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CITY OF WALNUT

July 28, 2016

Mikaela Klein, Senior Facilities Planner
Mt. San Antonio Community College District
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VIA E-MAIL and U.S. MAIL

Re: *Comments to the Mt. San Antonio College District 2015 Facilities Master Plan Update and Physical Education Projects Draft Subsequent Program/Project EIR to Final Program EIR (SCH 2002041161)*

Dear Ms. Klein,

On behalf of the City of Walnut (the "City"), we appreciate this opportunity to review and provide comments to the District's circulation of its 2015 Facilities Master Plan Update ("FMPU") and Physical Education Projects ("PEP") (collectively referred to herein as the "Project") Draft Subsequent Program and Project Environmental Impact Report, State Clearinghouse No. 2002041161 (the "DEIR").

The Project contemplates the future development of Mt. San Antonio Community College through the year 2025, including construction of several new buildings and other major campus facilities, including a new stadium, fire training academy, and library. The DEIR is a subsequent EIR because substantial changes have occurred in the Project since the 2012 Facilities Master Plan Final EIR was certified, one or more significant impacts may occur, and new information is available on prior projects that was not previously assessed. The DEIR combines a Program-level EIR for the Facilities Master Plan Update with a Project-level EIR for the Physical Education Projects Phases 1 and 2.

The Project proposes an increase of approximately 238,089 assignable square footage (ASF) from existing conditions. As compared to the 2012 Facility Master Plan buildout, the 2015 Facility Master Plan Update will result in an additional 465,000 ASF increase at buildout.

The DEIR finds the Project will result in significant and unavoidable adverse traffic impacts, limited air quality cumulative impacts, and historic resource impacts, for which a

Statement of Overriding Considerations will be required. The DEIR finds all other adverse impacts to be Less Than Significant with Mitigation Incorporated. The DEIR considers four alternatives and one No-Project alternative.

The City believes that the DEIR fails to comply with the requirements of the California Environmental Quality Act ("CEQA") (Pub. Res. Code §§ 21000, *et seq.),* and the State of California Guidelines for the California Environmental Quality Act ("Guidelines")(14 Cal. Code Regs. §§15000 *et seq.).* Accordingly, the City requests that the District suspend any further consideration of the Project until a DEIR that fully discloses and analyzes the potential impacts of the Project, fully considers feasible alternatives (including alternative locations and alternative technologies), and fully complies with all other CEQA requirements has been prepared and recirculated for public review and comment.

GENERAL COMMENTS

The City retained two environmental consulting firms, Soil / Water / Air Protection Enterprise (SWAPE) and Kunzman Associates, Inc. to provide technical peer review of the DEIR's analysis of the Project's potential Air Quality, Greenhouse Gas, and Traffic impacts. Those comment letters are attached as Exhibit A and Exhibit B and are incorporated by reference.

The City of Walnut Municipal Code and Zoning Regulations Apply to the Project

The Mt. SAC campus is geographically contained within the City, and the DEIR's identification of responsible or interested agencies should in every case include the City. Likewise, the DEIR's identification of relevant regulations should include the Walnut General Plan and Walnut Municipal Code.

The City objects to the DEIR's claim that the District is now, or can be after Board of Trustees action, wholly exempt from the City's General Plan and Zoning controls pursuant to Government Code Section 53094. (DEIR p. 91-92.) That provision of the Government Code allows school districts to render a city's zoning code inapplicable to a proposed use, but the district may not take this action when the proposed use of the property by the school district is for nonclassroom facilities. (Gov. Code § 53094 (b).) The term "nonclassroom facilities" applies where the district's facility is "not directly used for or related to student instruction." ((*People ex rel. Cooper v. Rancho Santiago College* (1990) 226 Cal.App.3d 1281.) The District should acknowledge that those proposed uses under the 2015 FMPU or PEP that will not be "directly used for or related to student instruction," are not exempt from the City's zoning code, which among other things requires consistency with the City's General Plan.

The West Parcel Solar and Parking Structure J Projects Should be Revised to Lessen Impacts

Another preliminary matter is related to a statement in the DEIR's introduction, in which the District discusses "initial potential areas of controversy for the project." (DEIR p. 16.) The District states,

> [R]esidents near campus have objected to the construction of the West Parcel Solar project and to the construction of Parking Structure J. However, as discussed in [CEQA Guidelines] Section 15064 (f) (5) argument, speculation, unsubstantiated opinion or narrative, or evidence that is clearly inaccurate or erroneous, or evidence that is not credible, shall not constitute substantial evidence. Substantial evidence shall include facts, reasonable assumption predicated upon facts, and expert opinion supported by facts.

(DEIR p. 16.)

The District presumably makes this assertion to preempt any future comments by residents objecting to the location and construction of the West Parcel Solar site and/or the construction of Parking Structure J based on those residents' scenic and aesthetic concerns and observations. The DEIR's reliance on CEQA Guidelines Section 15064 (f)(5) to dismiss the City residents' concerns is misplaced.

The residents' personal observations that the Project will have significant adverse aesthetic impacts constitutes substantial evidence sufficient to satisfy CEQA.

> Relevant personal observations of area residents on nontechnical subjects may qualify as substantial evidence for a fair argument. (*Ocean View Estates Homeowners Assn, Inc. v. Montecito Water Dist.* (2004) 116 Cal.App.4th 396, 402; *Arviv Enterprises, Inc. v. South Valley Area Planning Com.* (2002) 101 Cal.App.4th 1333, 1347.) So may expert opinion if supported by facts, even if not based on specific observations as to the site under review. (*Friends of the Old Trees v. Department of Forestry & Fire Protection* (1997) 52 Cal.App.4th 1383, 1398–1399 & fn. 10 [expert testimony for fair argument purposes need not meet standard required of such testimony at trial].)

(Pocket Protectors v. City of Sacramento (2004) 124 Cal.App.4th 903, 928.)

In the specific case of substantial evidence of aesthetic impacts, "the opinions of area residents, if based on direct observation, may be relevant as to aesthetic impact and may constitute substantial evidence in support of a fair argument; no special expertise is required on this topic." (Id., at p. 937.) Thus, the opinions of City residents are substantial evidence of the Project's adverse aesthetic impacts and must be adequately addressed in a recirculated DEIR.

In addition to the above-referenced residents' objections to the West Parcel Solar project and Parking Structure J, the City is also concerned that these two projects are either not described in sufficient detail in the 2015 FMPU or are described in confusing and often conflicting terms which has the same result as an incomplete description. For example, the section of the DEIR describing a comparison between the 2012 Facility Master Plan and the 2015 FMPU lists Parking Structure J and simultaneously "retained in its approved location from

the 2012 FMP" and "removed from Exhibit 1.4 [the Mt. SAC 2015 FMPU Land Use Plan]". (DEIR p. 10.) In addition the DEIR states both the West Parcel Solar project and Parking Structure J "received their CEQA clearances in the 2012 Final EIR." (DEIR p. 161.) The City obviously objects to this claim, as evidenced by its pending lawsuit against the District disputing the sufficiency of the 2012 Final EIR analysis of these two projects. (*United Walnut Taxpayers v. Mt. San Antonio Community College District, et al.*, Los Angeles County Superior Court Case No. BC576587.)

In addition, DEIR Table 2.3 "Projects Under Construction (January 2016)" lists the West Parcel Solar and Parking Structure J as "On Hold" yet describes and analyzes Parking Structure J under Noise Impacts (p. 218), Parking Impacts (p. 289), Lighting Guidelines (p. 305), Brooks/Mt. SAC Relays Impacts (p. 399), Table 5.1 "Future Parking Structures" (p. 474), and Alternatives 1–4 (p. 482). While the DEIR contains references to Parking Structure J being on hold, or sometimes includes discussion of project impacts without Parking Structure J, the overall message is unclear as to whether the District has conclusive plans to proceed with construction, and if so, when. Likewise, the DEIR lists the West Parcel Solar ("WPS") project as "On Hold" but also contains mixed messages regarding the District's future plans for moving forward with the project. (DEIR p. 57, 323 ["Future grading will continue to export earth to the West Parcel Solar site in 2016 or 2017."].) The DEIR should be updated and recirculated to clarify the scope of the Project as to these proposed facilities and eliminate internal inconsistencies .

One last point regarding the WPS project and Parking Structure J: the City wants to make clear that it is not opposed to the District's purpose behind seeking to construct these two projects. Additional parking and alternative sources of clean energy generation are laudable goals. However, the way the District has so far approached the development of these two projects not only fails to adequately evaluate and mitigate negative environmental impacts, but demonstrates a lack of foresight and poor planning and complete disregard of the City's land use regulations. The City urges the District to include these two projects specifically in the updated and recirculated DEIR's discussion and analysis of project alternatives. The alternatives analysis should include alternative locations for these facilities and a discussion of solar canopies or roof-mounted solar systems for energy generation. The District should specifically consider a roof-mounted set of solar canopies that allows the District to meet its two-fold goal of increased parking and solar power generation while at the same time lessening impacts from these projects as currently planned.

The DEIR Relies on Outdated, Irrelevant, or Incorrect Methodologies

The DEIR relies on only somewhat relevant and often incorrect methodologies to back up its studies. For example, the Air Quality comment letter prepared for the City by environmental consultant SWAPE (the "SWAPE letter") shows the District should not have relied on the South Coast Air Quality Management District's Localized Significance Threshold (LST) in conducting its air quality assessment, because the LST method can only be applied to projects that are less than five acres in size. (SWAPE letter, p. 3.) Additionally, the comment letter prepared for the City by environmental consultant Kunzman Associates, Inc. (the "Kunzman letter") regarding traffic impacts notes the DEIR several incorrect calculations in the DEIR's trip generation analysis. (Kunzman letter, p. 3.) The use of only partially relevant and old data and predictions

renders the DEIR inaccurate and calls into question the subsequent reliance on this document for later implementing projects. As such, the DEIR does not present an adequate, complete document and a "good faith effort at full disclosure" as required by CEQA. (Guidelines § 15151)

The Mitigation Monitoring Program Fails to Require Feasible and Enforceable Mitigation Measures

Discussed in greater detail below, the DEIR fails to require all feasible mitigation of the Project and ensure mitigation is enforceable. For example, as noted in the SWAPE letter, the Mitigation Monitoring Program ("MMP") for the Project sets forth an unrealistic and unenforceable mitigation measure relating to the use of lower-emission construction equipment. (SWAPE letter, p. 16.) The example highlighted by the SWAPE letter is but one of several vague, unenforceable, or infeasible mitigation measures contained within the MMP.

Where feasible mitigation exists which can substantially lessen the environmental impacts of a project, CEQA requires those feasible mitigation measures be adopted. All mitigation measures required in the DEIR must also be fully enforceable and certain to occur. Here, the DEIR cites only minimal mitigation for the Project's significant impacts, and that mitigation proposed is extremely vague, uncertain to occur, and unenforceable. Additional mitigation should be required. The mitigation measures included in the DEIR should be modified as requested below to ensure they are implemented and enforceable.

AESTHETICS

The MMP focuses its aesthetics analysis of impacts almost exclusively on lighting, glare, and landscaping, with a single mitigation measure, AES-06, devoted to ensuring the Project's "consistency between projects and the local built environment." (MMP, pp. 1–2.) The City considers AES-06 and the remainder of the mitigation measures to be vague and inadequate to address aesthetic impacts on adjacent City property and the surrounding community. For example, the MMP does not provide mitigation measures to address the Project's consistency with the architectural style, materials, design, scale, and character of the surrounding community. As discussed above, the City residents' concerns over the Project's aesthetic impacts constitute substantial evidence of significant impacts. The City proposes the following measure be added to the MMP to better mitigate impacts to the local community abutting the campus:

> AES-08 Architectural and site design of proposed structures shall consider the existing scale of the surrounding community and implement appropriate measures to reduce bulk and scale. Measures to be considered shall include the following:
>
> - Implementation of architectural design strategies to reduce the bulk and scale of new buildings abutting or fronting roadways. Strategies to consider may include step-back design for future development above street level to reduce spatial impingement on adjacent roadways and suitably articulated architectural facades to provide visual interest.

- Future on-campus facilities shall strive to utilize a unifying architectural style that contributes to a unified campus appearance and reflects a consistent architectural character among existing campus facilities in the immediate area.

LAND USE

The DEIR correctly states the "campus area east of Grand Avenue, which includes the PEP project site, is designated with a Civic Center Overlay and a residential designation (RPD 61,700 – 0.6 du). (DEIR, p. 92.) The DEIR claims the Project will not "conflict with any specific plan, policy or regulation adopted to avoid or mitigate environmental effect." (DEIR, p. 90.) However, the DEIR does not perform any analysis to substantiate that claim, and indeed, mitigation measure LU-03 clearly demonstrates the Project's *inconsistency* with the City's General Plan and zoning ordinance. (MMP, p. 16.) In a presumptuous attempt to circumvent the effort of adopting a meaningful, enforceable mitigation measure, LU-03 proposes the *City* should be responsible for resolving this inconsistency by revising its General Plan to match the District's proposed uses. Although the City is engaged in a General Plan update, this is not an excuse for the District to shirk its responsibility to prepare adequate mitigation measures.

