required by the County of San Diego Hazardous Materials Management Division to maintain a Release Management Plan to address measures in place to reduce the risk of a release of chlorine, and to respond in the event of a release, in accordance with the requirements of the California Accidental Release Program.

3.0 Thresholds of Significance

In the absence of formally adopted thresholds, the County of San Diego uses Appendix G.III of the State CEQA Guidelines which provides guidance that a project would have a significant environmental impact if it would:

1. Conflict or obstruct the implementation of the San Diego Regional Air Quality Strategy (RAQS) or applicable portions of the State Implementation Plan (SIP);
2. Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation;
3. Result in a cumulatively considerable net increase of PM_{10} or exceed quantitative thresholds for O_3 precursors, oxides of nitrogen (NO_X) and volatile organic compounds (VOCs);
4. Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations; or
5. Create objectionable odors affecting a substantial number of people.

The County of San Diego recognizes the San Diego Air Pollution Control District's established screening level thresholds for air quality emissions (Rules 20.1 et seq.) as screening-level thresholds for land development projects. As stated above, projects that propose development that is consistent with the growth anticipated by the general plans and with growth forecasts

developed by SANDAG for the applicable major statistical area (MSA) would be consistent with the RAQS and SIP. Also, projects that are consistent with the SIP rules (i.e., the federally-approved rules and regulations adopted by the APCD) are consistent with the SIP. Thus projects would be required to conform with measures adopted in the RAQS (including use of low-VOC architectural coatings, use of low-NO_x water heaters, and compliance with rules and regulations governing stationary sources) and would also be required to comply with all applicable rules and regulations adopted by the APCD.

To determine whether a project would (a) result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation; or (b) result in a cumulatively considerable net increase of PM_{10} or exceed quantitative thresholds for O_3 precursors, oxides of nitrogen (NO_X) and volatile organic compounds (VOCs), project emissions may be evaluated based on the quantitative emission thresholds established by the San Diego APCD. As part of its air quality permitting process, the APCD has established thresholds in Rule 20.2 for the preparation of Air Quality Impact Assessments (AQIA).

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality. Since the APCD does not have AQIA thresholds for emissions of VOCs, the use of the threshold for VOCs from the CEQA Air Quality Handbook for the South Coast Air Quality Management District (SCAQMD), which has stricter standards for emissions of VOCs than San Diego, is appropriate. The screening thresholds are included Table 3.

In the event that emissions exceed these thresholds, modeling would be required to demonstrate that the project's total air quality impacts result in ground-level concentrations that are below the State and Federal Ambient Air Quality Standards, including appropriate background levels. For nonattainment pollutants (ozone, with ozone precursors NO_x and VOCs) and PM_{10}, if emissions exceed the thresholds shown in Table 3, the project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

Table 3 SCREENING-LEVEL CRITERIA FOR AIR QUALITY IMPACTS			
Pollutant	Total Emissions		
Construction Emissions			
	Lb. per Day		
Respirable Particulate Matter (PM_{10})	100		
Oxides of Nitrogen (NO_x)	250		
Oxides of Sulfur (SO_x)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOCs)[1]	75		
Operational Emissions			
	Lb. Per Hour	Lb. per Day	Tons per Year
Respirable Particulate Matter (PM_{10})	---	100	15
Oxides of Nitrogen (NO_x)	25	250	40
Oxides of Sulfur (SO_x)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOC)[2]	---	55	10[2]

[1]Threshold for VOCs based on the threshold of significance for reactive organic gases for the South Coast Air Basin (SCAB) from Chapter 6 of the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993), as the County of San Diego Department of Planning and Land Use believes the meteorological data associated with the project to be characteristic of the South Coast Air Basin. Threshold for construction is 75 lbs/day, for operation is 55 lbs/day per the SCAQMD CEQA Air Quality Handbook.
[2]10 Tons Per Year threshold based on 55 lbs/day multiplied by 365 days/year and divided by 2000 lbs/ton.

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as toxic air contaminants (TACs) or Hazardous Air Pollutants (HAPs). In San Diego County, the County Department of Planning and Land Use identifies an excess cancer risk level of 1 in 1 million or less for projects that do not implement Toxics Best Available Control Technology (T-BACT), and an excess cancer risk level of 10 in 1 million or less for projects that do implement T-BACT. The significance threshold for non-cancer health effects is a health hazard index of one or less. These significance thresholds are consistent with the San Diego Air Pollution Control District's Rule 1210 requirements for stationary sources. If a project has the potential to result in emissions of any TAC or HAP which result in a cancer risk of greater than 1 in 1 million without T-BACT, 10 in

1 million with T-BACT, or health hazard index of one or more, the project would be deemed to have a potentially significant impact.

With regard to evaluating whether a project would have a significant impact on sensitive receptors, air quality regulators typically define sensitive receptors as schools (Preschool-12th Grade), hospitals, resident care facilities, or day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. Any project which has the potential to directly impact a sensitive receptor located within 1 mile and results in a health risk greater than the risk significance thresholds discussed above would be deemed to have a potentially significant impact.

Section 6318 of the San Diego County Zoning Ordinance requires all commercial and industrial uses "be operated as not to emit matter causing unpleasant odors which is perceptible by the average person at or beyond any lot line of the lot containing said uses." Section 6318 goes on to further provide specific dilution standards that must be met "at or beyond any lot line of the lot containing the uses." APCD Rule 51 (Public Nuisance) also prohibits emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health or safety of any person. A project that proposes a use which would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

The impacts associated with construction and operation of the project were evaluated for significance based on these significance criteria.

4.0 Impacts

The proposed Rancho Cielo Specific Plan Amendment would include both construction and operational impacts. Construction impacts would include emissions associated with the construction of the project, and would be relatively short-term in nature. Operational impacts would include emissions associated with the project, including traffic, at full buildout, and would continue for the life of the project.

4.1 Construction

Emissions of pollutants such as fugitive dust and heavy equipment exhaust that are generated during construction would generally be highest near the construction site. Because specific construction equipment requirements are not known at this time, emissions from the construction phase of the project were estimated using the URBEMIS2002 model. Construction equipment estimates are provided in Table 4.

Table 4
Construction Heavy Equipment Requirements

Construction Phase	Equipment	Number	Months
Grading and Site Preparation	Dozers	1	1.2
	Backhoe Loaders	1	
Residence Inn Building Construction	Rough-Terrain Forklifts	1	10.2
	Concrete/Industrial Saws	1	
	Other Construction Equipment	1	
Asphalt Paving	Graders	1	0.5
	Paver	1	
	Rollers	1	

Table 5 provides a summary of the emission estimates for each individual construction phase of the proposed project. Refer to Appendix A for URBEMIS2002 model outputs.

Table 5
Estimated Construction Emissions
Rancho Cielo Specific Plan Amendment Construction

Emission Source	CO	ROC	NOx	SOx	PM_{10}
Total Construction Emissions, lbs/day					
Site Grading and Preparation					
Fugitive Dust	-	-	-	-	2.69
Off-Road Diesel	30.66	4.31	34.45	-	1.59
Worker Trips	0.76	0.04	0.07	0.00	0.00
TOTAL	**31.42**	**4.35**	**34.52**	**0.00**	**4.28**
Screening-Level Thresholds	550	75	250~~100~~	250	100
Above Screening-Level Thresholds?	*No*	*No*	*No*	*No*	*No*
Building Construction					
Building Construction Off-road Diesel	43.94	6.02	46.64	-	2.11
Building Construction Worker Trips	1.32	0.10	0.06	0.00	0.02
Architectural Coatings Off-Gas	-	19.39	-	-	-
Architectural Coatings Worker Trips	1.32	0.10	0.06	0.00	0.02
Asphalt Off-Gas	-	0.14	-	-	-
Asphalt Off-Road Diesel	33.99	4.00	24.60	-	0.95
Asphalt On-Road Diesel	0.12	0.03	0.68	0.01	0.01
Asphalt Worker Trips	0.33	0.02	0.03	0.00	3.12
TOTAL	**81.03**	**29.81**	**72.05**	**0.01**	**5.77**
Screening-Level Thresholds	550	75	250~~100~~	250~~150~~	100~~150~~
Above Screening-Level Thresholds?	*No*	*No*	*No*	*No*	*No*
Total Construction Emissions, tons/year					
Emission Source	**CO**	**ROC**	**NOx**	**SOx**	**PM_{10}**
Site Grading and Preparation	0.45	0.06	0.49	0.00	0.25
Building Construction	5.45	1.00	5.60	0.00	1.79
TOTAL	**5.90**	**1.06**	**6.09**	**0.00**	**2.04**

In accordance with the San Diego County Grading Ordinance, Section 87.428, dust control measures must be implemented for all grading projects taking place in the County of San Diego. The Grading Ordinance requires that:

> "All clearing and grading shall be carried out with dust control measures adequate to prevent creation of a nuisance to persons or public or private property. Clearing, grading or improvement plans shall require that measures such as the following be undertaken to achieve this result: watering, application of surfactants, shrouding, control of vehicle speeds, paving of access areas, or other operational or technological measures to reduce dispersion of dust."