Furthermore, as previously discussed, the District's claim of a blanket exemption from the City's General Plan and Zoning Code is incorrect. The District may not exempt all of its facilities and proposed uses from the City's zoning and other land use controls; rather, each proposed use must be analyzed to determine whether it may be exempt. Each section of the DEIR discussing the Project's impacts should include an analysis of the proposed use's consistency with the City's General Plan and Municipal Code.

Although the District claims exemption from the City zoning code, unless and until the District satisfies the requisite procedural steps to qualify for an exemption, no exemption is available. Even then, *nonexempt* District projects and facilities must comply with the City's land use and zoning regulations. For proposed uses the District finds are not exempt from the City's zoning and other land use regulations, the District must seek the appropriate City entitlements. Lastly, for all proposed uses, the District should consult and, where possible, coordinate with City staff to ensure the Project's compatibility and consistency with the City's General Plan and other land use regulations as the Project use moves forward.

TRAFFIC/PARKING

As noted above, the DEIR's traffic impact analysis was reviewed by the City's consultant Kunzman Associates, Inc. and contained in the attached Kunzman Letter. Notably, the Project's traffic impacts remain significant and unavoidable, thereby requiring a Statement of Overriding Considerations. The City urges the District to continue evaluating mitigation measures to reduce the level of impacts to Less Than Significant with Mitigation Measures.

The City notes that Mitigation Measure TR-56 requires an approved truck haul route for "hauling operations of more than 15 trucks per hour and more than 100,000 cubic yards." With the massive grading and hauling work planned for the Project, the District should be aware that

the Walnut Municipal Code ("WMC") establishes vehicle weight limits for certain City streets under the City's general police power authority. WMC section 16-8(b) provides:

> "Pursuant to Section 35701 of the California Vehicle Code, when signs are erected giving notice thereof, no person shall operate a vehicle exceeding the maximum gross weight limit of ten thousand pounds upon the following streets or highways within the city:
>
> (b) Grand Avenue."

A single driveway on Grand Avenue is the only point of ingress or egress to or from parts of the proposed Project site such as the West Parcel Solar Project. Currently, Grand Avenue displays signage in conformity with the WMC section listed above, and therefore the 10,000-pound weight limit is in full effect along Grand Avenue. Shown above, a single unladen commercial dump truck typically weighs over 10,000. Filled with the type of dirt that will be used for grading purposes, a truck's weight will increase to anywhere from 45,000 to 55,000 pounds—well above the stated weight limit allowed along Grand Avenue.

For this reason the District is required to comply with the WMC's vehicle weight limits and seek City approval before beginning hauling within the City. In addition, the District should coordinate and work with the City to determine an appropriate Truck Haul Route and hauling schedule.

The City also objects to the MMP's plan to defer parking mitigation to a later date by requiring the District to conduct a study every five years and then come up with a recommendation as to the number of parking spaces needed at that particular time. (MMP p. 24.) This sort of mitigation measure deferral is not allowed under CEQA. In the leading case on deferred mitigation, *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 307-309, the court disapproved a negative declaration requiring the project proponent to perform two studies in the future, holding that deferring evaluation of environmental impacts until after adoption of a negative declaration would amount to a post hoc rationalization and would skirt the required procedure for public review and agency scrutiny of potential impacts. The same holds true for EIRs. The CEQA Guidelines require an EIR to identify and describe *feasible* mitigation measures to minimize significant impacts on the environment. (Guidelines §15126.4(a); emphasis added.) CEQA defines "feasible" as meaning "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Public Resources Code § 21061.1.) Mitigation measure TR-28 is not a feasible mitigation measure.

AIR QUALITY/GREENHOUSE GASES

The DEIR's Air Quality and Greenhouse Gas analysis was peer reviewed by the City's consultant, Soil / Water / Air Protection Enterprise (SWAPE) and contained in the attached SWAPE letter. The SWAPE letter recommends the DEIR conduct a new air quality assessment using updated methodologies and study models. In light of the clear defects in the DEIR's Air Quality and Greenhouse Gas Assessments, those portions of the DEIR should be revised and recirculated in an updated DEIR.

In addition, the City disputes the DEIR's Greenhouse Gas Assessment's claim that "the decline in GHG emissions due to more energy efficient motor vehicles more than offset the increased GHG emission due to total square footage increases on campus and the associated operational emissions." Therefore, the resulting changes negative." (DEIR, p. 189.) The purpose of the DEIR is to analyze the Project's impacts on the environment from the baseline year of 2015. By including an arbitrary external factor such as increasingly energy efficiency vehicles to conclude the Project will result in a reduction in GHG emissions is misleading at best and disingenuous at worst.

NOISE

The City appreciates the inclusion of its Noise Ordinance in the DEIR's Noise Impact analysis. However, the City once again objects to the claim that the "District is exempt from City zoning and the City's Noise Ordinance pursuant to California Government code section 53096." (DEIR, p. 196.) Section 53096 relates to facilities related to storage or transmission of water or electrical energy, and would not apply to other potential sources of noise emanating from the Mt. SAC campus. As discussed above, other similar provisions of the Government Code likewise do not exempt the District from the City's Zoning Code and, the City's Noise Ordinance is applicable to potential violations when noise levels exceed established limits.

In particular, the City is concerned that noise impacts from construction activities may be significant due to the fact that construction activities are allowed from 7:00 AM to 7:00 PM Monday through Saturday. The DEIR states that, "projects requiring more than one year of construction located near sensitive receptors may result in a noise impact and may require further analysis prior to the initiation of construction to determine what mitigation is feasible and if the mitigation is effective." (DEIR, pp. 207-208.) Such deferral of analysis and mitigation is not allowed under CEQA. (*Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 307, "By deferring environmental assessment to a future date, the conditions run counter to that policy of CEQA which requires environmental review at the earliest feasible stage in the planning process.") As such, the Project may result in significant noise impacts, but those impacts will not be known unless properly analyzed in a DEIR that is updated and recirculated.

BIOLOGICAL RESOURCES

The City has a few suggestions to add to the DEIR's coverage of Project impacts to Biological Resources and proposed Mitigation Measures. The phrase "prior to" should be inserted after the word "days" and the work "of" should be deleted in the third sentence of Mitigation Measure BIO-02 on page 6. The new third sentence of Mitigation Measure BIO-02

should read, "A pre-construction nest/owl survey should be completed for each project or work area within 14 days prior to the start of construction." (MMP p. 6.) The City believes this simple addition will clear up any possible confusion that a nest/owl survey should be completed *before* construction begins.

Mitigation Measure BIO-13 proposes an unrealistic mitigation measure to reduce impacts to biological resources on the West Parcel and MSAC Hill to less than significant. (DEIR, p. 12.) The DEIR states that construction grading will be avoided during prime nesting season of threatened or special status birds in order to minimize impacts on these areas. But this measure seems all but impossible when actual nesting seasons for these species are considered. For instance, the California Gnatcatcher, which is an endangered species of special concern found at the West Parcel site, has a nesting season from February to July. Given the size of these projects, it is unlikely that construction will actually be limited to 5 or 6 months out of the year. The DEIR should propose a more feasible mitigation measure that the District is likely to enforce and implement.

WATER QUALITY

Mitigation measure HYD-02 outlines the requirements that the District update the *Master Campus Drainage Plan* prior to commencement of grading for the Fire Training Academy and Athletics Education Building. (MMP, p. 15.) The mitigation measure states that the *Master Campus Drainage Plan* "shall meet any requirements of the County of Los Angeles Department of Public Works and the City of Walnut." The "City of Walnut Storm Water Management and Discharge Control Ordinance" (Walnut Municipal Code Title V Article III Chapter 21-60 *et seq.*) and the City of Walnut Standard Urban Storm Water Mitigation Plan (Walnut Municipal Code Title V Article IV Chapter 21-80 *et seq.*) contain comprehensive regulations related to construction and storm water drainage and discharge. The City appreciates the requirement that the District's *Master Campus Drainage Plan* shall comply with the City's discharge and drainage regulations, and would like to see more stringent, enforceable mitigation measures implemented to ensure compliance.

CUMULATIVE IMPACTS

The DEIR consistently fails to accurately or adequately evaluate cumulative impacts of the Project. The DEIR tends to generalize the cumulative impact evaluation rather than apply significance thresholds to cumulative effects. As such, cumulative impacts are understated or incorrectly omitted altogether. Cumulative impact analysis for each section should be revisited and revised where appropriate.

ALTERNATIVES

Although the DEIR analysis of the alternatives is not required to be as comprehensive as the DEIR analysis of the Project, the alternative's discussion is so cursory as to prevent a meaningful comparison. The DEIR is, by its own definition, a program-level, project-level, and subsequent EIR. (DEIR, pp. 1–2.) Despite the DEIR's tripartite nature, however, the Alternatives analysis only addresses alternatives to the overall program rather than any individual project contained within. For instance, Alternatives section describes the Project as "a renovation and

modernization program for existing campus facilities," and as such considers an alternative location only to the entire campus-wide program rather than any disparate projects within the program that might possibly be relocated to lessen overall Project impacts. (DEIR, p. 467–69.) As a result, the DEIR fails to comply with CEQA's directive to "describe a reasonable range of alternatives to the project...." (Guidelines, § 15126.6(a).) The City urges the District to make another attempt at considering and analyzing a range of alternatives

Moreover, the alternatives analysis contains an error that implies a careless approach to the preparation and analysis of Project alternatives: the Alternative 1 Traffic Impact analysis is simply a cut-and-paste copy of the No-Project Alternative. Consequently, the Alternative 1 Traffic Impact analysis is plainly an impossible scenario because Alternative 1 still contemplates buildout of a significant portion of the proposed Project with an attendant increase in student enrollment (DEIR, p. 471.) Alternative 1 needs to be revisited to correct this error before it can meet CEQA's mandate as a sufficient alternative description.

UNAVOIDABLE ADVERSE IMPACTS

The City objects to the District's decision to prepare a Statement of Overriding Consideration for unavoidable adverse impacts to traffic within the City. As shown in the Kunzman letter, the traffic impact analysis is, based on inaccurate methodologies and incorrect calculations. Therefore, the traffic impact analysis should be redone and removed from a Statement of Overriding Consideration until such time as the complete and proper traffic impact analysis is completed.

Overall, and as detailed herein, the DEIR fails to adequately disclose, evaluate, and discuss mitigation for the potential significant effects of the Project. The DEIR should be revised significantly and recirculated after completion and incorporation of additional studies. For the reasons detailed herein, the evaluations and analyses in the DEIR must be updated, and the DEIR recirculated for additional public review and comment.

Thank you for your consideration of these comments.

Sincerely,

Tom Weiner
Community Development Director
City of Walnut

Attachments:
Exhibit A: SWAPE comments to the Air Quality and Greenhouse Gas impacts analysis
Exhibit B: Kunzman Associates, Inc. comments to the Traffic impacts analysis

cc: Mayor Ching and City Council Members
City Manager Wishner
City Attorney Leibold
City Clerk De Dios

EXHIBIT A

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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July 21, 2016

Tom Weiner
City of Walnut
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Subject: Comments on the Mt. San Antonio College Project

Dear Mr. Weiner:

We have reviewed the Mt. San Antonio College 2015 Facilities Master Plan Update and Physical Education Projects Draft Subsequent Program/Project EIR to Final Program EIR (DEIR); the April 15, 2016 Air Quality Assessment for the Mt. San Antonio College Facilities Master Plan Update and Physical Education Projects ("Air Quality Assessment"); and the April 15, 2016 Greenhouse Gas Assessment for the Mt. San Antonio College Facilities Master Plan Update and Physical Education Projects ("Greenhouse Gas Assessment") prepared for the proposed Mt. San Antonio College Project ("Project"). This subsequent DEIR was prepared because substantial changes have occurred in the Project since the 2012 Facilities Master Plan Final EIR was certified, one or more significant impacts may occur, and new information is available on prior projects that was not previously assessed.

Buildout of the 2015 Facilities Master Plan Update (2015 FMPU) in 2020 will result in a net increase of 238,098 assignable square feet (ASF) from existing conditions, and a net increase of approximately 4.5 percent ASF when compared to the 2012 Facilities Master Plan (2012 FMP) (DEIR, p. 59). The DEIR proposes development of the Physical Education Project (PEP) in two phases, the Athletic Complex East (Phase 1) and the Physical Education Complex (Phase 2) (DEIR, p. 78).

Our review concludes that the subsequent DEIR fails to adequately assess the Project's health risk and air quality impacts. As a result, the Project's impact on regional and local air quality is underestimated. An updated DEIR should be prepared to adequately assess the Project's health risk and air quality impacts, and additional mitigation measures should be implemented, where necessary.

Air Quality

Health Risk from Diesel Particulate Matter Emissions Inadequately Evaluated

The Air Quality Assessment concludes that the health risk posed to nearby sensitive receptors from exposure to diesel particulate matter (DPM) emissions released during Project construction and operation would be less than significant, yet fails to quantify the risk and compare it to applicable thresholds (p. 30). By failing to prepare a construction or an operational health risk assessment, the Air Quality Assessment is inconsistent with SCAQMD CEQA Guidelines, as well as with recommendations set forth by the Office of Environmental Health Hazard Assessment (OEHHA), the organization responsible for providing recommendations for health risk assessments in California.