These measures constitute best management practices for dust control. The SCAQMD's Air Quality Handbook, Table 11-4, provides control efficiencies to estimate the efficiency of the dust control measures required by the Grading Ordinance. Best management practices to reduce the

amount of fugitive dust generated from construction of the proposed project, and their respective control efficiencies (based on control efficiencies provided in the SCAQMD CEQA Air Quality Handbook, Table 11-4), include the following:

- Multiple applications of water during grading between dozer/scraper passes – 34-68%
- Paving, chip sealing or chemical stabilization of internal roadways after completion of grading – 92.5%
- Use of sweepers or water trucks to remove "track-out" at any point of public street access – 25-60%
- Termination of grading if winds exceed 25 mph – not quantified
- Stabilization of dirt storage piles by chemical binders, tarps, fencing or other erosion control – 30-65%
- Hydroseeding of graded residential lots – 30-65%
- Use of low-sulfur diesel fuel in construction equipment

Although it was assumed that all of the above dust control measures would be implemented, to model the most conservative construction estimates, only application of water during grading was taken into consideration when applying a control efficiency on particulate emissions. It was also assumed that a speed limit of 15 mph would be enforce on unpaved surfaces during construction.

During the maximum daily construction scenario, emissions of all criteria pollutants would be below the screening-level thresholds. Emissions during construction would therefore not be significant.

To evaluate whether project construction could pose a significant impact to nearby sensitive receptors, an evaluation of diesel exhaust particulate matter was conducted. Diesel exhaust particulate matter is known to the state of California as carcinogenic compounds. The risks associated with exposure to substances with carcinogenic effects are typically evaluated based on a lifetime of chronic exposure, which is defined in the California Office of Environmental Health Hazard Assessment (OEHHA) guidelines, *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2003a) as 24 hours per day, 7 days per week, 365 days per year, for 70 years. Diesel exhaust particulate matter would be emitted during construction due to the operation of heavy equipment at the site. Because diesel exhaust

particulate matter is considered to be carcinogenic, long-term exposure to diesel exhaust emissions have the potential to result in adverse health impacts.

To assess whether there is a potential for a significant impact associated with exposure to diesel exhaust particulate matter, a health risk evaluation was conducted on the particulate emissions. The amount of diesel particulate varies with the project schedule and construction phasing. Emissions from heavy equipment for each project phase were estimated as shown in Table 6 below.

Table 6
Diesel Exhaust Particulate Emissions

Construction Phase	Diesel Particulate Emissions, total tons	Months	Emissions, grams/sec
Grading and Site Preparation	0.03	1.2	0.010
Building Construction	0.22	10.2	0.0087
Asphalt Paving	0.01	0.5	0.0034

The construction heavy equipment sources were represented as a point source. The emission source was represented as a point source 10 feet high, with a stack diameter of 6 inches, a stack exit temperature of 300 F, and a stack exit velocity of 1 meters/second, which is considered to be a minimum stack velocity. It was assumed that the equipment would operate for 8 hours per day, 6 days per week.

The nearest existing receptors were located based on the site map and aerial photographs for the project area. Individual receptors were placed at locations representing existing residences, and a grid of receptors was placed in the residential area to the east of the project site next to Lake Hodges. The risk evaluation was conducted to assess the potential for an unacceptable risk at these existing receptors due to exposure to diesel particulate emissions from heavy construction equipment during construction.

The U.S. EPA's approved air dispersion model, ISCST3 (U.S. EPA 1999), was used to estimate the downwind impacts at the closest receptors to the construction site. The model was run using preprocessed meteorological data from the Escondido surface meteorological monitoring station and the MCAS Miramar upper air meteorological monitoring station for 2000. Escondido is closest meteorological monitoring station for which pre-processed surface meteorological data

are available from the San Diego Air Pollution Control District. Risk were estimated using the Office of Environmental Health Hazard Assessment (OEHHA)'s unit risk factor of 3 x 10^{-4} $(\mu g/m^3)^{-1}$ for diesel particulate, which is an upper-bound cancer risk estimate based on 70 years of exposure. Because the unit risk factor is based on 70 years (25550 days) of exposure for 24 hours per day, 365 days per year, the results of the analysis were scaled to account for exposure for the duration of each individual construction phase, as shown in the example calculation below.

Risk = Excess cancer risk for 70 years x (31.2 days/25550 days).

Based on the above equation, the maximum excess cancer risk predicted would be 0.020 in a million. This value is two orders of magnitude below the County of San Diego's significance threshold of 1 in 1 million without application of T-BACT. Thus the risks associated with exposure to diesel particulate from construction equipment would be less than significant.

Project construction could result in minor amounts of odor compounds associated with diesel heavy equipment exhaust; however, because the construction equipment would be operating at various locations throughout the construction site, and because any operation near existing receptors would be temporary, impacts associated with odors during construction are not considered significant.

4.2 Operational Impacts

The main operational impacts associated with the Project would include impacts associated with traffic as well as impacts associated with area sources such as energy use, landscaping, and the use of fireplaces at the residences.

Project-generated traffic was addressed in the Rancho Cielo Specific Plan Traffic Impact Analysis that was prepared in 1981. According to the applicant, traffic generated would not be changed from the predicted traffic in the Specific Plan. Based on the Traffic Impact Analysis, at full buildout the total number of trips that would be generated by the Rancho Cielo Specific Plan

would be 9,852 average daily trips (ADT), including 6,404 trips to Escondido/I-15 via Del Dios Highway, 2,463 trips to La Jolla/I-5, 788 trips to Rancho la Costa/beaches via Elfin Forest Road, and 197 trips to Escondido via Harmony Grove Road. Based on the trip generation rates used in the Traffic Impact Analysis, assuming 10 daily trips per dwelling unit, for the 38 dwelling units covered by the Rancho Cielo Specific Plan Amendment a total of 380 ADT would be generated.

To estimate emissions associated with Project-generated traffic, the EMFAC2002 model (ARB 2002) was used. The EMFAC2002 model is the latest version of the Caltrans emission factor model for on-road traffic. Because the proposed Project is a residential development, Project-related traffic was assumed to be comprised of light duty autos and light duty trucks (i.e., small trucks, SUVs, and vans). Based recommendations in the Caltrans ITS Transportation Project-Level Carbon Monoxide Protocol (Caltrans 1998), Appendix B, Page B-3, it was assumed that the vehicle mix, when distributed between light duty autos and light duty trucks, would be 78% light duty autos and 22% light duty trucks. [This assumption was based on Table B.2, Recommended Vehicle Type Distribution, of the Caltrans ITS Transportation Project-Level Carbon Monoxide Protocol, assuming that light duty autos (69% of total vehicle distribution) and light duty trucks (19.4% of total vehicle distribution) comprised 100% of the total vehicle distribution; therefore, light duty autos comprise 69%/(69%+19.4%) or 78%, and light duty trucks comprise 19.4%/(69%+19.4%) or 22% of total vehicles accessing the residential development.] For estimating emission factors associated with light duty autos and light duty trucks, it was assumed that these vehicles would be a mix of non-catalytic, catalytic, and diesel vehicles as indicated in the EMFAC2002 outputs. For conservative purposes, emission factors representing the vehicle mix for 2008 were used to estimate emissions; based on the results of the EMFAC2002 model for subsequent years, emissions would decrease on an annual basis from 2008 onward due to phase-out of higher polluting vehicles and implementation of more stringent emission standards that are taken into account in the EMFAC2002 model. Vehicle speed was assumed to be 27 miles per hour, based on a speed limit of 30 miles per hour in the residential development, and utilizing the recommended average cruise speed in Appendix B of the Caltrans ITS Transportation Project-Level Carbon Monoxide Protocol, Table B.10, Average Cruise Speed as a Function of Arterial Classification and Free-Flow Speed, for a minor arterial, suburban. The average vehicle miles traveled was assumed to be approximately 33.4 miles, based on the

average distance to Escondido (4.37 miles each way), La Jolla (31 miles each way), and Encinitas (14.75 miles each way) that would be traveled from the Rancho Cielo project as discussed in the Traffic Impact Analysis.

Operational impacts associated with energy use were estimated based on the SCAQMD's emission factors for residential use. To estimate emissions associated with the use of fireplaces in the residences, it was assumed that each residence would have a wood-burning fireplace. The fireplaces would not be used for heating purposes, but rather for aesthetics. According to the U.S. EPA (http://www.epa.gov/ttn/chief/eiip/techreport/volume09/firplc3.pdf), the average amount of wood burned annual for aesthetics per household is 0.069 cords/year. Based on the U.S. EPA's AP-42 emission factors (U.S. EPA 1995), the emissions associated with fireplace wood burning were estimated. Landscaping emissions were calculated using the URBEMIS2002 model. Operational emission calculations and URBEMIS2002 model outputs are provided in Appendix A.

The results of the emission calculations, in lbs/day and tons/year, are summarized in Table 7, along with emissions associated with area sources and a comparison with the County of San Diego significance criteria. The EMFAC2002 model outputs are presented in Appendix A.

Table 7
TOTAL OPERATIONAL EMISSIONS

	CO	**VOC**	**NO_x**	**SO_x**	**PM_{10}**
	Lbs/day				
Residential Energy Use Emissions	1.27E-04	6.46E-06	7.28E-04	-	2.55E-05
Fireplace Wood Burning	3.63	1.56	0.0374	0.497	0.00575
Landscaping	0.62	0.09	0.01	0.00	0.00
Vehicular Emissions	25.75	2.65	1.59	0.01	0.08
TOTAL	**30.00**	**4.30**	**1.64**	**0.50**	**0.086**
Screening-Level Thresholds	550	55	250	250	100
Above Thresholds?	*No*	*No*	*No*	*No*	*No*
	Tons/year				
Residential Energy Use Emissions	2.31E-05	1.18E-06	1.33E-04	-	4.65E-06
Fireplace Wood Burning	0.662	0.284	0.00682	0.0907	0.00105
Landscaping	0.06	0.01	0.00	0.00	0.00
Vehicular Emissions	4.70	0.48	0.29	0.00	0.02
TOTAL	**5.42**	**0.77**	**0.30**	**0.09**	**0.02**
Screening-Level Thresholds	100	10	40	100	15
Above Thresholds?	*No*	*No*	*No*	*No*	*No*

Based on the estimates of the emissions associated with project operations, the emissions of all criteria pollutants associated with project operations would be below the screening-level thresholds. Emissions from operation of the Rancho Cielo Specific Plan Amendment would therefore be less than significant.

Projects involving traffic impacts may result in the formation of locally high concentrations of CO, known as CO "hot spots." To verify that the project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO "hot spots" was conducted. The Traffic Impact Analysis evaluated whether or not there would be a decrease in the level of service at the roadways and/or intersections affected by the Project. The potential for CO "hot spots" was evaluated based on the results of the Traffic Impact Analysis. The Caltrans ITS Transportation Project-Level Carbon Monoxide Protocol (Caltrans 1998) should be followed to determine whether a CO "hot spot" is likely to form due to Project-generated traffic. In accordance with the Protocol, CO "hot spots" are typically evaluated when (a) the level of service (LOS) of an intersection or roadway decreases to a LOS E or worse; (b) signalization and/or channelization is added to an intersection; and (c) sensitive receptors such as residences, commercial developments, schools, hospitals, etc. are located in the vicinity of the affected intersection or roadway segment.

According to the Traffic Impact Analysis prepared for the 1981 Environmental Impact Report, and the letter report prepared by Willdan Associates for the Supplemental EIR (Willdan 1984), the Rancho Cielo Specific Plan would not cause an adverse traffic-related impacts. Thus the project would not degrade the LOS; therefore the Rancho Cielo Specific Plan Amendment would not result in a CO "hot spot" due to project-related traffic.

Vehicular traffic may result in minor amounts of toxic air contaminants (TACs). Based on the County of San Diego's requirements, a quantitative evaluation of the potential for risks associated with exposure to diesel particulate emissions generated by vehicles from the proposed residences must be conducted. Based on EMFAC2002 outputs for 2008 (provided in Appendix A) and considering only light duty autos and light duty trucks, the total percentage of trips for diesel light duty autos is approximately 0.1 percent, and the total percentage of trips for diesel

light duty trucks is approximately 0.2 percent. Therefore, there would be approximately 1 light-duty auto trip per day and 1 light-duty truck trip per day out of the 380 project-related trips that would be attributable to diesel vehicles. Total daily emissions of diesel particulate were calculated to be 0.00005 lbs/day. Emission calculations are included in Appendix A. The emissions of diesel particulate are therefore estimated to be 0.000000262 grams per second.

Potential impacts to sensitive receptors were evaluated based on the South Coast Air Quality Management District's "Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions" (SCAQMD 2002). According to the Guidance, the ISCST3 model should be used to estimate impacts associated with diesel particulate exhaust emissions. Representing the diesel emission source as a volume source at the location of the Rancho Cielo Specific Plan Amendment, and using the ISCST3 model, the maximum concentration was predicted to be 0.000000168 $\mu g/m^3$. Multiplying this concentration by the diesel particulate unit risk factor of 3×10^{-4}, the estimated excess cancer risk is 0.0000000000505, or 0.00005 in a million, which is well below the significant risk threshold of 1 in 1 million without application of T-BACT. Thus the project would not result in a significant health risk due to diesel powered vehicles.

4.3 Odors

During construction, diesel equipment operating at the site could generate some nuisance odors; however, due to the distance of sensitive receptors to the project site and the temporary nature of construction, odors associated with project construction would not be significant.

Odors are not generally associated with residential land uses; thus the project would not be associated with odor impacts. As discussed above, the R.E. Badger Water Filtration Plant would not be a source of odors impacts to the project because it treats only raw water and does not handle wastewater.

5.0 Cumulative Impacts

In analyzing cumulative impacts from a proposed project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the San Diego Air Basin is listed as "non-attainment" for the State AAQS. A project that has a significant impact on air quality with regard to emissions of PM_{10}, NO_x and/or VOCs as determined by the screening criteria outlined above would have a significant cumulative effect. In the event direct impacts from a project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions from the project, in combination with the emissions from other proposed, or reasonably foreseeable future projects are in excess of screening levels identified above, and the project's contribution accounts for more than an insignificant proportion of the cumulative total emissions.

With regard to past and present projects, the background ambient air quality, as measured at the monitoring stations maintained and operated by the San Diego Air Pollution Control District, measures the concentrations of pollutants from existing sources. Past and present project impacts are therefore included in the background ambient air quality data. To address cumulative projects, a list of projects proposed within 0.75 miles of the project site were identified. The majority of these projects are part of the Rancho Cielo Specific Plan. The projects listed in Table 8 are planned or reasonably foreseeable and are subject to CEQA.

Table 8
Cumulative Projects

Project	Project Number	Description
PLAN AMENDMENT AUTHORIZATION	98-02	RANCHO CIELO
SITE PLAN	05-043	RANCHO CIELO
SITE PLAN	05-044	RANCHO CIELO
REZONE	05-010	RANCHO CIELO
REZONE	05-011	RANCHO CIELO
SPECIFIC PLAN - AMENDMENT	05-004	RANCHO CIELO
TENTATIVE MAP	5146	RANCHO CIELO
TENTATIVE MAP	4909	RANCHO CIELO - 96 Dwelling Units
TENTATIVE MAP	4909	RANCHO CIELO MADERA - 23 Lots
TENTATIVE MAP	5456	RANCHO CIELO - 17 Lots
TENTATIVE MAP	5058	RANCHO CIELO Lusardi - 13 Lots
TENTATIVE MAP	5093	RANCHO CIELO
MINOR USE PERMIT	00-129	TELECOM CELL SITE
TENTATIVE MAP	5204	Oakrose Ranch - 14 Lots

PM_{10} emissions associated with construction generally result in near-field impacts. As shown in the construction emissions evaluation above in Section 2.0, the emissions of PM_{10} are below the significance levels. According to the Project Description and Figure 1.6-1, fourteen projects are within one mile of the Rancho Cielo Project and could be constructed at the same time as the Project. These projects are shown in Table 8.

With regard to cumulative impacts associated with ozone precursors, in general, provided a project is consistent with the community and general plans, it has been accounted for in the ozone attainment demonstration contained within the State Implementation Plan and would not cause a cumulatively significant impact on the ambient air quality for ozone. The project is located in the North County East Major Statistical Area. The projected housing growth from 2000 to 2030 is 54,251 housing units for the Major Statistical Area. The project is proposing to construct an additional 38 housing units, which would comprise only 0.07 percent of the total projected housing growth in the North County East Major Statistical Area. The project would be consistent with the growth forecasts for the region and would therefore be in conformity with the RAQS and SIP. Despite the fact that the project is proposing denser development than accounted for in the current Specific Plan and therefore in the SIP, emissions associated with the project have been accounted for in the growth projections for the Major Statistical Area and would thus not result in a cumulatively significant impact on the ambient air quality.

The planned or reasonably foreseeable projects were generally accounted for in the Traffic Impact Analysis, and were therefore considered in the evaluation of CO "hot spots." Based on the CO "hot spots" evaluation, a cumulative impact associated with traffic emissions is not anticipated.

6.0 Conclusions and Recommendations

In summary, the proposed project would result in emissions of air pollutants for both the construction phase and operational phase of the project. The air quality impact analysis

evaluated the potential for adverse impacts to the ambient air quality due to construction and operational emissions. Construction emissions would include emissions associated with fugitive dust, heavy construction equipment and construction workers commuting to and from the site. The emissions associated with construction are above the significance criteria for the maximum construction scenario and would therefore pose a significant, but temporary, impact on the ambient air quality during construction. Measures that are incorporated into the project description to reduce impacts associated with construction include the following:

- Multiple applications of water during grading between dozer/scraper passes
- Paving, chip sealing or chemical stabilization of internal roadways after completion of grading
- Use of sweepers or water trucks to remove "track-out" at any point of public street access
- Termination of grading if winds exceed 25 mph
- Stabilization of dirt storage piles by chemical binders, tarps, fencing or other erosion control
- Hydroseeding of graded residential lots
- Reduction of idling times for construction equipment
- Use of low-sulfur fuels as required by the ARB by 2007

These measures constitute best management practices for dust control and feasible measures to reduce impacts from construction equipment exhaust. Despite implementation of these measures to reduce emissions associated with construction, the construction impacts would remain temporarily significant.

Operational emissions would be associated with traffic accessing the Rancho Cielo development, and with area sources such as fireplaces, energy use, and landscaping. The potential for impacts was evaluated based the procedures set forth in the Caltrans ITS Transportation Project-Level Carbon Monoxide Protocol to screen projects for the potential for CO "hot spots." Based on the evaluation of air emissions, the project emissions would not exceed the County's screening-level thresholds for emissions. Further evaluation indicates that the project would not cause a CO "hot spot"; thus, impacts associated with emissions of CO would not result in a significant impact to the ambient air quality. The project is accounted for in the growth projections for the North County East Major Statistical Area; therefore the project would not pose a cumulatively significant impact on the ambient air quality.

7.0 References

California Air Pollution Control Officers Association. 1993. Air Toxics "Hot Spots" Program Risk Assessment Guidelines.

California Air Resources Board. 1998. Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Appendix III, Part A, Exposure Assessment

California Air Resources Board. 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.

California Air Resources Board. 2002. EMFAC2002 Emissions Model.

California Air Resources Board. 2003. *Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk.* October 9.

California Department of Transportation. 1998. Caltrans ITS Transportation Project-Level Carbon Monoxide Protocol.

California Office of Environmental Health Hazard Assessment. 2003a. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.* August.