In an effort to demonstrate the potential risk posed by the Project to nearby sensitive receptors, we prepared a simple screening-level health risk assessment. The results of our assessment, as described below, demonstrate that construction-related and operational DPM emissions may result in a potentially significant health risk impact. As a result, a revised DEIR should be prepared to adequately assess the health risk impacts from construction and operation of the Project.

Failure to Quantify Risk from Project Construction

The Air Quality Assessment attempts to justify the omission of an actual construction-related health risk assessment (HRA) by stating the following:

> "Impacts from toxic substances are related to cumulative exposure and are assessed over a 70-year period. Cancer risk is expressed as the maximum number of new cases of cancer projected to occur in a population of one million people due to exposure to the cancer causing substance over a 70-year lifetime (California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Guide to Health Risk Assessment.) Grading for the PEP Phase 1 and Phase 2, when the peak diesel exhaust emissions would occur, is expected to take less than 6 months total with all construction expected to be completed in less than 4 years. Because of the relatively short duration of construction compared to a 70-year lifespan, diesel emissions resulting from the construction of the project, including truck traffic associated with the project, are not expected to result in a significant impact" (p. 28).

This justification, however, is incorrect. By failing to quantify the risk associated with Project construction, the Air Quality Assessment is inconsistent with the most recent guidance published by Office of Environmental Health Hazard Assessment (OEHHA), the organization responsible for providing recommendations and guidance on how to conduct health risk assessments in California. In February of 2015, OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, which was formally adopted in March of 2015.[1] This guidance document

[1] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/hotspots2015.html

describes the types of projects that warrant the preparation of a health risk assessment. Construction of the entire Project will produce emissions of DPM, a human carcinogen, through the exhaust stacks of construction equipment over a construction period of at least five years (Air Quality Assessment, p. 13). The OEHHA document recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors.[2] This recommendation reflects the most recent health risk policy, and as such, an assessment of health risks to nearby sensitive receptors from construction should be included in a revised DEIR for the Project.

Failure to Quantify Risk from Project Operation

Furthermore, instead of preparing a health risk assessment to determine the Project's operational impact, the Air Quality Assessment instead relies on the South Coast Air Quality Management District's (SCAQMD) Localized Significance Thresholds (LST) Methodology to determine whether or not operation of the Project would expose sensitive receptors to substantial air pollutants (p. 11-12). Using this method, the Air Quality Assessment concludes that the Project would not expose sensitive receptors to substantial air pollutants, thus resulting is a less than significant long term impact (p. 30). The use of this method, as well as the significance determination made using this method, is entirely incorrect. While the LST method assesses the impacts of pollutants at a local level, it only evaluates impacts from criteria air pollutants. As a result, health impacts from exposure to toxic air contaminants (TACs), such as DPM, were not analyzed, thus leaving a gap within the Air Quality Assessment's analysis.

According to the Air Quality Assessment, the Final Localized Significance Threshold Methodology document prepared by the SCAQMD applies to projects that are less than 5 acres in size and are only applicable with NO_x, CO, PM10, and PM2.5 emissions, which are collectively referred to as criteria air pollutants (p. 12). Because the LST method can only be applied to criteria air pollutants, this method cannot be used to determine whether operational emissions from diesel particulate matter (DPM), a known human carcinogen, will result in a significant health risk impact to nearby sensitive receptors. By failing to prepare a health risk assessment in addition to the LST analysis, the Air Quality Assessment fails to provide a comprehensive analysis of the sensitive receptor impacts that may occur as a result of exposure to substantial air pollutants. The SCAQMD provides a specific numerical threshold of 10 in one million for determining a project's health risk impact. Therefore, the Air Quality Assessment should have conducted an assessment that compares the Project's operational health risk to this threshold in order to determine the Project's health risk impact.

Modeling Parameters

As of 2011, the EPA recommends AERSCREEN as the leading air dispersion model, due to improvements in simulating local meteorological conditions based on simple input parameters.[3] The model replaced

[2] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-18

[3] "AERSCREEN Released as the EPA Recommended Screening Model," USEPA, April 11, 2011, *available at:* http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf

SCREEN3, which is included in OEHHA[4] and CAPCOA[5] guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs"). A Level 2 HRSA utilizes a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed. If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project.

We prepared a preliminary health risk screening assessment of the Project's construction and operational impact to sensitive receptors using the annual estimates from the Project's CalEEMod model, which can be found within the DEIR's Air Quality Assessment and Greenhouse Gas Assessment. According to the Air Quality Assessment, "construction emissions will vary for different phases of construction, and from project to project" (p. 13). As a result of this variability, we conducted a construction-related health risk assessment for each component of the proposed Project using each component's emission estimates and construction durations. Specifically, we assessed the health risk impacts from construction of the following Project components: Building G, Building A, PEP Phase 1, and PEP Phase 2 (p. 13). Using the CalEEMod construction schedules for each component, and accounting for the overlap that will potentially occur between these phases, we estimate that construction of Building G, PEP Phase 1, and PEP Phase 2 would occur over the course of approximately four years with a total of 1,457 days (see table below).

Construction Phase	Start	End	Duration (Years)	Duration (Days)
PEP Phase 1	10/3/2016	1/31/2018	1.3	486
PEP Phase 1 & Phase 2	2/1/2018	8/16/2018	0.5	197
PEP Phase 2	8/17/2018	12/31/2018	0.4	137
Building G & PEP Phase 2	1/1/2019	2/24/2020	1.2	420
PEP Phase 2	2/25/2020	9/28/2020	0.6	217
Total Construction Duration			**4.0**	**1,457**

According to the Air Quality Assessment, construction of Building A is not anticipated to occur until 2025, which leaves a gap between the completion of PEP Phase 2 and the start of Building A construction (p. 15). However, OEHHA requires that a continuous residential exposure duration of 30 years be used when assessing health risks, starting from the infantile stage of life. Therefore, to remain consistent with recommendations set forth by OEHHA, we assumed for the remaining 26 years of exposure, operation of Building G, PEP Phase 1, and PEP Phase 2 would occur right after construction of PEP Phase 2 was complete, and up until construction of Building A began. Then after construction of Building A was completed, we assumed that operation of the entire Project would occur, with no gaps between stages (see table below).

[4] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf
[5] "Health Risk Assessments for Proposed Land Use Projects," CAPCOA, July 2009, *available at:* http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf

Phase	Start	End	Duration (Years)	Duration (Days)
FMPU 2020 - Operation	9/29/2020	12/31/2024	4.26	1,555
Building A	1/1/2025	12/11/2025	0.95	345
FMPU 2025 - Operation	12/12/2025	9/26/2046	20.8	7,593
Total Duration			**26.0**	**9,493**

The Air Quality Assessment assumes the closest sensitive receptors to the Project site are located about 978 feet north (p. 15, 16).

The AERSCREEN model relies on a continuous average emissions rate to simulate maximum downwind concentrations from point, area, and volume emissions sources. To account for the variability in construction equipment usage over the many phases of Project construction and operation, we calculated an average DPM emissions rate for construction by the following equation.

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{lbs\ of\ DPM}{days\ of\ Construction} \times \frac{453.6\ grams}{lb} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds}$$

Because the duration, start year, year of completion, and activity type vary between each phase of construction and operation, we calculated an emission rate specific to each of the Project phases (see table below).

Project Phase	Duration	Duration	DPM Emissions	DPM Emission Rate
PEP Phase 1	1.33	486	0.3459	0.0075
PEP Phase 1 & Phase 2	0.54	197	0.7698	0.0410
PEP Phase 2	0.38	137	0.4239	0.0325
Building G & PEP Phase 2	1.15	420	0.6088	0.0152
PEP Phase 2	0.59	217	0.4239	0.0205
FMPU 2020 - Operation	4.26	1,555	4.4009	0.0297
Building A	0.95	345	0.0485	0.0015
FMPU 2025 - Operation	20.8	7,593	23.4946	0.0325
Total Exposure Duration	**30.0**	**10,950**	**-**	**-**

Using Google Earth, we measured the total area that each of the Project phases would encompass, as the location and total area of each construction and operational activity varies. Each Project phase was simulated as a rectangular area source in AERSCREEN, with dimensions that reflected these phase-specific areas measured in Google Earth. A release height of three meters was selected to represent the height of exhaust stacks on construction equipment and on-road vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution.

Modeling Results

The AERSCREEN model generated maximum reasonable estimates of single hour downwind DPM concentrations from the Project site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant may be estimated by multiplying the single-hour concentration by 10%.[6] For example, the maximum single-hour downwind concentration in the AERSCREEN output for construction of PEP Phase I was approximately 1.95 µg/m^3 DPM 298 meters (978 feet) downwind. Therefore, the annualized average concentration for the sensitive receptor located 298 meters away from the Project site during construction of PEP Phase I was estimated to be 0.195 µg/m^3. We estimated the annualized average concentration for the remaining phases of the Project in this same fashion (see table below).

Project Phase	Maximum Single Hour DPM	Annualized Average DPM
PEP Phase 1	1.95	0.195
PEP Phase 1 & Phase 2	11.06	1.106
PEP Phase 2	11.92	1.192
Building G & PEP Phase 2	4.83	0.483
PEP Phase 2	7.52	0.752
FMPU 2020 - Operation	9.65	0.965
Building A	5.66	0.566
FMPU 2025 - Operation	10.17	1.017

Exposure Assumptions

We calculated the excess cancer risk for each sensitive receptor location, for adults, children, and/or infant receptors using applicable HRA methodologies prescribed by OEHHA. OEHHA recommends the use of Age Sensitivity Factors ("ASFs") to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution.[7] According to the revised guidance, quantified cancer risk should be multiplied by a factor of ten during the first two years of life (infant), and by a factor of three for the subsequent fourteen years of life (child aged two until sixteen). Furthermore, in accordance with guidance set forth by the SCAQMD and OEHHA, we used 95th percentile breathing rates for infants and 80th percentile breathing rates for children and adults.[8] We used a cancer potency factor of 1.1 (mg/kg-day)$^{-1}$ and an averaging time of 25,550 days.

[6] http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf

[7] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf

[8] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act," SCAQMD, June 5, 2015, *available at:* http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588-risk-assessment-guidelines.pdf?sfvrsn=6, p. 19

Health Risk Impact to Sensitive Receptor

As previously discussed, OEHHA recommends that a 30-year exposure duration be used as the basis for estimating cancer risk at the closest residential receptor.[9] Consistent with OEHHA guidance, exposure to the receptor was assumed to begin in the infantile stage of life to provide the most conservative estimate of air quality hazards. The results of our calculations are shown below.

Health Risk Impact from Exposure to Construction and Operational Diesel Exhaust Emissions							
Project Phase	**Start Date**	**End Date**	**Duration**				
PEP Phase 1	10/3/2016	1/31/2018	1.33	0.195	1090	10	4.3E-05
PEP Phase 1 & Phase 2	2/1/2018	8/16/2018	0.54	1.106	1090	10	9.8E-05
PEP Phase 2	8/17/2018	12/31/2018	0.38	1.192	1090	10	7.3E-05
	Infant Exposure Duration		***2.25***			***Infant Exposure***	***2.14E-04***
Building G & PEP Phase 2	1/1/2019	2/24/2020	1.15	0.48	572	3	1.4E-05
PEP Phase 2	2/25/2020	9/28/2020	0.59	0.75	572	3	1.2E-05
FMPU 2020 - Operation	9/29/2020	12/31/2024	4.26	0.96	572	3	1.1E-04
Building A	1/1/2025	12/11/2025	0.95	0.57	572	3	1.4E-05
FMPU 2025 - Operation	12/12/2025	9/27/2032	6.80	1.02	572	3	1.8E-04
	Child Exposure Duration		***13.75***			***Child Exposure***	***3.25E-04***
FMPU 2025 - Operation	9/28/2032	9/26/2046	14.0	1.02	233	1	5.0E-05
	Adult Exposure Duration		***14.0***			***Adult Exposure***	***5.00E-05***
	Lifetime Exposure Duration					**Lifetime Exposure**	**5.89E-04**

The excess cancer risk to adults, children, and infants at the sensitive receptor closest to the Project site are 50, 325, and 214 in one million, respectively. Furthermore, the excess cancer risk over the course of a residential lifetime (30 years) is approximately 589 in one million. The infantile, child, and lifetime cancer risk greatly exceed the SCAQMD threshold of 10 in one million. As a result, construction and operation of the Project could have a potentially significant health risk impact to sensitive receptors located nearby.

It should be noted that our health risk assessment summarized in the table above takes into account the DPM emissions from existing operations, as well as the DPM emissions from 2020 and 2025 FMPU build out operations. Therefore, the values provided in the table above may overestimate the Project's health risk impact. In an effort to correct for this issue, we prepared an additional health risk assessment that only accounts for the Project's construction-related health risk. As you can see in the table below, even if we were to remove the operational risk and only calculate the construction health risk impact, we find that nearby sensitive receptors are subject to a potentially significant health risk impact (see table below).

[9] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-1.

Health Risk Impact from Exposure to Construction Diesel Exhaust Emissions Only							
Project Phase	**Start Date**	**End Date**	**Duration**	**Concentration ($\mu g/m^3$)**	**Breathing Rate (L/kg-day)**	**Age Sensitivity Factor**	**Cancer Risk**
PEP Phase 1	10/3/2016	1/31/2018	1.33	0.195	1090	10	4.3E-05
PEP Phase 1 & Phase 2	2/1/2018	8/16/2018	0.54	1.106	1090	10	9.8E-05
PEP Phase 2	8/17/2018	12/31/2018	0.38	1.192	1090	10	7.3E-05
	Infant Exposure Duration		***2.25***			***Infant Exposure***	***2.14E-04***
Building G & PEP Phase 2	1/1/2019	2/24/2020	1.15	0.48	572	3	1.4E-05
PEP Phase 2	2/25/2020	9/28/2020	0.59	0.75	572	3	1.2E-05
FMPU 2020 - Operation	9/29/2020	12/31/2024	-	-	-	-	-
Building A	1/1/2025	12/11/2025	0.95	0.57	572	3	1.4E-05
FMPU 2025 - Operation	12/12/2025	9/27/2032	-	-	-	-	-
	Child Exposure Duration		***13.75***			***Child Exposure***	***3.97E-05***
FMPU 2025 - Operation	9/28/2032	9/26/2046	-	-	-	-	-
	Adult Exposure Duration		***14.0***			***Adult Exposure***	**-**
	Lifetime Exposure Duration					**Lifetime Exposure**	**2.54E-04**

As demonstrated in the table above, even when emissions from operation are excluded, the excess cancer risk to children and infants at the sensitive receptor closest to the Project site are 39.7 and 214 in one million, respectively. Furthermore, the excess cancer risk over the course of a residential lifetime (30 years) is approximately 254 in one million when operation is not included, which still greatly exceeds the SCAQMD threshold of 10 in one million. Our analysis demonstrates that the infantile, child, and lifetime cancer risk still greatly exceed the SCAQMD threshold of 10 in one million, even when emissions from operation are excluded. As a result, construction of the Project could have a potentially significant health risk impact to sensitive receptors located nearby.

Our analysis represents a screening-level health risk assessment, which is known to be more conservative, and tends to err on the side of health protection.[10] The purpose of a screening-level health risk assessment, however, is to determine if a more refined health risk assessment needs to be conducted. If the results of a screening-level health risk are above applicable thresholds, then the Project needs to conduct a more refined health risk assessment that is more representative of site specific concentrations. Our screening-level health risk assessment demonstrates that construction and operation of the Project could result in a potentially significant health risk impact. As a result, a refined health risk assessment must be prepared to examine air quality impacts generated by Project construction using site-specific meteorology and specific equipment usage schedules.

[10] http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf p. 1-5

Failure to Adequately Compare Project Emissions to Applicable Thresholds

According to the DEIR's Air Quality Assessment, since the Project's overall construction emissions are well below the significance thresholds established by the SCAQMD, construction will generally not impact regional air quality, resulting in a less than significant impact (p. 14, p. 30). This significance determination, however, is incorrect, as it compares averaged emissions, rather than maximum daily emissions, to the SCAQMD's maximum daily emission thresholds. As a result, the Air Quality Assessment's conclusion of a less than significant air quality impact from construction-related emissions is incorrect. An updated DEIR should be prepared to adequately assess the Project's construction-related impacts by comparing the correct emissions estimates to the appropriate significance thresholds, and additional mitigation should be incorporated, where necessary.

Since construction schedules have not been developed for most of the projects in the FMPU, the emissions potentially generated during construction of the FMPU are considered for various scenarios within the DEIR's Air Quality Assessment (p. 12). Overall construction emissions for the 2015 FMPU are first considered, and are summarized in Table 5 of the Air Quality Assessment (see excerpt below) (p. 12, 13).

Table 5 Construction Emissions for the 2015 FMPU

	ROG	NOx	CO	SOx	PM10	PM2.5
			Pollutant Emissions (lbs.)			
FMPU (Excluding PEP)	2,922	9,526	8,672	14	1,093	695
PEP Phase 1	12,130	23,763	32,064	63	4,438	1,942
PEP Phase 2	2,219	6,537	6,858	12	701	442
Total Construction	17,271	39,826	47,594	90	6,232	3,079
			Pollutant Emissions (lbs. per day)			
Average Over 5 Years	13.2	30.6	36.5	0.1	4.8	2.4
Average Over 10 Years	6.6	15.3	18.3	0.0	2.4	1.2
SCQAMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Exceed Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

According to the Air Quality Assessment, "the first lines of the table present the total emissions generated by the buildout and associated demolition of the FMPU (excluding PEP), then the emissions for PEP Phases 1 and 2, and finally the total emissions for everything combined. The following two lines in Table 5 average the total emissions over a 5 year and 10 year period assuming a 5- day workweek" (p. 13). The Air Quality Assessment then takes these averaged overall construction emissions and compares them to the SCAQMD's significance thresholds. This method of determining Project significance, however, is incorrect, as the SCAQMD requires that the Project's maximum daily emissions be compared

to the mass daily significance thresholds, not the Project's average daily emissions.[11] By taking the average daily construction emissions and comparing them to the SCAQMD mass daily thresholds, the Air Quality Assessment greatly underestimates the Project's maximum daily impact.

As is common practice, significance determinations are based on the maximum daily emissions during a construction period, which provides a "worst-case" analysis of the construction emissions.[12] Therefore, as is conducted in other CEQA evaluations, if the Project's peak daily construction emissions exceed the SCAQMD's mass daily thresholds, then the Project would have a potentially significant air quality impact.[13] And while the Air Quality Assessment's claim that the 5-year averaging period represents the "worst-case approach for construction on campus" may be true, the emissions averaged over this period do not reflect a "worst-case" analysis of the construction emissions (p. 13). Rather, the maximum daily emissions that would occur during this 5-year construction period are representative of a "worst-case" analysis, and as such, these peak emissions should have been used.

In an effort to correctly determine the Project's short term regional impact, we took the maximum daily construction emissions for each of the phases included in Table 5, which can be found in the CalEEMod output files provided at the end of the Air Quality Assessment, and compared them to the SCAQMD's mass daily thresholds. When the Project's maximum daily construction emissions are correctly summarized and then compared to thresholds, we find that the Project's construction-related emissions, even after mitigation, would result in a significant impact (see table below).

Mitigated Construction Emissions for the 2015 FMPU (lbs/day)

Activity	Year	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
FMPU (Excluding PEP)	2017	5	52	40	0	11	7
FMPU (Excluding PEP)	2018	**90**	27	27	0	3	2
PEP Phase 1	2016	11	**147**	107	0	33	12
PEP Phase 1	2017	11	**136**	102	0	14	7
PEP Phase 1	2018	10	44	72	0	10	4
PEP Phase 2	2018	4	46	37	0	11	7
PEP Phase 2	2019	3	24	25	0	3	2
PEP Phase 2	2020	10	81	81	0	31	7
SCAQMD Threshold	-	**75**	**100**	**550**	**150**	**150**	**55**
Exceed?		***Yes***	***Yes***	*No*	*No*	*No*	*No*

[11] South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993; SCAQMD Comment Letter on the Mitigated Negative Declaration (MND) for the Proposed Asphalt Plant No. 1 Replacement and Modernization Project, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2016/january/mndasphalt1.pdf

[12] AECOM, Air Quality and Climate Change Technical Report for the North Torrance Wellfield Project, *available at:* https://www.torranceca.gov/PDF/Attachment_2_-_Air_Quality_and_Climate_Change_Technical_Report_NTWF.pdf, p. 22

[13] *See* Scholl Canyon Landfill Expansion EIR, Section 7.0 Cumulative Impacts, *available at:* http://www.glendaleca.gov/home/showdocument?id=20264, p. 7-6; and
See Air Quality Study for the Long Beach Emergency Repowering Project, *available at:* http://www.polb.com/civica/filebank/blobdload.asp?BlobID=3574, p. 7-1.

Specifically, we find that the peak daily ROG emissions of 90 lbs/day generated during construction of the FMPU would exceed the SCAQMD threshold of 75 lbs/day for ROG, and that the peak daily NOx emissions of 147 and 136 lbs/day generated during construction of PEP Phase 1 would exceed the SCAQMD threshold of 100 lbs/day for NOx. Our analysis demonstrates that when emissions are summarized correctly and compared to thresholds, the Project would result in a potentially significant impact, contrary to the conclusion made in the Air Quality Assessment. As a result, an updated DEIR should be prepared to include a revised air quality analysis that correctly determines the Project's overall construction-related regional air quality impact, and additional mitigation measures should be implemented, where necessary.

Additional Mitigation Measures Available to Reduce Construction Emissions

Numerous additional, feasible mitigation measures are available to reduce ROG emissions, also referred to as VOC emissions (for the sake of this analysis, the terms ROG and VOC are used interchangeably), including the following which are routinely identified in other CEQA matters as feasible mitigation measures:

Use of Zero-VOC Emissions Paint

The Mitigation Monitoring Program only commits to using VOC coatings with VOC content of 80 g/L or less (p. 5 of 33). The use of zero-VOC emission paint has been required for numerous projects that have undergone CEQA review. Zero-VOC emission VOC paints are commercially available. Other low-VOC standards should be incorporated into mitigation including use of "supercompliant" paints, which have a VOC standard of less than 10 g/L.[14]

Use of Material that do Not Require Paint

Using materials that do not require painting is a common mitigation measure where VOC emissions are a concern. Interior and exterior surfaces, such as concrete, can be left unpainted.

Use of Spray Equipment with Greater Transfer Efficiencies

Various coatings and adhesives are required to be applied by specified methods such as electrostatic spray, high-volume, low-pressure (HVLP) spray, roll coater, flow coater, dip coater, etc. in order to maximize the transfer efficiency. Transfer efficiency is typically defined as the ratio of the weight of coating solids adhering to an object to the total weight of coating solids used in the application process, expressed as a percentage. When it comes to spray applications, the rules typically require the use of either electrostatic spray equipment or HVLP spray equipment. The SCAQMD is now able to certify high-volume low-pressure (HVLP) spray applicators and other application technologies at efficiency rates of 65 percent or greater.[15]

When combined together, these measures offer a feasible way to effectively reduce the Project's construction-related VOC emissions to a less than significant level. As such, these mitigation measures should be considered in a DEIR to reduce these emissions to a less than significant level.

[14] http://www.aqmd.gov/home/programs/business/business-detail?title=super-compliant-coatings
[15] http://www.aqmd.gov/home/permits/spray-equipment-transfer-efficiency

Furthermore, there are additional mitigation measures available to reduce the Project's construction-related NO_x emissions. Additional mitigation measures can be found in CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures,* which attempt to reduce Greenhouse Gas (GHG) levels, as well as reduce Criteria Air Pollutants such as NO_x.[16] NO_x is a byproduct of fuel combustion, and is emitted by on-road vehicles and by off-road construction equipment. Mitigation for criteria pollutant emissions should include consideration of the following measures in an effort to reduce NOx construction emissions to below SCAQMD thresholds.

Limit Construction Equipment Idling Beyond Regulation Requirements

Heavy duty vehicles will idle during loading/unloading and during layovers or rest periods with the engine still on, which requires fuel use and results in emissions. The California Air Resources Board (CARB) Heavy-Duty Vehicle Idling Emissions Reduction Program limits idling of diesel-fueled commercial motor vehicles to five minutes. Reduction in idling time beyond the five minutes required under the regulation would further reduce fuel consumption and thus emissions. The Project applicant must develop an enforceable mechanism that monitors the idling time to ensure compliance with this mitigation measure.

Repower or Replace Older Construction Equipment Engines

The NEDC recognizes that availability of equipment that meets the EPA's newer standards is limited.[17] Due to this limitation, the NEDC proposes actions that can be taken to reduce emissions from existing equipment in the *Best Practices for Clean Diesel Construction* report.[18] These actions include but are not limited to:

- Repowering equipment (i.e. replacing older engines with newer, cleaner engines and leaving the body of the equipment intact).

Engine repower may be a cost-effective emissions reduction strategy when a vehicle or machine has a long useful life and the cost of the engine does not approach the cost of the entire vehicle or machine. Examples of good potential replacement candidates include marine vessels, locomotives, and large construction machines.[19] Older diesel vehicles or machines can be repowered with newer diesel engines or in some cases with engines that operate on alternative fuels (see section "Use Alternative Fuels for Construction Equipment" for details). The original engine is taken out of service and a new engine with reduced emission characteristics is installed. Significant emission reductions can be achieved, depending on the newer engine and the vehicle or machine's ability to accept a more modern engine and emission control system. It should be noted, however, that newer engines or higher tier engines are not necessarily cleaner engines, so it is important that the Project Applicant check the actual

[16] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[17] http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf
[18] http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf
[19] Repair, Rebuild, and Repower, EPA, *available at:* https://www.epa.gov/verified-diesel-tech/learn-about-verified-technologies-clean-diesel#repair

emission standard level of the current (existing) and new engines to ensure the repower product is reducing emissions for NO_x. [20]

- Replacement of older equipment with equipment meeting the latest emission standards.

Engine replacement can include substituting a cleaner highway engine for a nonroad engine. Diesel equipment may also be replaced with other technologies or fuels. Examples include hybrid switcher locomotives, electric cranes, LNG, CNG, LPG or propane yard tractors, forklifts or loaders. Replacements using natural gas may require changes to fueling infrastructure.[21] Replacements often require some re-engineering work due to differences in size and configuration. Typically there are benefits in fuel efficiency, reliability, warranty, and maintenance costs.[22]

Install Retrofit Devices on Existing Construction Equipment

PM and NOx emissions from alternatively-fueled construction equipment can be further reduced by installing retrofit devices on existing and/or new equipment. The most common retrofit technologies are retrofit devices for engine exhaust after-treatment. These devices are installed in the exhaust system to reduce emissions and should not impact engine or vehicle operation. [23] Below is a table, prepared by the EPA, that summarizes the commonly used retrofit technologies and the typical cost and emission reductions associated with each technology.[24] It should be noted that actual emissions reductions and costs will depend on specific manufacturers, technologies and applications.