Rimpo & Associates. URBEMIS2002 Model.

South Coast Air Quality Management District. 2002. Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions.

U.S. EPA. ISCST3 Air Dispersion Model.

Willdan Associates. 1984. Letter Report, Tony Lettieri, Supplemental Environmental Impact Report. January 9.

Appendix A

Emission Calculations

Modeling Outputs

Page: 1

URBEMIS 2002 For Windows 7.4.2

File Name: <Not Saved>
Project Name: Rancho Cielo SPA
Project Location: San Diego County
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

*** 2006 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	29.81	72.05	81.03	0.01	10.08	3.08	7.00
TOTALS (lbs/day, mitigated)	29.81	72.05	81.03	0.01	5.77	3.08	2.69

Page: 2

URBEMIS 2002 For Windows 7.4.2

File Name: <Not Saved>
Project Name: Rancho Cielo SPA
Project Location: San Diego County
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Tons/Year)

CONSTRUCTION EMISSION ESTIMATES

*** 2006 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (tpy, unmitigated)	1.06	6.09	5.90	0.00	2.28	0.26	0.10
TOTALS (tpy, mitigated)	1.06	6.09	5.90	0.00	2.04	0.26	0.04

Page: 3

URBEMIS 2002 For Windows 7.4.2

File Name: <Not Saved>
Project Name: Rancho Cielo SPA
Project Location: San Diego County
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: January, 2006

Construction Duration: 12
Total Land Use Area to be Developed: 2.5 acres
Maximum Acreage Disturbed Per Day: 0.7 acres
Single Family Units: 3 Multi-Family Units: 38
Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	7.00	-	7.00
Off-Road Diesel	4.31	34.45	30.66	-	1.59	1.59	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.04	0.07	0.76	0.00	0.00	0.00	0.00
Maximum lbs/day	4.35	34.52	31.42	0.00	8.59	1.59	7.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	6.02	46.64	43.94	-	2.11	2.11	0.00
Bldg Const Worker Trips	0.10	0.06	1.32	0.00	0.02	0.00	0.02
Arch Coatings Off-Gas	19.39	-	-	-	-	-	-
Arch Coatings Worker Trips	0.10	0.06	1.32	0.00	0.02	0.00	0.02
Asphalt Off-Gas	0.14	-	-	-	-	-	-
Asphalt Off-Road Diesel	4.00	24.60	33.99	-	0.95	0.95	0.00
Asphalt On-Road Diesel	0.03	0.68	0.12	0.01	0.01	0.01	0.00
Asphalt Worker Trips	0.03	0.02	0.33	0.00	0.00	0.00	0.00
Maximum lbs/day	29.81	72.05	81.03	0.01	3.12	3.08	0.04
Max lbs/day all phases	29.81	72.05	81.03	0.01	10.08	3.08	7.00

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Jan '06
Phase 2 Duration: 1.3 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Rubber Tired Dozers	352	0.590	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Feb '06
Phase 3 Duration: 10.7 months
  Start Month/Year for SubPhase Building: Feb '06
  SubPhase Building Duration: 10.7 months
  Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Concrete/Industrial saws	84	0.730	8.0
2	Other Equipment	190	0.620	8.0
1	Rough Terrain Forklifts	94	0.475	8.0

  Start Month/Year for SubPhase Architectural Coatings: Nov '06
  SubPhase Architectural Coatings Duration: 1.1 months
  Start Month/Year for SubPhase Asphalt: Dec '06
  SubPhase Asphalt Duration: 0.5 months
  Acres to be Paved: 0.6
  Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0

1	Pavers	132	0.590	8.0
1	Rollers	114	0.430	8.0

CONSTRUCTION EMISSION ESTIMATES MITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	2.69	-	2.69
Off-Road Diesel	4.31	34.45	30.66	-	1.59	1.59	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.04	0.07	0.76	0.00	0.00	0.00	0.00
Maximum lbs/day	4.35	34.52	31.42	0.00	4.28	1.59	2.69
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	6.02	46.64	43.94	-	2.11	2.11	0.00
Bldg Const Worker Trips	0.10	0.06	1.32	0.00	0.02	0.00	0.02
Arch Coatings Off-Gas	19.39	-	-	-	-	-	-
Arch Coatings Worker Trips	0.10	0.06	1.32	0.00	0.02	0.00	0.02

Asphalt Off-Gas	0.14	-	-	-	-	-
-						
Asphalt Off-Road Diesel	4.00	24.60	33.99	-	0.95	0.95
0.00						
Asphalt On-Road Diesel	0.03	0.68	0.12	0.01	0.01	0.01
0.00						
Asphalt Worker Trips	0.03	0.02	0.33	0.00	0.00	0.00
0.00						
Maximum lbs/day	29.81	72.05	81.03	0.01	3.12	3.08
0.04						
Max lbs/day all phases	29.81	72.05	81.03	0.01	5.77	3.08
2.69						

Construction-Related Mitigation Measures

Phase 2: Soil Disturbance: Water exposed surfaces - 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 34.0%)
Phase 2: Unpaved Roads: Water all haul roads 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 3.0%)
Phase 2: Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 40.0%)
Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Jan '06
Phase 2 Duration: 1.3 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Rubber Tired Dozers	352	0.590	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Feb '06
Phase 3 Duration: 10.7 months
Start Month/Year for SubPhase Building: Feb '06
SubPhase Building Duration: 10.7 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Concrete/Industrial saws	84	0.730	8.0
2	Other Equipment	190	0.620	8.0
1	Rough Terrain Forklifts	94	0.475	8.0

Start Month/Year for SubPhase Architectural Coatings: Nov '06
SubPhase Architectural Coatings Duration: 1.1 months
Start Month/Year for SubPhase Asphalt: Dec '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 0.6
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Pavers	132	0.590	8.0
1	Rollers	114	0.430	8.0

Page: 5

Page: 6

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Architectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.00461
Architectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.00461
Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 2x daily
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Water all haul roads 2x daily
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
has been changed from off to on.

Page: 7

URBEMIS 2002 For Windows 7.4.2

File Name: <Not Saved>
Project Name: Rancho Cielo SPA
Project Location: San Diego County
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Tons/Year)

Construction Start Month and Year: January, 2006
Construction Duration: 12
Total Land Use Area to be Developed: 2.5 acres
Maximum Acreage Disturbed Per Day: 0.7 acres
Single Family Units: 3 Multi-Family Units: 38
Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (tons/year)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.10	-	0.10
Off-Road Diesel	0.06	0.49	0.44	-	0.03	0.03	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Total tons/year	0.06	0.49	0.45	0.00	0.49	0.03	0.10
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.75	5.46	5.14	-	0.22	0.22	0.00
Bldg Const Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00

Arch Coatings Off-Gas	0.23	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-
Asphalt Off-Road Diesel	0.02	0.14	0.19	-	0.01	0.01
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	1.00	5.60	5.45	0.00	1.79	0.23
Total all phases tons/yr	1.06	6.09	5.90	0.00	2.28	0.26

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Jan '06
Phase 2 Duration: 1.3 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Rubber Tired Dozers	352	0.590	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Feb '06
Phase 3 Duration: 10.7 months
Start Month/Year for SubPhase Building: Feb '06
SubPhase Building Duration: 10.7 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Concrete/Industrial saws	84	0.730	8.0
2	Other Equipment	190	0.620	8.0
1	Rough Terrain Forklifts	94	0.475	8.0

Start Month/Year for SubPhase Architectural Coatings: Nov '06
SubPhase Architectural Coatings Duration: 1.1 months
Start Month/Year for SubPhase Asphalt: Dec '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 0.6
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0

1	Pavers	132	0.590	8.0
1	Rollers	114	0.430	8.0

CONSTRUCTION EMISSION ESTIMATES MITIGATED (tons/year)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00

On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00
0.00						
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00
0.00						
Total tons/year	0.00	0.00	0.00	0.00	0.00	0.00
0.00						

Phase 2 - Site Grading Emissions

Fugitive Dust	-	-	-	-	0.04	-
0.04						
Off-Road Diesel	0.06	0.49	0.44	-	0.03	0.03
0.00						
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00
0.00						
Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00
0.00						
Total tons/year	0.06	0.49	0.45	0.00	0.25	0.03
0.04						

Phase 3 - Building Construction

Bldg Const Off-Road Diesel	0.75	5.46	5.14	-	0.22	0.22
0.00						
Bldg Const Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00
0.00						
Arch Coatings Off-Gas	0.23	-	-	-	-	-
-						
Arch Coatings Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00
0.00						
Asphalt Off-Gas	0.00	-	-	-	-	-
-						
Asphalt Off-Road Diesel	0.02	0.14	0.19	-	0.01	0.01
0.00						
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00
0.00						
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00
0.00						
Total tons/year	1.00	5.60	5.45	0.00	1.79	0.23
0.00						
Total all phases tons/yr	1.06	6.09	5.90	0.00	2.04	0.26
0.04						

Construction-Related Mitigation Measures

Phase 2: Soil Disturbance: Water exposed surfaces - 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 34.0%)
Phase 2: Unpaved Roads: Water all haul roads 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 3.0%)
Phase 2: Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 40.0%)
Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Jan '06
Phase 2 Duration: 1.3 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Rubber Tired Dozers	352	0.590	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Feb '06
Phase 3 Duration: 10.7 months
Start Month/Year for SubPhase Building: Feb '06
SubPhase Building Duration: 10.7 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day

1	Concrete/Industrial saws	84	0.730	8.0
2	Other Equipment	190	0.620	8.0
1	Rough Terrain Forklifts	94	0.475	8.0

Start Month/Year for SubPhase Architectural Coatings: Nov '06
SubPhase Architectural Coatings Duration: 1.1 months
Start Month/Year for SubPhase Asphalt: Dec '06
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 0.6
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Pavers	132	0.590	8.0
1	Rollers	114	0.430	8.0

Page: 9

Page: 10

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Architectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.00461
Architectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.00461
Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 2x daily
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Water all haul roads 2x daily
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
has been changed from off to on.

```
NO ECHO


 BEE-Line ISCST3 "BEEST" Version 8.10

 Input File - C:\Beework\Rancho Cielo Construction HRA.DTA
Output File - C:\Beework\Rancho Cielo Construction HRA.LST
   Met File - C:\MetData\ESCMIR00.ASC


**********************************
*** SETUP Finishes Successfully ***
**********************************
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                  *** Construction
***        10:49:23
**MODELOPTs:
PAGE   1
CONC                        RURAL  ELEV
MSGPRO

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses User-Specified Options:
           1. Final Plume Rise.
           2. Stack-tip Downwash.
           3. Buoyancy-induced Dispersion.
           4. Calms Processing Routine.
           5. Missing Data Processing Routine.
           6. Default Wind Profile Exponents.
           7. Default Vertical Potential Temperature Gradients.

**Model Accepts Receptors on ELEV Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates PERIOD Averages Only

**This Run Includes:     1 Source(s);      2 Source Group(s); and      79 Receptor(s)

**The Model Assumes A Pollutant Type of:  OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and
Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =    10.00 ;    Decay Coef. =    0.000     ;    Rot.
Angle =     0.0
                 Emission Units = GRAMS/SEC                                 ;  Emission
Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =     1.2 MB of RAM.

**Input Runstream File:          C:\Beework\Rancho Cielo Construction HRA.DTA
**Output Print File:             C:\Beework\Rancho Cielo Construction HRA.LST
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        10:49:23
**MODELOPTs:
PAGE   2
CONC                         RURAL  ELEV
MSGPRO


                                                  *** POINT SOURCE DATA ***

             NUMBER EMISSION RATE                    BASE     STACK   STACK    STACK
STACK    BUILDING EMISSION RATE
   SOURCE     PART.  (GRAMS/SEC)     X        Y      ELEV.    HEIGHT  TEMP.   EXIT VEL.
DIAMETER   EXISTS   SCALAR VARY
     ID       CATS.               (METERS) (METERS) (METERS) (METERS) (DEG.K)  (M/SEC)
(METERS)               BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - -

  POINT1        0   0.10000E+01  487000.0 3657500.0   308.6     3.05   422.04     1.00
0.15      NO
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                  *** Construction
***        10:49:23
**MODELOPTs:
PAGE   3
CONC                        RURAL  ELEV
MSGPRO


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID                                                SOURCE IDs


 ALL       POINT1  ,

 POINT1    POINT1  ,
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        10:49:23
**MODELOPTs:
PAGE   4
CONC                         RURAL  ELEV
MSGPRO


                                       *** GRIDDED RECEPTOR NETWORK SUMMARY ***

                                    *** NETWORK ID: GRID1    ;  NETWORK TYPE: GRIDCART ***

                                          *** X-COORDINATES OF GRID ***
                                                    (METERS)

      488500.0,  488550.0,  488600.0,  488650.0,  488700.0,

                                          *** Y-COORDINATES OF GRID ***
                                                    (METERS)

     3658000.0, 3658050.0, 3658100.0, 3658150.0, 3658200.0, 3658250.0, 3658300.0,
3658350.0, 3658400.0, 3658450.0,
     3658500.0, 3658550.0, 3658600.0, 3658650.0, 3658700.0,
```

**MODELOPTs:
PAGE 5
CONC RURAL ELEV
MSGPRO

*** NETWORK ID: GRID1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)				
	488500.00	488550.00	488600.00	488650.00	488700.00
3658700.00	240.40	217.60	189.60	164.80	148.60
3658650.00	213.40	202.10	175.10	154.90	139.90
3658600.00	190.80	185.70	180.50	156.20	136.60
3658550.00	178.30	165.20	167.00	150.40	135.30
3658500.00	166.40	153.90	149.40	143.70	134.10
3658450.00	163.50	150.30	145.00	132.30	123.30
3658400.00	153.00	147.40	135.80	126.30	118.80
3658350.00	146.90	141.10	130.40	123.00	117.00
3658300.00	145.90	139.60	131.10	125.00	120.70
3658250.00	150.80	143.10	137.20	132.10	125.40
3658200.00	152.70	150.90	143.40	138.00	130.10
3658150.00	151.00	145.30	137.50	131.50	124.10
3658100.00	147.10	141.00	133.20	126.50	121.90
3658050.00	145.30	136.90	129.60	125.00	120.10
3658000.00	142.60	135.30	127.70	122.00	116.40

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                  *** Construction
***        10:49:23
**MODELOPTs:
PAGE   6

CONC                         RURAL  ELEV
MSGPRO


                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                            (X-COORD, Y-COORD, ZELEV, ZFLAG)
                                                        (METERS)

    ( 488000.0, 3657600.0,     211.6,       0.0);          ( 488100.0, 3657650.0,
211.9,       0.0);
    ( 488250.0, 3657700.0,     186.0,       0.0);          ( 488400.0, 3657900.0,
146.0,       0.0);
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        10:49:23
**MODELOPTs:
PAGE   7
CONC                        RURAL  ELEV
MSGPRO


                                           *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                               (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1

               NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS
INCLUDED IN THE DATA FILE.


                                 *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
CATEGORIES ***
                                                            (METERS/SEC)

                                                1.54,    3.09,    5.14,    8.23,   10.80,

                                                  *** WIND PROFILE EXPONENTS ***

               STABILITY                            WIND SPEED CATEGORY
               CATEGORY         1              2              3              4
5              6
                  A          .70000E-01     .70000E-01     .70000E-01     .70000E-01
.70000E-01     .70000E-01
                  B          .70000E-01     .70000E-01     .70000E-01     .70000E-01
.70000E-01     .70000E-01
                  C          .10000E+00     .10000E+00     .10000E+00     .10000E+00
.10000E+00     .10000E+00
                  D          .15000E+00     .15000E+00     .15000E+00     .15000E+00
.15000E+00     .15000E+00
                  E          .35000E+00     .35000E+00     .35000E+00     .35000E+00
.35000E+00     .35000E+00
                  F          .55000E+00     .55000E+00     .55000E+00     .55000E+00
.55000E+00     .55000E+00

                                         *** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
                                                    (DEGREES KELVIN PER METER)

               STABILITY                            WIND SPEED CATEGORY
               CATEGORY         1              2              3              4
5              6
                  A          .00000E+00     .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00
```

```
                B          .00000E+00     .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00
                C          .00000E+00     .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00
                D          .00000E+00     .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00
                E          .20000E-01     .20000E-01     .20000E-01     .20000E-01
.20000E-01     .20000E-01
                F          .35000E-01     .35000E-01     .35000E-01     .35000E-01
.35000E-01     .35000E-01
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                  *** Construction
***        10:49:23
**MODELOPTs:
PAGE   8
CONC                        RURAL  ELEV
MSGPRO


                    *** THE FIRST  24 HOURS OF METEOROLOGICAL DATA ***

     FILE:   C:\MetData\ESCMIR00.ASC
     FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
     SURFACE STATION NO.:  72293                    UPPER AIR STATION NO.:   3190
                   NAME: UNKNOWN                                 NAME: UNKNOWN
                   YEAR:   2000                                  YEAR:   2000

             FLOW   SPEED  TEMP  STAB  MIXING HEIGHT (M)  USTAR  M-O LENGTH   Z-0 IPCODE
PRATE
YR MN DY HR VECTOR  (M/S)   (K)  CLASS   RURAL   URBAN    (M/S)     (M)       (M)
(mm/HR)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -

00 01 01 01  286.0   1.00  281.1   5     933.2   829.0    0.0000       0.0  0.0000   0
0.00
00 01 01 02  268.0   1.00  280.1   5     943.5   829.0    0.0000       0.0  0.0000   0
0.00
00 01 01 03  252.0   1.00  281.1   5     953.9   829.0    0.0000       0.0  0.0000   0
0.00
00 01 01 04  236.0   1.00  281.1   5     964.3   829.0    0.0000       0.0  0.0000   0
0.00
00 01 01 05  268.0   1.00  281.1   5     974.7   829.0    0.0000       0.0  0.0000   0
0.00
00 01 01 06  271.0   1.00  281.1   6     985.0   829.0    0.0000       0.0  0.0000   0
0.00
00 01 01 07    0.0   0.00  281.1   5       9.1   831.0    0.0000       0.0  0.0000   0
0.00
00 01 01 08  288.0   1.00  281.1   4     160.4   864.9    0.0000       0.0  0.0000   0
0.00
00 01 01 09  291.0   1.00  282.1   3     311.6   898.7    0.0000       0.0  0.0000   0
0.00
00 01 01 10  272.0   1.00  282.1   3     462.9   932.6    0.0000       0.0  0.0000   0
0.00
00 01 01 11  275.0   1.00  284.1   4     614.2   966.4    0.0000       0.0  0.0000   0
0.00
00 01 01 12  313.0   1.00  285.1   3     765.5  1000.3    0.0000       0.0  0.0000   0
0.00
00 01 01 13   55.0   1.80  285.1   3     916.7  1034.1    0.0000       0.0  0.0000   0
0.00
00 01 01 14   83.0   3.10  284.1   4    1068.0  1068.0    0.0000       0.0  0.0000   0
0.00
00 01 01 15   76.0   3.10  285.1   4    1068.0  1068.0    0.0000       0.0  0.0000   0
0.00
00 01 01 16   81.0   3.10  285.1   4    1068.0  1068.0    0.0000       0.0  0.0000   0
0.00
00 01 01 17   68.0   1.80  285.1   5    1072.3  1080.7    0.0000       0.0  0.0000   0
0.00
00 01 01 18   41.0   1.30  284.1   6    1092.8  1141.1    0.0000       0.0  0.0000   0
0.00
00 01 01 19   20.0   1.00  284.1   6    1113.3  1201.4    0.0000       0.0  0.0000   0
0.00
00 01 01 20   26.0   1.00  284.1   6    1133.9  1261.7    0.0000       0.0  0.0000   0
0.00
00 01 01 21  354.0   1.00  284.1   6    1154.4  1322.0    0.0000       0.0  0.0000   0
0.00
00 01 01 22   53.0   1.30  283.1   6    1174.9  1382.4    0.0000       0.0  0.0000   0
0.00
00 01 01 23   49.0   1.30  282.1   6    1195.4  1442.7    0.0000       0.0  0.0000   0
0.00
```