Technology	Typical Emissions Reductions (percent)				Typical Costs ($)
	PM	NOx	HC	CO	
Diesel Oxidation Catalyst (DOC)	20-40	-	40-70	40-60	Material: $600-$4,000 Installation: 1-3 hours
Diesel Particulate Filter (DPF)	85-95	-	85-95	50-90	Material: $8,000-$50,000 Installation: 6-8 hours
Partial Diesel Particulate Filter (pDPF)	up to 60	-	40-75	10-60	Material: $4,000-$6,000 Installation: 6-8 hours
Selective Catalyst Reduction (SCR)	-	up to 75	-	-	$10,000-$20,000; Urea $0.80/gal

[20] Diesel Emissions Reduction Program (DERA): Technologies, Fleets and Projects Information, *available at:* http://www2.epa.gov/sites/production/files/2015-09/documents/420p11001.pdf
[21] Alternative Fuel Conversion, EPA, *available at:* https://www3.epa.gov/otaq/consumer/fuels/altfuels/altfuels.htm#fact
[22] Cleaner Fuels, EPA, *available at:* https://www.epa.gov/verified-diesel-tech/learn-about-verified-technologies-clean-diesel#cleaner
[23] Retrofit Technologies, EPA, *available at:* https://www.epa.gov/verified-diesel-tech/learn-about-verified-technologies-clean-diesel#retrofit
[24] Cleaner Diesels: Low Cost Ways to Reduce Emissions from Construction Equipment, March 2007, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/cleaner-diesels-low-cost-ways-to-reduce-emissions-from-construction-equipment.pdf, p. 26

Closed Crankcase Ventilation (CCV)	varies	-	-	-	-
Exhaust Gas Recirculation (EGR)	-	25-40	-	-	-
Lean NOx Catalyst (LNC)	-	5-40	-	-	$6,500-$10,000

Use Electric and Hybrid Construction Equipment

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[25] report also proposes the use of electric and/or hybrid construction equipment as a way to mitigate NO_x emissions. When construction equipment is powered by grid electricity rather than fossil fuel, direct emissions from fuel combustion are replaced with indirect emissions associated with the electricity used to power the equipment. Furthermore, when construction equipment is powered by hybrid-electric drives, emissions from fuel combustion are also greatly reduced. Electric construction equipment is available commercially from companies such as Peterson Pacific Corporation,[26] which specialize in the mechanical processing equipment like grinders and shredders. Construction equipment powered by hybrid-electric drives is also commercially available from companies such as Caterpillar[27]. For example, Caterpillar reports that during an 8-hour shift, its D7E hybrid dozer burns 19.5 percent fewer gallons of fuel than a conventional dozer while achieving a 10.3 percent increase in productivity. The D7E model burns 6.2 gallons per hour compared to a conventional dozer which burns 7.7 gallons per hour.[28] Fuel usage and savings are dependent on the make and model of the construction equipment used. The Project Applicant should calculate project-specific savings and provide manufacturer specifications indicating fuel burned per hour.

Furthermore, the contractor should submit to the developer's representative a monthly report that, for each onroad construction vehicle, nonroad construction equipment, or generator onsite, includes: [29]

- Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
- Any problems with the equipment or emission controls.
- Certified copies of fuel deliveries for the time period that identify:
    - Source of supply
    - Quantity of fuel
    - Quality of fuel, including sulfur content (percent by weight).

[25] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[26] Peterson Electric Grinders Brochure, *available at:* http://www.petersoncorp.com/wp-content/uploads/peterson_electric_grinders1.pdf
[27] Electric Power Products, *available at:* http://www.cat.com/en_US/products/new/power-systems/electric-power-generation.html
[28] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[29] Diesel Emission Controls in Construction Projects, *available at:* http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf

In addition to these measures, we also recommend the Applicant to implement the following NO_x mitigation measures, called "Enhanced Exhaust Control Practices,"[30] that are recommended by the Sacramento Metropolitan Air Quality Management District (SMAQMD):

1. The project representative shall submit to the lead agency a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project.
    - The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment.
    - The project representative shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.
    - This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment.
    - The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.
2. The project representative shall provide a plan for approval by the lead agency demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NO_X reduction and 45% particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average.
    - This plan shall be submitted in conjunction with the equipment inventory.
    - Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.
    - The District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.
3. The project representative shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour.
    - Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. Non-compliant equipment will be documented and a summary provided to the lead agency monthly.
    - A visual survey of all in-operation equipment shall be made at least weekly.
    - A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.

[30] http://www.airquality.org/ceqa/Ch3EnhancedExhaustControl_10-2013.pdf

4. The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other District, state or federal rules or regulations.

These measures are more stringent and prescriptive than those measures identified in the DEIR, Mitigation Monitoring Plan, and Air Quality Assessment. When combined together, these measures offer a cost-effective, feasible way to incorporate lower-emitting equipment into the Project's construction fleet, which subsequently, reduces NO_x emissions released during Project construction. A DEIR must be prepared to include additional mitigation measures, as well as include an updated air quality assessment to ensure that the necessary mitigation measures are implemented to reduce construction emissions to below thresholds. Furthermore, the Project Applicant needs to demonstrate commitment to the implementation of these measures prior to Project approval, to ensure that the Project's construction-related emissions are reduced to the maximum extent possible.

Incorrectly Presumed the Use of Tier 4 Final Engines

According to the 2016 Mitigation Monitoring Program (MMP) for the proposed Project, all off-road diesel-powered construction equipment greater than 50 HP will meet Tier 4 emission standards "where available" (AQ-05, p. 4 of 33). Furthermore, the MMP also states that all off-road diesel-powered construction equipment greater than 50 hp used during construction of PEP Phase 1 will also comply with EPA-Certified Tier 4 emission controls "where available" (AQ-09, p. 5 of 33). The MMP makes no mention, however, of an actual commitment to the implementation of these mitigation measures, nor does it discuss the feasibility of actually obtaining an entirely Tier 4 fleet. Although off-road Tier 4 equipment is available for purchase, it is not required that off-road construction fleets be comprised solely of Tier 4 Final engines. Furthermore, based on availability and cost, it is unrealistic to presume that all of the construction equipment utilized for the Project will have Tier 4 engines. As a result, this mitigation measure should not be relied upon to reduce the Project's construction emissions to below levels of significance. Rather, the Project should pursue additional mitigation measures that are more technically feasible to implement.

The United States Environmental Protection Agency's (USEPA) 1998 nonroad engine emission standards were structured as a three-tiered progression. Tier 1 standards were phased-in from 1996 to 2000 and Tier 2 emission standards were phased in from 2001 to 2006. Tier 3 standards, which applied to engines from 37-560 kilowatts (kW) only, were phased in from 2006 to 2008. The Tier 4 emission standards were introduced in 2004, and were phased in from 2008 – 2015. [31] These tiered emission standards, however, are only applicable to newly manufactured nonroad equipment. According to the United States Environmental Protection Agency (USEPA) "if products were built before EPA emission standards started to apply, they are generally not affected by the standards or other regulatory requirements."[32]

[31] Emission Standards, Nonroad Diesel Engines, *available at:* https://www.dieselnet.com/standards/us/nonroad.php#tier3

[32] "Frequently Asked Questions from Owners and Operators of Nonroad Engines, Vehicles, and Equipment Certified to EPA Standards." United States Environmental Protection Agency, August 2012. *Available at:* http://www.epa.gov/oms/highway-diesel/regs/420f12053.pdf

Therefore, pieces of equipment manufactured prior to 2000 are not required to adhere to Tier 2 emission standards, and pieces of equipment manufactured prior to 2008 are not required to adhere to Tier 4 emission standards. Construction equipment often lasts more than 30 years; as a result, Tier 1 equipment and non-certified equipment are currently still in use.[33] It is estimated that of the two million diesel engines currently used in construction, 31 percent were manufactured before the introduction of emissions regulations.[34]

Furthermore, in a 2010 white paper, the California Industry Air Quality Coalition estimated that approximately 7% and less than 1% of all off-road heavy duty diesel equipment in California was equipped with Tier 2 and Tier 3 engines, respectively.[35] It goes on to explain that "cleaner burning Tier 4 engines…are not expected to come online in significant numbers until 2014." Given that significant production activities have only just begun within the last couple of years, it can be presumed that there is limited availability of Tier 4 equipment. Furthermore, due to the complexity of Tier 4 engines, it is very difficult if not nearly impossible, to retrofit older model machinery with this technology.[36] Therefore, available off-road machinery equipped with Tier 4 engines are most likely new. According to a September 20, 2013 EPA Federal Register document, a new Tier 4 scraper or bulldozer would cost over $1,000,000 to purchase.[37] Utilizing the construction equipment list from the CalEEMod output file, it would be completely unrealistic to assume that all 18 pieces of equipment would be purchased at this price Appendix E, pp. 144). It is also relatively expensive to retrofit a piece of old machinery with a Tier 3 engine. For example, replacing a Tier 0 engine with a Tier 3 engine would cost roughly $150,000 or more.[38] Therefore, before applying mitigation measures of this caliber to a Project, the applicant should consider both the cost of the proposed equipment as well as determine the probability of obtaining an entirely Tier 4 construction fleet.

It should be noted that there are regulations, currently enforced by the California Air Resources Board (CARB), with regards to construction fleets. According to CARB, large and medium fleets (fleets with over 2,500 horse power) will not be allowed to add a vehicle with a Tier 1 engine to its fleet starting on January 1, 2014. The engine tier must be Tier 2 or higher.[39] Therefore, it is more realistic to assume that the fleet will include a mix of Tier 2, 3, and 4 engines, rather than just Tier 4 Final equipment exclusively.

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[33] "Best Practices for Clean Diesel Construction." Northeast Diesel Collaborative, August 2012. *Available at:* http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf

[34] Northeast Diesel Collaborative Clean Construction Workgroup, *available at:* http://northeastdiesel.org/construction.html

[35] "White Paper: An Industry Perspective on the California Air Resources Board Proposed Off-Road Diesel Regulations."Construction Industry Air Quality Coalition, *available at:* http://www.agc-ca.org/uploadedFiles/Member_Services/Regulatory-Advocacy-Page-PDFs/White_Paper_CARB_OffRoad.pdf

[36] "Tier 4- How it will affect your equipment, your business and your environment."Milton CAT, *available at:* http://www.miltoncat.com/News/Documents/Articles/For%20the%20Trenches%20-%20Tier%204.pdf

[37] "Federal Register." Environmental Protection Agency, September 20, 2013, *available at:* http://www.gpo.gov/fdsys/pkg/FR-2013-09-20/pdf/2013-22930.pdf

[38] "Federal Register." Environmental Protection Agency, September 20, 2013, *available at:* http://www.gpo.gov/fdsys/pkg/FR-2013-09-20/pdf/2013-22930.pdf

[39] "Enforcement of the In-Use Off-Road Vehicle Regulations."California Air Resources Board, February 2014, *available at:* http://www.arb.ca.gov/msprog/mailouts/msc1401/msc1401.pdf

Unless the Project applicant can demonstrate to the public, either through budget or through a preliminary agreement with a contractor or supplier, that they will purchase/rent exclusively Tier 4 construction equipment, the use of Tier 2 equipment should be conservatively assumed, and an updated air quality analysis should be conducted to reflect this more realistic scenario.

Incorrect Evaluation of Operational Criteria Air Pollutant Emissions

The DEIR's Air Quality Assessment uses the change between the Project's 2020 and 2025 operational emissions and the existing 2015 baseline emissions to determine Project significance (p. 17). Using this method, the Air Quality Assessment makes the following conclusion:

> "The analysis indicates that the emissions of ROG, NO_x, and CO will decrease in future years even though the headcount will increase. The vehicular emission rates will continue to decrease in future for these emissions, and will more than offset the increase in headcount. Emissions of SO_x, PM10, and PM2.5 will increase slightly in future years. Again the emission rates for these pollutants will go down in future years, offsetting a portion of the increase in emissions caused by increasing headcount. Most importantly, all emission changes are less than the SCAQMD thresholds and no impact on regional air quality is projected" (p. 17-18).