```
00 01 01 24   67.0   2.20  282.1   5    1215.9  1503.0    0.0000       0.0  0.0000   0
0.00


*** NOTES:  STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
            FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        10:49:23
**MODELOPTs:
PAGE   9
CONC                         RURAL  ELEV
MSGPRO

                              *** THE PERIOD (  8784 HRS) AVERAGE CONCENTRATION   VALUES
FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):      POINT1  ,

                                    *** NETWORK ID: GRID1    ;  NETWORK TYPE: GRIDCART ***

                                        ** CONC OF OTHER    IN MICROGRAMS/M**3
**

   Y-COORD  |                                              X-COORD (METERS)
   (METERS) |     488500.00    488550.00    488600.00    488650.00    488700.00
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

 3658700.00 |       0.26187      0.20666      0.16951      0.15361      0.14860
 3658650.00 |       0.20785      0.19287      0.16774      0.15836      0.15485
 3658600.00 |       0.18750      0.18579      0.18449      0.17030      0.16427
 3658550.00 |       0.18812      0.18133      0.18660      0.17943      0.17537
 3658500.00 |       0.19217      0.18729      0.18844      0.18870      0.18677
 3658450.00 |       0.20523      0.19942      0.19957      0.19524      0.19282
 3658400.00 |       0.21273      0.21203      0.20694      0.20294      0.19934
 3658350.00 |       0.22319      0.22071      0.21411      0.20894      0.20379
 3658300.00 |       0.23522      0.22956      0.22141      0.21433      0.20788
 3658250.00 |       0.24861      0.23829      0.22908      0.22026      0.21034
 3658200.00 |       0.25501      0.24744      0.23443      0.22376      0.21175
 3658150.00 |       0.25375      0.24115      0.22736      0.21623      0.20503
 3658100.00 |       0.24774      0.23473      0.22134      0.21031      0.20212
 3658050.00 |       0.24385      0.22919      0.21726      0.20901      0.20146
 3658000.00 |       0.24071      0.22830      0.21714      0.20900      0.20197
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        10:49:23
**MODELOPTs:
PAGE  10
CONC                         RURAL  ELEV
MSGPRO

                              *** THE PERIOD (  8784 HRS) AVERAGE CONCENTRATION   VALUES
FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):      POINT1  ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                        ** CONC OF OTHER    IN MICROGRAMS/M**3
**

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)   Y-COORD
(M)        CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -
        488000.00    3657600.00        0.63828                      488100.00
3657650.00        0.58514
        488250.00    3657700.00        0.41340                      488400.00
3657900.00        0.26068
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        10:49:23
**MODELOPTs:
PAGE  11
CONC                         RURAL  ELEV
MSGPRO

                              *** THE PERIOD (  8784 HRS) AVERAGE CONCENTRATION   VALUES
FOR SOURCE GROUP: POINT1   ***
                                   INCLUDING SOURCE(S):      POINT1  ,

                                    *** NETWORK ID: GRID1    ;  NETWORK TYPE: GRIDCART ***

                                        ** CONC OF OTHER    IN MICROGRAMS/M**3
**
```

Y-COORD (METERS)	X-COORD (METERS) 488500.00	488550.00	488600.00	488650.00	488700.00
3658700.00	0.26187	0.20666	0.16951	0.15361	0.14860
3658650.00	0.20785	0.19287	0.16774	0.15836	0.15485
3658600.00	0.18750	0.18579	0.18449	0.17030	0.16427
3658550.00	0.18812	0.18133	0.18660	0.17943	0.17537
3658500.00	0.19217	0.18729	0.18844	0.18870	0.18677
3658450.00	0.20523	0.19942	0.19957	0.19524	0.19282
3658400.00	0.21273	0.21203	0.20694	0.20294	0.19934
3658350.00	0.22319	0.22071	0.21411	0.20894	0.20379
3658300.00	0.23522	0.22956	0.22141	0.21433	0.20788
3658250.00	0.24861	0.23829	0.22908	0.22026	0.21034
3658200.00	0.25501	0.24744	0.23443	0.22376	0.21175
3658150.00	0.25375	0.24115	0.22736	0.21623	0.20503
3658100.00	0.24774	0.23473	0.22134	0.21031	0.20212
3658050.00	0.24385	0.22919	0.21726	0.20901	0.20146
3658000.00	0.24071	0.22830	0.21714	0.20900	0.20197

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                  *** Construction
***        10:49:23
**MODELOPTs:
PAGE  12
CONC                         RURAL  ELEV
MSGPRO

                              *** THE PERIOD (  8784 HRS) AVERAGE CONCENTRATION   VALUES
FOR SOURCE GROUP: POINT1   ***
                                   INCLUDING SOURCE(S):      POINT1  ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                        ** CONC OF OTHER    IN MICROGRAMS/M**3
**

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)   Y-COORD
(M)        CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
        488000.00    3657600.00        0.63828                      488100.00
3657650.00        0.58514
        488250.00    3657700.00        0.41340                      488400.00
3657900.00        0.26068
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        10:49:23
**MODELOPTs:
PAGE  13
CONC                         RURAL  ELEV
MSGPRO

                                          *** THE SUMMARY OF MAXIMUM PERIOD (  8784 HRS)
RESULTS ***


                                       ** CONC OF OTHER    IN MICROGRAMS/M**3
**


NETWORK
GROUP ID                        AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV,
ZFLAG)   OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - -

ALL      1ST HIGHEST VALUE IS       0.63828 AT (  488000.00,  3657600.00,    211.60,
0.00)  DC      NA
         2ND HIGHEST VALUE IS       0.58514 AT (  488100.00,  3657650.00,    211.90,
0.00)  DC      NA
         3RD HIGHEST VALUE IS       0.41340 AT (  488250.00,  3657700.00,    186.00,
0.00)  DC      NA
         4TH HIGHEST VALUE IS       0.26187 AT (  488500.00,  3658700.00,    240.40,
0.00)  GC   GRID1
         5TH HIGHEST VALUE IS       0.26068 AT (  488400.00,  3657900.00,    146.00,
0.00)  DC      NA
         6TH HIGHEST VALUE IS       0.25501 AT (  488500.00,  3658200.00,    152.70,
0.00)  GC   GRID1
         7TH HIGHEST VALUE IS       0.25375 AT (  488500.00,  3658150.00,    151.00,
0.00)  GC   GRID1
         8TH HIGHEST VALUE IS       0.24861 AT (  488500.00,  3658250.00,    150.80,
0.00)  GC   GRID1
         9TH HIGHEST VALUE IS       0.24774 AT (  488500.00,  3658100.00,    147.10,
0.00)  GC   GRID1
        10TH HIGHEST VALUE IS       0.24744 AT (  488550.00,  3658200.00,    150.90,
0.00)  GC   GRID1

POINT1   1ST HIGHEST VALUE IS       0.63828 AT (  488000.00,  3657600.00,    211.60,
0.00)  DC      NA
         2ND HIGHEST VALUE IS       0.58514 AT (  488100.00,  3657650.00,    211.90,
0.00)  DC      NA
         3RD HIGHEST VALUE IS       0.41340 AT (  488250.00,  3657700.00,    186.00,
0.00)  DC      NA
         4TH HIGHEST VALUE IS       0.26187 AT (  488500.00,  3658700.00,    240.40,
0.00)  GC   GRID1
         5TH HIGHEST VALUE IS       0.26068 AT (  488400.00,  3657900.00,    146.00,
0.00)  DC      NA
         6TH HIGHEST VALUE IS       0.25501 AT (  488500.00,  3658200.00,    152.70,
0.00)  GC   GRID1
         7TH HIGHEST VALUE IS       0.25375 AT (  488500.00,  3658150.00,    151.00,
0.00)  GC   GRID1
         8TH HIGHEST VALUE IS       0.24861 AT (  488500.00,  3658250.00,    150.80,
0.00)  GC   GRID1
         9TH HIGHEST VALUE IS       0.24774 AT (  488500.00,  3658100.00,    147.10,
0.00)  GC   GRID1
        10TH HIGHEST VALUE IS       0.24744 AT (  488550.00,  3658200.00,    150.90,
0.00)  GC   GRID1


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        10:49:23
**MODELOPTs:
PAGE  14
CONC                        RURAL  ELEV
MSGPRO


*** Message Summary : ISCST3 Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            3 Warning Message(s)
A Total of          281 Informational Message(s)

A Total of          195 Calm Hours Identified

A Total of           86 Missing Hours Identified


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
MX W410  8175 METQA :Flow Vector Out-of-Range.   KURDAT=                00120615
MX W420  8175 METQA :Wind Speed Out-of-Range.   KURDAT=                 00120615
MX W430  8175 METQA :Ambient Temperature Data Out-of-Range.  KURDAT=    00120615

   ***********************************
   *** ISCST3 Finishes Successfully ***
   ***********************************
```

Table A-1

Rancho Cielo Health Risk Calculations

Table A-2

Table A-3

Table A-4

Table A-5

```
NO ECHO


 BEE-Line ISCST3 "BEEST" Version 8.10

 Input File - C:\Beework\Rancho Cielo Operation HRA.DTA
Output File - C:\Beework\Rancho Cielo Operation HRA.LST
   Met File - C:\MetData\ESCMIR00.ASC


**********************************
*** SETUP Finishes Successfully ***
**********************************
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                  *** Construction
***        11:33:35
**MODELOPTs:
PAGE   1
CONC                        RURAL  ELEV
MSGPRO

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses User-Specified Options:
           1. Final Plume Rise.
           2. Stack-tip Downwash.
           3. Buoyancy-induced Dispersion.
           4. Calms Processing Routine.
           5. Missing Data Processing Routine.
           6. Default Wind Profile Exponents.
           7. Default Vertical Potential Temperature Gradients.

**Model Accepts Receptors on ELEV Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates PERIOD Averages Only

**This Run Includes:     1 Source(s);      2 Source Group(s); and      79 Receptor(s)

**The Model Assumes A Pollutant Type of:  OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and
Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =    10.00 ;    Decay Coef. =    0.000     ;    Rot.
Angle =     0.0
                 Emission Units = GRAMS/SEC                                 ;  Emission
Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =     1.2 MB of RAM.

**Input Runstream File:          C:\Beework\Rancho Cielo Operation HRA.DTA
**Output Print File:             C:\Beework\Rancho Cielo Operation HRA.LST
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                  *** Construction
***        11:33:35
**MODELOPTs:
PAGE   2
CONC                        RURAL  ELEV
MSGPRO


                                                  *** VOLUME SOURCE DATA ***

             NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
EMISSION RATE
   SOURCE     PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
SCALAR VARY
     ID       CATS.               (METERS) (METERS) (METERS) (METERS) (METERS) (METERS)
BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - -

  POINT1        0   0.10000E+01  487000.0 3657500.0   308.6     3.05    10.00     3.00
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                  *** Construction
***        11:33:35
**MODELOPTs:
PAGE   3
CONC                        RURAL  ELEV
MSGPRO


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID                                                 SOURCE IDs


 ALL       POINT1  ,

 POINT1    POINT1  ,
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        11:33:35
**MODELOPTs:
PAGE   4
CONC                         RURAL  ELEV
MSGPRO


                                       *** GRIDDED RECEPTOR NETWORK SUMMARY ***

                                  *** NETWORK ID: GRID1    ;  NETWORK TYPE: GRIDCART ***

                                         *** X-COORDINATES OF GRID ***
                                                   (METERS)

      488500.0,  488550.0,  488600.0,  488650.0,  488700.0,

                                         *** Y-COORDINATES OF GRID ***
                                                   (METERS)

     3658000.0, 3658050.0, 3658100.0, 3658150.0, 3658200.0, 3658250.0, 3658300.0,
3658350.0, 3658400.0, 3658450.0,
     3658500.0, 3658550.0, 3658600.0, 3658650.0, 3658700.0,
```

*** NETWORK ID: GRID1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 488500.00	488550.00	488600.00	488650.00	488700.00
3658700.00	240.40	217.60	189.60	164.80	148.60
3658650.00	213.40	202.10	175.10	154.90	139.90
3658600.00	190.80	185.70	180.50	156.20	136.60
3658550.00	178.30	165.20	167.00	150.40	135.30
3658500.00	166.40	153.90	149.40	143.70	134.10
3658450.00	163.50	150.30	145.00	132.30	123.30
3658400.00	153.00	147.40	135.80	126.30	118.80
3658350.00	146.90	141.10	130.40	123.00	117.00
3658300.00	145.90	139.60	131.10	125.00	120.70
3658250.00	150.80	143.10	137.20	132.10	125.40
3658200.00	152.70	150.90	143.40	138.00	130.10
3658150.00	151.00	145.30	137.50	131.50	124.10
3658100.00	147.10	141.00	133.20	126.50	121.90
3658050.00	145.30	136.90	129.60	125.00	120.10
3658000.00	142.60	135.30	127.70	122.00	116.40

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                  *** Construction
***        11:33:35
**MODELOPTs:
PAGE   6
CONC                         RURAL  ELEV
MSGPRO


                                            *** DISCRETE CARTESIAN RECEPTORS ***
                                              (X-COORD, Y-COORD, ZELEV, ZFLAG)
                                                          (METERS)

    ( 488000.0, 3657600.0,     211.6,       0.0);          ( 488100.0, 3657650.0,
211.9,       0.0);
    ( 488250.0, 3657700.0,     186.0,       0.0);          ( 488400.0, 3657900.0,
146.0,       0.0);
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        11:33:35
**MODELOPTs:
PAGE   7
CONC                       RURAL  ELEV
MSGPRO


                                           *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                               (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1

               NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS
INCLUDED IN THE DATA FILE.


                                 *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
CATEGORIES ***
                                                            (METERS/SEC)

                                                1.54,    3.09,    5.14,    8.23,   10.80,


                                                   *** WIND PROFILE EXPONENTS ***


               STABILITY                           WIND SPEED CATEGORY
               CATEGORY          1              2              3              4
5              6
                  A          .70000E-01     .70000E-01     .70000E-01     .70000E-01
.70000E-01     .70000E-01
                  B          .70000E-01     .70000E-01     .70000E-01     .70000E-01
.70000E-01     .70000E-01
                  C          .10000E+00     .10000E+00     .10000E+00     .10000E+00
.10000E+00     .10000E+00
                  D          .15000E+00     .15000E+00     .15000E+00     .15000E+00
.15000E+00     .15000E+00
                  E          .35000E+00     .35000E+00     .35000E+00     .35000E+00
.35000E+00     .35000E+00
                  F          .55000E+00     .55000E+00     .55000E+00     .55000E+00
.55000E+00     .55000E+00


                                              *** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***

                                                     (DEGREES KELVIN PER METER)


               STABILITY                           WIND SPEED CATEGORY
               CATEGORY          1              2              3              4
5              6
```

```
                A          .00000E+00     .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00
                B          .00000E+00     .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00
                C          .00000E+00     .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00
                D          .00000E+00     .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00
                E          .20000E-01     .20000E-01     .20000E-01     .20000E-01
.20000E-01     .20000E-01
                F          .35000E-01     .35000E-01     .35000E-01     .35000E-01
.35000E-01     .35000E-01
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                  *** Construction
***        11:33:35
**MODELOPTs:
PAGE   8
CONC                        RURAL  ELEV
MSGPRO


                    *** THE FIRST  24 HOURS OF METEOROLOGICAL DATA ***

     FILE:   C:\MetData\ESCMIR00.ASC
     FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
     SURFACE STATION NO.:  72293                    UPPER AIR STATION NO.:   3190
                   NAME: UNKNOWN                                  NAME: UNKNOWN
                   YEAR:   2000                                   YEAR:   2000

             FLOW   SPEED  TEMP  STAB  MIXING HEIGHT (M)  USTAR  M-O LENGTH   Z-0 IPCODE
PRATE
YR MN DY HR VECTOR  (M/S)   (K)  CLASS   RURAL   URBAN    (M/S)     (M)       (M)
(mm/HR)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -

00 01 01 01  286.0   1.00  281.1   5     933.2   829.0    0.0000       0.0  0.0000   0
0.00
00 01 01 02  268.0   1.00  280.1   5     943.5   829.0    0.0000       0.0  0.0000   0
0.00
00 01 01 03  252.0   1.00  281.1   5     953.9   829.0    0.0000       0.0  0.0000   0
0.00
00 01 01 04  236.0   1.00  281.1   5     964.3   829.0    0.0000       0.0  0.0000   0
0.00
00 01 01 05  268.0   1.00  281.1   5     974.7   829.0    0.0000       0.0  0.0000   0
0.00
00 01 01 06  271.0   1.00  281.1   6     985.0   829.0    0.0000       0.0  0.0000   0
0.00
00 01 01 07    0.0   0.00  281.1   5       9.1   831.0    0.0000       0.0  0.0000   0
0.00
00 01 01 08  288.0   1.00  281.1   4     160.4   864.9    0.0000       0.0  0.0000   0
0.00
00 01 01 09  291.0   1.00  282.1   3     311.6   898.7    0.0000       0.0  0.0000   0
0.00
00 01 01 10  272.0   1.00  282.1   3     462.9   932.6    0.0000       0.0  0.0000   0
0.00
00 01 01 11  275.0   1.00  284.1   4     614.2   966.4    0.0000       0.0  0.0000   0
0.00
00 01 01 12  313.0   1.00  285.1   3     765.5  1000.3    0.0000       0.0  0.0000   0
0.00
00 01 01 13   55.0   1.80  285.1   3     916.7  1034.1    0.0000       0.0  0.0000   0
0.00
00 01 01 14   83.0   3.10  284.1   4    1068.0  1068.0    0.0000       0.0  0.0000   0
0.00
00 01 01 15   76.0   3.10  285.1   4    1068.0  1068.0    0.0000       0.0  0.0000   0
0.00
00 01 01 16   81.0   3.10  285.1   4    1068.0  1068.0    0.0000       0.0  0.0000   0
0.00
00 01 01 17   68.0   1.80  285.1   5    1072.3  1080.7    0.0000       0.0  0.0000   0
0.00
00 01 01 18   41.0   1.30  284.1   6    1092.8  1141.1    0.0000       0.0  0.0000   0
0.00
00 01 01 19   20.0   1.00  284.1   6    1113.3  1201.4    0.0000       0.0  0.0000   0
0.00
00 01 01 20   26.0   1.00  284.1   6    1133.9  1261.7    0.0000       0.0  0.0000   0
0.00
00 01 01 21  354.0   1.00  284.1   6    1154.4  1322.0    0.0000       0.0  0.0000   0
0.00
00 01 01 22   53.0   1.30  283.1   6    1174.9  1382.4    0.0000       0.0  0.0000   0
0.00
00 01 01 23   49.0   1.30  282.1   6    1195.4  1442.7    0.0000       0.0  0.0000   0
0.00
```