This method of determining Project significance, however, is incorrect and is inconsistent with recommendations set forth by the SCAQMD. Per SCAQMD recommendations, when measuring Project emissions, it is appropriate to include regulatory requirements, such as the federal and state regulations that require vehicles to be more efficient and lower-emitting. However, "the proposed Project's emissions themselves should not be masked by comparing it to an existing condition baseline where air quality is worse than what it will be when the proposed Project is operational".[40] It is appropriate to assume that vehicles will comply with existing regulatory requirements; however their increase in activity needs to be accounted for and shouldn't be masked by improvements brought on by those regulations.[41]

According to a comment letter prepared by the SCAQMD for the Recirculated Draft Environmental Impact Report (RDEIR) for the Proposed General Plan Amendment No. 960: General Plan Update Project,

> "By comparing project impacts to a baseline of actual 2008 conditions, the RDEIR fails as an information document because it does not disclose true air quality impacts from the project. This is exactly the type of situation which led the California Supreme Court to state that, '[t]o the extent a departure from the 'norm[ ]' of an existing conditions baseline (Guidelines, § 15125(a)) promotes public participation and more informed decision making by providing a more accurate

[40] SCAQMD Comment Letter on the Recirculated Draft Environmental Impact Report (RDEIR) for the Proposed General Plan Amendment No. 960: General Plan Update Project, April 3 2015, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/april/deirno960.pdf?sfvrsn=2

[41] *Ibid.*

picture of a proposed project's likely impacts, CEQA permits the departure.' (Neighbors for Smart Rail v. Exposition Metro Line Const. Authority (2013) 57 Cal. 4th 439, 453.)."[42]

Similar to the proposed Project, the RDEIR for the Proposed General Plan Amendment No. 960: General Plan Update Project compared future 2040 emissions to the existing 2008 baseline emissions, and found that the emissions between these two scenarios would result in a negative net increase. Consistent with the proposed Project, these negative net emissions were due to the substantial decrease in anticipated vehicle emissions from vehicles mandated by increased efficiency requirements in current Federal and State law that have been implemented and will continue to affect the motor vehicle fleet between the existing year and 2040.

In response to the conclusions made regarding this project's air quality impacts, the SCAQMD staff concludes that "although existing regulatory and other requirements have shown an improvement in the region's air quality and is expected to continue to improve over time, the decrease in emissions from compliance from such requirements should not be considered mitigation since the reduced emissions are not a result of additional actions incorporated in the project to reduce the unmitigated emissions from mobile source vehicle emission activities." [43] In order to ensure that the project's air quality impacts are accurately represented, the SCAQMD staff recommends that if a baseline analysis is being conducted to evaluate emissions impacts, it is more appropriate to compare baseline emission activities with future vehicle activity using the same baseline emission factors to show the situation if no changes are made.[44]

Therefore, to remain consistent with SCAQMD recommendations, the Air Quality Assessment should remodel the future 2020 and 2025 FMPU Buildout emissions utilizing the same vehicle emission factors as the 2015 existing model. An updated DEIR should be prepared to include an updated air quality assessment that correctly analyzes the future operational emissions to the baseline existing emissions following SCAQMD recommendations.

Updated Analysis Demonstrates a Potentially Significant Impact

In an effort to more accurately estimate the Project's emissions, we prepared an updated model for the 2025 FMPU operations using CalEEMod. It should be noted that we did not remodel 2020 FMPU operational emissions and only remodeled 2025 FMPU emissions, as the 2025 scenario represents the emissions that would occur at full Project buildout. An operational year of 2015 was inputted so that the same 2015 emission factors as the existing model were utilized, consistent with SCAQMD recommendations. All other parameters remained the same.

When correct input parameters are used to model emissions, we find that the net emissions between the 2025 FMPU buildout and existing conditions increase when compared to what is estimated in the Air

[42] *Ibid.*
[43] *Ibid.*
[44] *Ibid.*

Quality Assessment. Furthermore, we find that the difference in NO_x emissions exceed the SCAQMD threshold of 55 pounds per day (see table below).

Campus Emissions for Future Years (pounds per day)						
	ROG	**NO_x**	**CO**	**SO_x**	**PM10**	**PM2.5**
Existing	221	507	1,932	4	284	81
Year 2025	265	608	2,351	5	341	97
Net Increase	**44**	**101**	**419**	**1**	**57**	**16**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	***Yes***	No	No	No	No

As demonstrated in the table above, the net change between the future and baseline NO_x emissions, when estimated correctly, greatly exceed the SCAQMD threshold of 55 lbs/day. Our analysis demonstrates that a potentially significant impact may occur as a result of Project operation, which was not previously identified. As such, a DEIR should be prepared that includes an updated air quality analysis to correctly evaluate the Project's air quality impacts, and should include additional mitigation measures where necessary.

Sincerely,

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Dr. Rosenfeld is the Co-Founder and Principal Environmental Chemist at Soil Water Air Protection Enterprise (SWAPE). His focus is the fate and transport of environmental contaminants, risk assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling, oil spills, boilers, incinerators and other industrial and agricultural sources relating to nuisance and personal injury. His project experience ranges from monitoring and modeling of pollution sources as they relate to human and ecological health. Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing petroleum, chlorinated solvents, pesticides, radioactive waste, PCBs, PAHs, dioxins, furans, volatile organics, semi-volatile organics, perchlorate, heavy metals, asbestos, PFOA, unusual polymers, MtBE, fuel oxygenates and odor. Dr. Rosenfeld has evaluated greenhouse gas emissions using various modeling programs recommended by California Air Quality Management Districts.

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UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist
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Publications:

Chen, J. A., Zapata, A R., Sutherland, A. J., Molmen, D. R,. Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing,

Rosenfeld P.E., and Suffet, I.H. (Mel) (2007). Anatomy of an Odor Wheel. *Water Science and Technology*.

Rosenfeld, P.E., Clark, J.J.J., Hensley A.R., Suffet, I.H. (Mel) (2007). The use of an odor wheel classification for evaluation of human health risk criteria for compost facilities. *Water Science And Technology*.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant*. The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006.* Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993.

Deposition and/or Trial Testimony:

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September, 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio

John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the Court of Common Pleas for the Second Judicial Circuit, State of South Carolina, County of Aiken
David Anderson, et al., *Plaintiffs*, vs. Norfolk Southern Corporation, et al., *Defendants*.
Case Number: 2007-CP-02-1584

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., *Plaintiffs*, vs. Drummond Company Inc., et al., *Defendants*
Civil Action No. CV 2008-2076
Rosenfeld Deposition: September 2010

In the Ninth Judicial District Court, Parish of Rapides, State of Louisiana
Roger Price, et al., *Plaintiffs*, vs. Roy O. Martin, L.P., et al., *Defendants*.
Civil Suit Number 224,041 Division G
Rosenfeld Deposition: September 2008

In the United States District Court, Western District Lafayette Division
Ackle et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 2:07CV1052
Rosenfeld Deposition: July 2009

In the United States District Court for the Southern District of Ohio
Carolyn Baker, et al., *Plaintiffs*, vs. Chevron Oil Company, et al., *Defendants*.
Case Number 1:05 CV 227
Rosenfeld Deposition: July 2008

In the Fourth Judicial District Court, Parish of Calcasieu, State of Louisiana
Craig Steven Arabie, et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 07-2738 G

In the Fourteenth Judicial District Court, Parish of Calcasieu, State of Louisiana
Leon B. Brydels, *Plaintiffs*, vs. Conoco, Inc., et al*., Defendants.*
Case Number 2004-6941 Division A

In the District Court of Tarrant County, Texas, 153rd Judicial District
Linda Faust, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, Witco Chemical Corporation A/K/A Witco Corporation, Solvents and Chemicals, Inc. and Koppers Industries, Inc., *Defendants*.
Case Number 153-212928-05
Rosenfeld Deposition: December 2006, October 2007
Rosenfeld Trial: January 2008

In the Superior Court of the State of California in and for the County of San Bernardino
Leroy Allen, et al., *Plaintiffs*, vs. Nutro Products, Inc., a California Corporation and DOES 1 to 100, inclusive, *Defendants*.
John Loney, Plaintiff, vs. James H. Didion, Sr.; Nutro Products, Inc.; DOES 1 through 20, inclusive, *Defendants*.
Case Number VCVVS044671
Rosenfeld Deposition: December 2009
Rosenfeld Trial: March 2010

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., *Plaintiffs*, vs. International Paper Company, *Defendant*.
Civil Action Number 2:09-cv-232-WHA-TFM
Rosenfeld Deposition: July 2010, June 2011

In the Superior Court of the State of California in and for the County of Los Angeles
Leslie Hensley and Rick Hensley, *Plaintiffs*, vs. Peter T. Hoss, as trustee on behalf of the Cone Fee Trust; Plains Exploration & Production Company, a Delaware corporation; Rayne Water Conditioning, Inc., a California Corporation; and DOES 1 through 100, *Defendants.*
Case Number SC094173
Rosenfeld Deposition: September 2008, October 2008

In the Superior Court of the State of California in and for the County of Santa Barbara, Santa Maria Branch
Clifford and Shirley Adelhelm, et al., all individually, *Plaintiffs*, vs. Unocal Corporation, a Delaware Corporation; Union Oil Company of California, a California corporation; Chevron Corporation, a California corporation; ConocoPhillips, a Texas corporation; Kerr-McGee Corporation, an Oklahoma corporation; and DOES 1 though 100, *Defendants.*
Case Number 1229251 (Consolidated with case number 1231299)
Rosenfeld Deposition: January 2008

In the United States District Court for Eastern District of Arkansas, Eastern District of Arkansas
Harry Stephens Farms, Inc, and Harry Stephens, individual and as managing partner of Stephens Partnership, *Plaintiffs*, vs. Helena Chemical Company, and Exxon Mobil Corp., successor to Mobil Chemical Co., *Defendants.*
Case Number 2:06-CV-00166 JMM (Consolidated with case number 4:07CV00278 JMM)
Rosenfeld Deposition: July 2010

In the United States District Court for the Western District of Arkansas, Texarkana Division
Rhonda Brasel, et al., *Plaintiffs*, vs. Weyerhaeuser Company and DOES 1 through 100, *Defendants.*
Civil Action Number 07-4037
Rosenfeld Deposition: March 2010
Rosenfeld Trial: October 2010

In the District Court of Texas 21st Judicial District of Burleson County
Dennis Davis, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, *Defendant.*
Case Number 25,151
Rosenfeld Trial: May 2009

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

JESSIE MARIE JAEGER

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SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

EDUCATION

UNIVERSITY OF CALIFORNIA, LOS ANGELES **B.S. CONSERVATION BIOLOGY & ENVIRONMENTAL SCIENCES** *JUNE 2014*

PROJECT EXPERIENCE

SOIL WATER AIR PROTECTION ENTERPRISE ***SANTA MONICA, CA***

AIR QUALITY SPECIALIST

SENIOR ANALYST: CEQA ANALYSIS & MODELING

- Calculated roadway, stationary source, and cumulative impacts for risk and hazard analyses at proposed land use projects.
- Quantified criteria air pollutant and greenhouse gas emissions released during construction and operational activities of proposed land use projects using CalEEMod and EMFAC2011 emission factors.
- Utilized AERSCREEN, a screening dispersion model, to determine the ambient air concentrations at sensitive receptor locations.
- Organized presentations containing figures and tables comparing results of particulate matter analyses to CEQA thresholds.
- Prepared reports that discuss results of the health risk analyses conducted for several land use redevelopment projects.

SENIOR ANALYST: GREENHOUSE GAS MODELING AND DETERMINATION OF SIGNIFICANCE

- Quantified greenhouse gas (GHG) emissions of a "business as usual" scenario for proposed land use projects using CalEEMod.
- Determined compliance of proposed projects with AB 32 GHG reduction targets, with measures described in CARB's Scoping Plan for each land use sector, and with GHG significance thresholds recommended by various Air Quality Management Districts in California.
- Produced tables and figures that compare the results of the GHG analyses to applicable CEQA thresholds and reduction targets.

PROJECT MANAGER: OFF-GASSING OF FORMALDEHYDE FROM FLOORING PRODUCTS

- Determined the appropriate standard test methods to effectively measure formaldehyde emissions from flooring products.
- Compiled and analyzed laboratory testing data. Produced tables, charts, and graphs to exhibit emission levels.
- Compared finalized testing data to Proposition 65 No Significant Risk Level (NSRL) and to CARB's Phase 2 Standard.
- Prepared a final analytical report and organized supporting data for use as Expert testimony in environmental litigation.
- Participated in meetings with clients to discuss project strategy and identify solutions to achieve short and long term goals.

PROJECT ANALYST: EXPOSURE ASSESSMENT OF CONTAMINANTS EMITTED BY INCINERATOR

- Reviewed and organized sampling data, and determined the maximum levels of arsenic, dioxin, and lead in soil samples.
- Determined cumulative and hourly particulate deposition of incinerator and modeled particle dispersion locations using GIS and AERMOD.
- Conducted risk assessment using guidance set forth by the Office of Environmental Health Hazard Assessment (OEHHA).
- Utilized LeadSpread8 to evaluate exposure, and the potential adverse health effects from exposure, to lead in the environment.
- Compared final results of assessment to the Environmental Protection Agency's (EPA) Regional Screening Levels (RSLs).

ACCOMPLISHMENTS

- **Recipient**, Bruins Advantage Scholarship, University of California, Los Angeles ***SEPT 2010 – JUNE 2014***
- **Academic Honoree,** Dean's List, University of California, Los Angeles ***SEPT 2013 – JUNE 2014***
- **Academic Wellness Director**, UCLA Undergraduate Students Associated Council ***SEPT 2013 – JUNE 2014***
- **Student Groups Support Committee Member**, UCLA Undergraduate Students Associated Council ***SEPT 2012 – JUNE 2013***

Appendix A: CalEEMod Output Tables

Mt. SAC FMPU-2025

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	43,139.00	Student	43.23	1,883,113.86	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2015 operational year will utilize 2015 emmission factors.