```
00 01 01 24   67.0   2.20  282.1   5    1215.9  1503.0    0.0000       0.0  0.0000   0
0.00


*** NOTES:  STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
            FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        11:33:35
**MODELOPTs:
PAGE   9
CONC                         RURAL  ELEV
MSGPRO

                              *** THE PERIOD (  8784 HRS) AVERAGE CONCENTRATION   VALUES
FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):      POINT1  ,

                                    *** NETWORK ID: GRID1    ;  NETWORK TYPE: GRIDCART ***

                                        ** CONC OF OTHER    IN MICROGRAMS/M**3
**
```

Y-COORD (METERS)	X-COORD (METERS) 488500.00	488550.00	488600.00	488650.00	488700.00
3658700.00	0.26937	0.21076	0.17193	0.15534	0.15006
3658650.00	0.21179	0.19596	0.16970	0.15993	0.15619
3658600.00	0.19013	0.18807	0.18643	0.17170	0.16537
3658550.00	0.19026	0.18306	0.18805	0.18050	0.17609
3658500.00	0.19394	0.18869	0.18944	0.18929	0.18697
3658450.00	0.20656	0.20031	0.20000	0.19527	0.19252
3658400.00	0.21346	0.21226	0.20678	0.20249	0.19875
3658350.00	0.22320	0.22033	0.21354	0.20834	0.20328
3658300.00	0.23464	0.22887	0.22082	0.21396	0.20777
3658250.00	0.24784	0.23774	0.22886	0.22039	0.21084
3658200.00	0.25470	0.24748	0.23488	0.22457	0.21290
3658150.00	0.25439	0.24218	0.22876	0.21789	0.20690
3658100.00	0.24945	0.23670	0.22352	0.21262	0.20445
3658050.00	0.24638	0.23184	0.21996	0.21167	0.20406
3658000.00	0.24375	0.23130	0.22011	0.21188	0.20476

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                  *** Construction
***        11:33:35
**MODELOPTs:
PAGE  10
CONC                        RURAL  ELEV
MSGPRO

                             *** THE PERIOD (  8784 HRS) AVERAGE CONCENTRATION   VALUES
FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):      POINT1  ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF OTHER    IN MICROGRAMS/M**3
**

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)   Y-COORD
(M)        CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
        488000.00    3657600.00        0.64260                      488100.00
3657650.00        0.59036
        488250.00    3657700.00        0.41770                      488400.00
3657900.00        0.26478
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        11:33:35
**MODELOPTs:
PAGE  11
CONC                         RURAL  ELEV
MSGPRO

                              *** THE PERIOD (  8784 HRS) AVERAGE CONCENTRATION   VALUES
FOR SOURCE GROUP: POINT1   ***
                                   INCLUDING SOURCE(S):      POINT1  ,

                                    *** NETWORK ID: GRID1    ;  NETWORK TYPE: GRIDCART ***

                                        ** CONC OF OTHER    IN MICROGRAMS/M**3
**
```

Y-COORD (METERS)	488500.00	488550.00	488600.00	488650.00	488700.00
3658700.00	0.26937	0.21076	0.17193	0.15534	0.15006
3658650.00	0.21179	0.19596	0.16970	0.15993	0.15619
3658600.00	0.19013	0.18807	0.18643	0.17170	0.16537
3658550.00	0.19026	0.18306	0.18805	0.18050	0.17609
3658500.00	0.19394	0.18869	0.18944	0.18929	0.18697
3658450.00	0.20656	0.20031	0.20000	0.19527	0.19252
3658400.00	0.21346	0.21226	0.20678	0.20249	0.19875
3658350.00	0.22320	0.22033	0.21354	0.20834	0.20328
3658300.00	0.23464	0.22887	0.22082	0.21396	0.20777
3658250.00	0.24784	0.23774	0.22886	0.22039	0.21084
3658200.00	0.25470	0.24748	0.23488	0.22457	0.21290
3658150.00	0.25439	0.24218	0.22876	0.21789	0.20690
3658100.00	0.24945	0.23670	0.22352	0.21262	0.20445
3658050.00	0.24638	0.23184	0.21996	0.21167	0.20406
3658000.00	0.24375	0.23130	0.22011	0.21188	0.20476

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                  *** Construction
***        11:33:35
**MODELOPTs:
PAGE  12
CONC                        RURAL  ELEV
MSGPRO

                             *** THE PERIOD (  8784 HRS) AVERAGE CONCENTRATION   VALUES
FOR SOURCE GROUP: POINT1   ***
                                  INCLUDING SOURCE(S):      POINT1  ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF OTHER    IN MICROGRAMS/M**3
**

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)   Y-COORD
(M)        CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
        488000.00    3657600.00        0.64260                      488100.00
3657650.00        0.59036
        488250.00    3657700.00        0.41770                      488400.00
3657900.00        0.26478
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        11:33:35
**MODELOPTs:
PAGE  13
CONC                         RURAL  ELEV
MSGPRO

                                          *** THE SUMMARY OF MAXIMUM PERIOD (  8784 HRS)
RESULTS ***


                                       ** CONC OF OTHER    IN MICROGRAMS/M**3
**


NETWORK
GROUP ID                        AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV,
ZFLAG)   OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - -

ALL      1ST HIGHEST VALUE IS       0.64260 AT (  488000.00,  3657600.00,    211.60,
0.00)  DC      NA
         2ND HIGHEST VALUE IS       0.59036 AT (  488100.00,  3657650.00,    211.90,
0.00)  DC      NA
         3RD HIGHEST VALUE IS       0.41770 AT (  488250.00,  3657700.00,    186.00,
0.00)  DC      NA
         4TH HIGHEST VALUE IS       0.26937 AT (  488500.00,  3658700.00,    240.40,
0.00)  GC   GRID1
         5TH HIGHEST VALUE IS       0.26478 AT (  488400.00,  3657900.00,    146.00,
0.00)  DC      NA
         6TH HIGHEST VALUE IS       0.25470 AT (  488500.00,  3658200.00,    152.70,
0.00)  GC   GRID1
         7TH HIGHEST VALUE IS       0.25439 AT (  488500.00,  3658150.00,    151.00,
0.00)  GC   GRID1
         8TH HIGHEST VALUE IS       0.24945 AT (  488500.00,  3658100.00,    147.10,
0.00)  GC   GRID1
         9TH HIGHEST VALUE IS       0.24784 AT (  488500.00,  3658250.00,    150.80,
0.00)  GC   GRID1
        10TH HIGHEST VALUE IS       0.24748 AT (  488550.00,  3658200.00,    150.90,
0.00)  GC   GRID1

POINT1   1ST HIGHEST VALUE IS       0.64260 AT (  488000.00,  3657600.00,    211.60,
0.00)  DC      NA
         2ND HIGHEST VALUE IS       0.59036 AT (  488100.00,  3657650.00,    211.90,
0.00)  DC      NA
         3RD HIGHEST VALUE IS       0.41770 AT (  488250.00,  3657700.00,    186.00,
0.00)  DC      NA
         4TH HIGHEST VALUE IS       0.26937 AT (  488500.00,  3658700.00,    240.40,
0.00)  GC   GRID1
         5TH HIGHEST VALUE IS       0.26478 AT (  488400.00,  3657900.00,    146.00,
0.00)  DC      NA
         6TH HIGHEST VALUE IS       0.25470 AT (  488500.00,  3658200.00,    152.70,
0.00)  GC   GRID1
         7TH HIGHEST VALUE IS       0.25439 AT (  488500.00,  3658150.00,    151.00,
0.00)  GC   GRID1
         8TH HIGHEST VALUE IS       0.24945 AT (  488500.00,  3658100.00,    147.10,
0.00)  GC   GRID1
         9TH HIGHEST VALUE IS       0.24784 AT (  488500.00,  3658250.00,    150.80,
0.00)  GC   GRID1
        10TH HIGHEST VALUE IS       0.24748 AT (  488550.00,  3658200.00,    150.90,
0.00)  GC   GRID1


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
```

```
 *** ISCST3 - VERSION 00101 ***    *** Rancho Cielo HRA
***        12/12/05
                                   *** Construction
***        11:33:35
**MODELOPTs:
PAGE  14
CONC                        RURAL  ELEV
MSGPRO


*** Message Summary : ISCST3 Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            3 Warning Message(s)
A Total of          281 Informational Message(s)

A Total of          195 Calm Hours Identified

A Total of           86 Missing Hours Identified


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***



   ********   WARNING MESSAGES   ********
MX W410  8175 METQA :Flow Vector Out-of-Range.   KURDAT=               00120615
MX W420  8175 METQA :Wind Speed Out-of-Range.   KURDAT=               00120615
MX W430  8175 METQA :Ambient Temperature Data Out-of-Range.  KURDAT=    00120615

   ***********************************
   *** ISCST3 Finishes Successfully ***
   ***********************************
```