Land Use -

Construction Phase - Operational run only.

Off-road Equipment - Operational run only.

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	50.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	49.6925	0.0441	4.5559	3.3000e-004		0.0165	0.0165		0.0165	0.0165		9.4411	9.4411	0.0273		10.0151
Energy	1.5840	14.4003	12.0962	0.0864		1.0944	1.0944		1.0944	1.0944		17,280.3390	17,280.3390	0.3312	0.3168	17,385.5042
Mobile	206.4342	564.2311	2,333.8713	4.9500	331.4455	8.3394	339.7850	88.5462	7.6617	96.2080		446,842.2623	446,842.2623	18.7673		447,236.3757
Total	**257.7107**	**578.6755**	**2,350.5235**	**5.0368**	**331.4455**	**9.4503**	**340.8959**	**88.5462**	**8.7726**	**97.3189**		**464,132.0423**	**464,132.0423**	**19.1258**	**0.3168**	**464,631.8950**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	49.6925	0.0441	4.5559	3.3000e-004		0.0165	0.0165		0.0165	0.0165		9.4411	9.4411	0.0273		10.0151
Energy	1.5840	14.4003	12.0962	0.0864		1.0944	1.0944		1.0944	1.0944		17,280.3390	17,280.3390	0.3312	0.3168	17,385.5042
Mobile	206.4342	564.2311	2,333.8713	4.9500	331.4455	8.3394	339.7850	88.5462	7.6617	96.2080		446,842.2623	446,842.2623	18.7673		447,236.3757
Total	**257.7107**	**578.6755**	**2,350.5235**	**5.0368**	**331.4455**	**9.4503**	**340.8959**	**88.5462**	**8.7726**	**97.3189**		**464,132.0423**	**464,132.0423**	**19.1258**	**0.3168**	**464,631.8950**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	12/30/2016	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	0	8.00	162	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	206.4342	564.2311	2,333.8713	4.9500	331.4455	8.3394	339.7850	88.5462	7.6617	96.2080		446,842.2623	446,842.2623	18.7673		447,236.3757
Mitigated	206.4342	564.2311	2,333.8713	4.9500	331.4455	8.3394	339.7850	88.5462	7.6617	96.2080		446,842.2623	446,842.2623	18.7673		447,236.3757

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior College (2Yr)	51,766.80	18,118.38	1725.56	120,243,888	120,243,888
Total	51,766.80	18,118.38	1,725.56	120,243,888	120,243,888

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Junior College (2Yr)	16.60	8.40	6.90	6.40	88.60	5.00	92	7	1

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.514499	0.060499	0.179997	0.139763	0.042095	0.006675	0.015446	0.029572	0.001914	0.002508	0.004341	0.000594	0.002098

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.5840	14.4003	12.0962	0.0864		1.0944	1.0944		1.0944	1.0944		17,280.3390	17,280.3390	0.3312	0.3168	17,385.5042
NaturalGas Unmitigated	1.5840	14.4003	12.0962	0.0864		1.0944	1.0944		1.0944	1.0944		17,280.3390	17,280.3390	0.3312	0.3168	17,385.5042

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior College (2Yr)	146883	1.5840	14.4003	12.0962	0.0864		1.0944	1.0944		1.0944	1.0944		17,280.3390	17,280.3390	0.3312	0.3168	17,385.5042
Total		**1.5840**	**14.4003**	**12.0962**	**0.0864**		**1.0944**	**1.0944**		**1.0944**	**1.0944**		**17,280.3390**	**17,280.3390**	**0.3312**	**0.3168**	**17,385.5042**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior College (2Yr)	146.883	1.5840	14.4003	12.0962	0.0864		1.0944	1.0944		1.0944	1.0944		17,280.3390	17,280.3390	0.3312	0.3168	17,385.5042
Total		**1.5840**	**14.4003**	**12.0962**	**0.0864**		**1.0944**	**1.0944**		**1.0944**	**1.0944**		**17,280.3390**	**17,280.3390**	**0.3312**	**0.3168**	**17,385.5042**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	49.6925	0.0441	4.5559	3.3000e-004		0.0165	0.0165		0.0165	0.0165		9.4411	9.4411	0.0273		10.0151
Mitigated	49.6925	0.0441	4.5559	3.3000e-004		0.0165	0.0165		0.0165	0.0165		9.4411	9.4411	0.0273		10.0151

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.9565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	37.2857					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.4504	0.0441	4.5559	3.3000e-004		0.0165	0.0165		0.0165	0.0165		9.4411	9.4411	0.0273		10.0151
Total	**49.6925**	**0.0441**	**4.5559**	**3.3000e-004**		**0.0165**	**0.0165**		**0.0165**	**0.0165**		**9.4411**	**9.4411**	**0.0273**		**10.0151**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.9565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	37.2857					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.4504	0.0441	4.5559	3.3000e-004		0.0165	0.0165		0.0165	0.0165		9.4411	9.4411	0.0273		10.0151
Total	**49.6925**	**0.0441**	**4.5559**	**3.3000e-004**		**0.0165**	**0.0165**		**0.0165**	**0.0165**		**9.4411**	**9.4411**	**0.0273**		**10.0151**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Mt. SAC FMPU-2025

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	43,139.00	Student	43.23	1,883,113.86	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2015
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2015 operational year will utilize 2015 emmission factors.

Land Use -

Construction Phase - Operational run only.

Off-road Equipment - Operational run only.

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	50.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	49.6925	0.0441	4.5559	3.3000e-004		0.0165	0.0165		0.0165	0.0165		9.4411	9.4411	0.0273		10.0151
Energy	1.5840	14.4003	12.0962	0.0864		1.0944	1.0944		1.0944	1.0944		17,280.3390	17,280.3390	0.3312	0.3168	17,385.5042
Mobile	214.0955	593.5721	2,298.8544	4.7015	331.4455	8.3887	339.8342	88.5462	7.7070	96.2532		425,046.3277	425,046.3277	18.7811		425,440.7309
Total	**265.3720**	**608.0165**	**2,315.5066**	**4.7882**	**331.4455**	**9.4996**	**340.9451**	**88.5462**	**8.8179**	**97.3641**		**442,336.1078**	**442,336.1078**	**19.1396**	**0.3168**	**442,836.2502**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	49.6925	0.0441	4.5559	3.3000e-004		0.0165	0.0165		0.0165	0.0165		9.4411	9.4411	0.0273		10.0151
Energy	1.5840	14.4003	12.0962	0.0864		1.0944	1.0944		1.0944	1.0944		17,280.3390	17,280.3390	0.3312	0.3168	17,385.5042
Mobile	214.0955	593.5721	2,298.8544	4.7015	331.4455	8.3887	339.8342	88.5462	7.7070	96.2532		425,046.3277	425,046.3277	18.7811		425,440.7309
Total	**265.3720**	**608.0165**	**2,315.5066**	**4.7882**	**331.4455**	**9.4996**	**340.9451**	**88.5462**	**8.8179**	**97.3641**		**442,336.1078**	**442,336.1078**	**19.1396**	**0.3168**	**442,836.2502**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	12/30/2016	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	0	8.00	162	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	214.0955	593.5721	2,298.8544	4.7015	331.4455	8.3887	339.8342	88.5462	7.7070	96.2532		425,046.3277	425,046.3277	18.7811		425,440.7309
Mitigated	214.0955	593.5721	2,298.8544	4.7015	331.4455	8.3887	339.8342	88.5462	7.7070	96.2532		425,046.3277	425,046.3277	18.7811		425,440.7309

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior College (2Yr)	51,766.80	18,118.38	1725.56	120,243,888	120,243,888
Total	51,766.80	18,118.38	1,725.56	120,243,888	120,243,888

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Junior College (2Yr)	16.60	8.40	6.90	6.40	88.60	5.00	92	7	1

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.514499	0.060499	0.179997	0.139763	0.042095	0.006675	0.015446	0.029572	0.001914	0.002508	0.004341	0.000594	0.002098

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.5840	14.4003	12.0962	0.0864		1.0944	1.0944		1.0944	1.0944		17,280.3390	17,280.3390	0.3312	0.3168	17,385.5042
NaturalGas Unmitigated	1.5840	14.4003	12.0962	0.0864		1.0944	1.0944		1.0944	1.0944		17,280.3390	17,280.3390	0.3312	0.3168	17,385.5042

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior College (2Yr)	146883	1.5840	14.4003	12.0962	0.0864		1.0944	1.0944		1.0944	1.0944		17,280.3390	17,280.3390	0.3312	0.3168	17,385.5042
Total		**1.5840**	**14.4003**	**12.0962**	**0.0864**		**1.0944**	**1.0944**		**1.0944**	**1.0944**		**17,280.3390**	**17,280.3390**	**0.3312**	**0.3168**	**17,385.5042**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior College (2Yr)	146.883	1.5840	14.4003	12.0962	0.0864		1.0944	1.0944		1.0944	1.0944		17,280.3390	17,280.3390	0.3312	0.3168	17,385.5042
Total		**1.5840**	**14.4003**	**12.0962**	**0.0864**		**1.0944**	**1.0944**		**1.0944**	**1.0944**		**17,280.3390**	**17,280.3390**	**0.3312**	**0.3168**	**17,385.5042**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Unmitigated	49.6925	0.0441	4.5559	3.3000e-004		0.0165	0.0165		0.0165	0.0165		9.4411	9.4411	0.0273		10.0151
Mitigated	49.6925	0.0441	4.5559	3.3000e-004		0.0165	0.0165		0.0165	0.0165		9.4411	9.4411	0.0273		10.0151

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.9565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	37.2857					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.4504	0.0441	4.5559	3.3000e-004		0.0165	0.0165		0.0165	0.0165		9.4411	9.4411	0.0273		10.0151
Total	**49.6925**	**0.0441**	**4.5559**	**3.3000e-004**		**0.0165**	**0.0165**		**0.0165**	**0.0165**		**9.4411**	**9.4411**	**0.0273**		**10.0151**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.9565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	37.2857					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.4504	0.0441	4.5559	3.3000e-004		0.0165	0.0165		0.0165	0.0165		9.4411	9.4411	0.0273		10.0151
Total	**49.6925**	**0.0441**	**4.5559**	**3.3000e-004**		**0.0165**	**0.0165**		**0.0165**	**0.0165**		**9.4411**	**9.4411**	**0.0273**		**10.0151**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Appendix B: AERSCREEN Input and Output Files

Start date and time 07/15/16 13:25:48
AERSCREEN 11126

Building A

Building A

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	0.150E-02 g/s	0.119E-01 lb/hr
Area Height:	3.00 meters	9.84 feet
Area Source Length:	80.00 meters	262.47 feet
Area Source Width:	60.00 meters	196.85 feet
Vertical Dimension:	1.50 meters	4.92 feet
Model Mode:	URBAN	
Population:	139731	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet

No flagpole receptors

No discrete receptors used

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K -9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

```
 Dominant Surface Profile: Urban
 Dominant Climate Type:    Average Moisture


 AERSCREEN output file:
 Building A.out


 *** AERSCREEN Run is Ready to Begin



 No terrain used, AERMAP will not be run
**************************************************

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture
Season             Albedo     Bo       zo
Winter              0.35     1.50     1.000
Spring              0.14     1.00     1.000
Summer              0.16     2.00     1.000
Autumn              0.18     2.00     1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 07/15/16 13:26:52
 ****************************************

  Running AERMOD
 Processing Winter

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6
```

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 25

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 30

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 8

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 35

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 9

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 40

******** WARNING MESSAGES ********

*** NONE ***

****

Running AERMOD
Processing Spring

Processing surface roughness sector 1

****

Processing wind flow sector 1

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 0

```
    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   6
```

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 25

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 30

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 8

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 35

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 9

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 40

******** WARNING MESSAGES ********

*** NONE ***

****

Running AERMOD
Processing Summer

Processing surface roughness sector 1

****

Processing wind flow sector 1

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 0

```
    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   6
```

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 25

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 30

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 8

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 35

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 9

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 40

******** WARNING MESSAGES ********

*** NONE ***

****

Running AERMOD
Processing Autumn

Processing surface roughness sector 1

****

Processing wind flow sector 1

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 0

```
    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   6
```

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 25

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 30

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 8

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 35

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 9

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 40

******** WARNING MESSAGES ********

*** NONE ***

FLOWSECTOR ended 07/15/16 13:27:10

REFINE started 07/15/16 13:27:10

AERMOD Finishes Successfully for REFINE stage 3 Winter sector 0

******** WARNING MESSAGES ********

*** NONE ***

REFINE ended 07/15/16 13:27:12

```
 ********************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
 Check log file for details
 ********************************************

 Ending date and time  07/15/16 13:27:12
```

Building A_max_conc_distance

Concentration	Distance	Elevation	Season/Month	Zo sector	Date	H0
U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.48299E+01	1.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.62033E+01	25.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
* 0.69743E+01	48.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.68669E+01	50.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.36512E+01	75.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.24341E+01	100.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.18206E+01	125.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.14320E+01	150.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.11670E+01	175.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.97649E+00	200.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.83379E+00	225.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.72394E+00	250.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.63657E+00	275.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.56590E+00	300.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.50799E+00	325.00	0.00	Winter	0-360	10011001	-1.30
0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0

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   0.45943E+00       350.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.41853E+00       375.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.38350E+00       400.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.35327E+00       425.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.32676E+00       450.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.30356E+00       475.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.28310E+00       500.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.26490E+00       525.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.24864E+00       550.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.23410E+00       575.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.22096E+00       600.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.20901E+00       625.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.19812E+00       650.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.18815E+00       675.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.17904E+00       700.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.17068E+00       725.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
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   0.16298E+00       749.99      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.15587E+00       775.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.14926E+00       800.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.14314E+00       825.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.13745E+00       850.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.13213E+00       875.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.12716E+00       900.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.12252E+00       925.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.11819E+00       950.01      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.11411E+00       975.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.11029E+00      1000.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.10669E+00      1025.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.10330E+00      1050.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.10068E+00      1075.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.97613E-01      1100.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.94714E-01      1125.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
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   0.91973E-01      1150.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.89380E-01      1175.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.86923E-01      1200.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.84594E-01      1225.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.82386E-01      1250.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.80289E-01      1275.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.78298E-01      1300.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.76405E-01      1325.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.74605E-01      1350.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.72891E-01      1375.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.71260E-01      1400.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.69706E-01      1425.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.68224E-01      1450.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.66811E-01      1475.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.65463E-01      1500.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.64175E-01      1525.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
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   0.62945E-01      1550.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.61769E-01      1574.99      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.60644E-01      1600.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.59567E-01      1625.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.58537E-01      1650.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.57550E-01      1675.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.56604E-01      1700.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.55696E-01      1725.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.54826E-01      1750.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.53990E-01      1775.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.53188E-01      1800.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.52416E-01      1824.99      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.51675E-01      1850.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.50961E-01      1875.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.50274E-01      1900.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.49612E-01      1924.99      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
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   0.48975E-01      1950.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.48360E-01      1975.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.47767E-01      1999.99      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.47194E-01      2025.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.46641E-01      2050.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.46107E-01      2075.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.45591E-01      2100.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.45091E-01      2124.99      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.44607E-01      2150.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.44138E-01      2175.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.43685E-01      2200.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.43245E-01      2224.99      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.42818E-01      2250.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.42403E-01      2275.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.42001E-01      2300.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.41610E-01      2325.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
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   0.41230E-01      2350.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.40861E-01      2375.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.40501E-01      2400.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.40151E-01      2425.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.39811E-01      2450.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.39478E-01      2475.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.39155E-01      2500.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.38839E-01      2525.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.38531E-01      2550.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.38230E-01      2575.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.37936E-01      2600.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.37649E-01      2625.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.37369E-01      2650.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.37094E-01      2675.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.36826E-01      2700.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.36563E-01      2725.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
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   0.36306E-01      2750.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.36054E-01      2775.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.35807E-01      2800.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.35566E-01      2824.99      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.35328E-01      2850.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.35096E-01      2875.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.34868E-01      2900.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.34644E-01      2925.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.34424E-01      2950.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.34208E-01      2975.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.33996E-01      3000.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.33788E-01      3025.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.33583E-01      3050.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.33382E-01      3075.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.33184E-01      3100.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.32989E-01      3125.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
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   0.32798E-01      3150.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.32609E-01      3175.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.32424E-01      3199.99      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.32241E-01      3225.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.32061E-01      3250.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.31884E-01      3275.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.31709E-01      3300.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.31537E-01      3325.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.31368E-01      3350.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.31201E-01      3375.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.31036E-01      3400.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.30873E-01      3425.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.30713E-01      3450.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.30555E-01      3475.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.30399E-01      3500.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.30245E-01      3525.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
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   0.30094E-01      3550.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.29944E-01      3575.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.29796E-01      3600.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.29650E-01      3625.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.29505E-01      3650.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.29363E-01      3675.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.29222E-01      3700.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.29083E-01      3725.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.28946E-01      3750.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.28810E-01      3775.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.28676E-01      3800.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.28544E-01      3825.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.28413E-01      3850.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.28283E-01      3875.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.28155E-01      3900.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.28029E-01      3925.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
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   0.27904E-01      3950.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.27780E-01      3975.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.27658E-01      4000.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.27537E-01      4025.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.27417E-01      4050.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.27299E-01      4074.99      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.27181E-01      4100.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.27065E-01      4125.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.26951E-01      4150.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.26837E-01      4175.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.26725E-01      4200.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.26614E-01      4225.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.26504E-01      4250.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.26395E-01      4275.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.26287E-01      4300.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.26180E-01      4325.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
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   0.26075E-01      4350.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.25970E-01      4375.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.25866E-01      4400.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.25764E-01      4425.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.25662E-01      4450.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.25562E-01      4475.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.25462E-01      4500.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.25363E-01      4525.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.25265E-01      4550.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.25169E-01      4575.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.25073E-01      4600.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.24978E-01      4625.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.24883E-01      4650.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.24790E-01      4675.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.24698E-01      4700.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.24606E-01      4725.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
```

Building A_max_conc_distance

```
   0.24515E-01      4750.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.24425E-01      4775.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.24336E-01      4800.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.24248E-01      4825.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.24160E-01      4850.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.24073E-01      4875.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.23987E-01      4900.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.23902E-01      4925.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.23817E-01      4950.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.23733E-01      4975.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
   0.23650E-01      5000.00      0.00        Winter       0-360   10011001   -1.30
0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0   310.0
  2.0
```

Start date and time 07/15/16 13:13:31
AERSCREEN 11126

Building G & PEP Phase 2

Building G & PEP Phase 2

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	0.0152 g/s	0.121 lb/hr
Area Height:	3.00 meters	9.84 feet
Area Source Length:	250.00 meters	820.21 feet
Area Source Width:	160.00 meters	524.93 feet
Vertical Dimension:	1.50 meters	4.92 feet
Model Mode:	URBAN	
Population:	139731	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet

No flagpole receptors

No discrete receptors used

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K - 9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

```
 Dominant Surface Profile: Urban
 Dominant Climate Type:    Average Moisture


 AERSCREEN output file:
 Building G & PEP Phase 2.out


 *** AERSCREEN Run is Ready to Begin



 No terrain used, AERMAP will not be run
************************************************

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture
Season             Albedo     Bo       zo
Winter              0.35     1.50     1.000
Spring              0.14     1.00     1.000
Summer              0.16     2.00     1.000
Autumn              0.18     2.00     1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 07/15/16 13:14:52
 ****************************************

  Running AERMOD
 Processing Winter

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0
```

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 2

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 5

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 3

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 10

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 15

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 20

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 6

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 25

    ********   WARNING MESSAGES   ********

                *** NONE ***

****
Processing wind flow sector   7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 30

    ********   WARNING MESSAGES   ********

                *** NONE ***

****
Processing wind flow sector   8

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 35

    ********   WARNING MESSAGES   ********

                *** NONE ***

 ****

  Running AERMOD
 Processing Spring

Processing surface roughness sector 1

****
Processing wind flow sector   1

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********

                *** NONE ***

****
Processing wind flow sector   2

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7
```

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 30

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 8

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 35

******** WARNING MESSAGES ********

*** NONE ***

****

Running AERMOD

Processing Summer

Processing surface roughness sector 1

****

Processing wind flow sector 1

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 0

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 2

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 5

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 3

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 10

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 15

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 20

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 6

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 25

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 30

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 8

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  35

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ******************************************

  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  35

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


FLOWSECTOR   ended 07/15/16 13:15:22

REFINE       started 07/15/16 13:15:22
```

```
 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


REFINE       ended 07/15/16 13:15:25

 ********************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
 Check log file for details
 ********************************************

 Ending date and time  07/15/16 13:15:25
```

Concentration	Distance	Elevation	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.10900E+02	1.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.11801E+02	25.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.12618E+02	50.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.13335E+02	75.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.13969E+02	100.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.14543E+02	125.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
* 0.14565E+02	126.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.13868E+02	150.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.99090E+01	175.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.81119E+01	200.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.68103E+01	225.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.59448E+01	250.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.53267E+01	275.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.48272E+01	300.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.44016E+01	325.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.40352E+01	350.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.37191E+01	375.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.34398E+01	400.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.31965E+01	425.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.29812E+01	450.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.27881E+01	475.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.26159E+01	500.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.24622E+01	525.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.23220E+01	550.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.21953E+01	575.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.20801E+01	600.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19743E+01 625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18783E+01 650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17905E+01 675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17083E+01 700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16322E+01 725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15623E+01 750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14975E+01 775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14377E+01 800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13817E+01 825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13291E+01 850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12795E+01 875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12333E+01 900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11900E+01 925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11495E+01 950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11114E+01 975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10756E+01 1000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10415E+01 1025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10093E+01 1050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.97893E+00 1075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.95030E+00 1100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.92326E+00 1125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.89744E+00 1150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.87300E+00 1175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.84985E+00 1200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.82791E+00 1225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.80710E+00 1250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.78729E+00 1275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76827E+00 1300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75019E+00 1325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73300E+00 1350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71671E+00 1375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70116E+00 1400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68626E+00 1425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67210E+00 1450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65862E+00 1475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64576E+00 1500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63348E+00 1525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.62175E+00 1550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.61055E+00 1575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59971E+00 1600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58934E+00 1625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57942E+00 1650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56991E+00 1675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56080E+00 1700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55205E+00 1725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54355E+00 1750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53539E+00 1775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52756E+00 1800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52004E+00 1825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51281E+00 1850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50587E+00 1875.01 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49922E+00 1900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49278E+00 1924.99 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48657E+00 1950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48059E+00 1975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47481E+00 2000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46925E+00 2025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46387E+00 2050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.45868E+00 2075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.45366E+00 2100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.44880E+00 2125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.44408E+00 2150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.43952E+00 2175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.43510E+00 2200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.43083E+00 2225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.42669E+00 2250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.42268E+00 2275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.41878E+00 2300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.41499E+00 2325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.41132E+00 2350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40774E+00 2375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40427E+00 2400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40086E+00 2425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39754E+00 2450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39429E+00 2475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39113E+00 2500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38805E+00 2525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38505E+00 2550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38209E+00 2575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37919E+00 2600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37636E+00 2625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37359E+00 2650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37088E+00 2675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.36824E+00 2700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.36565E+00 2725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.36311E+00 2750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.36064E+00 2775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35822E+00 2800.01 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35585E+00 2825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35352E+00 2850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35564E+00 2875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35333E+00 2900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35106E+00 2925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34883E+00 2950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34664E+00 2975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34449E+00 3000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34238E+00 3025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34031E+00 3050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33827E+00 3075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33626E+00 3100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33429E+00 3125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33235E+00 3150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33044E+00 3175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32856E+00 3200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32671E+00 3225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32489E+00 3250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32309E+00 3275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32132E+00 3300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31958E+00 3325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31786E+00 3350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31617E+00 3375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31450E+00 3400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31285E+00 3425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31123E+00 3450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30963E+00 3475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30805E+00 3500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30649E+00 3525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30495E+00 3550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30343E+00 3575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30193E+00 3600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30045E+00 3625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29899E+00 3650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29754E+00 3675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29612E+00 3700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29471E+00 3725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29332E+00 3750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29194E+00 3775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29059E+00 3800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28924E+00 3825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28792E+00 3849.99 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28660E+00 3875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28531E+00 3900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28403E+00 3925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28276E+00 3950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28150E+00 3975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28026E+00 4000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27904E+00 4025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27782E+00 4050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27662E+00 4075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27544E+00 4100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27426E+00 4125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27310E+00 4150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27195E+00 4175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27081E+00 4200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26969E+00 4225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26857E+00 4250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26747E+00 4275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26638E+00 4300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26529E+00 4325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26422E+00 4350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26316E+00 4375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26211E+00 4400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26107E+00 4425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26004E+00 4450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25902E+00 4475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25801E+00 4500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25701E+00 4525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25602E+00 4550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25504E+00 4575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25407E+00 4600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25311E+00 4625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25215E+00 4650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25121E+00 4675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25027E+00 4700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24934E+00 4725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24842E+00 4750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24751E+00 4775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24660E+00 4800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24571E+00 4825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24482E+00 4850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24394E+00 4875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24307E+00 4900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24220E+00 4925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24135E+00 4950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24050E+00 4975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23965E+00 5000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0

FMPU 2020 Operation

Start date and time 07/15/16 13:22:41
AERSCREEN 11126

FMPU 2020 Operation

FMPU 2020 Operation

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	0.0297 g/s	0.236 lb/hr
Area Height:	3.00 meters	9.84 feet
Area Source Length:	520.00 meters	1706.04 feet
Area Source Width:	310.00 meters	1017.06 feet
Vertical Dimension:	1.50 meters	4.92 feet
Model Mode:	URBAN	
Population:	139731	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet

No flagpole receptors

No discrete receptors used

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K - 9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

```
 Dominant Surface Profile: Urban
 Dominant Climate Type:    Average Moisture


 AERSCREEN output file:
 FMPU 2020 Operation.out


 *** AERSCREEN Run is Ready to Begin



 No terrain used, AERMAP will not be run
************************************************

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture
Season             Albedo     Bo       zo
Winter              0.35     1.50     1.000
Spring              0.14     1.00     1.000
Summer              0.16     2.00     1.000
Autumn              0.18     2.00     1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 07/15/16 13:24:03
 ****************************************

  Running AERMOD
 Processing Winter

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6
```

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


*****************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


*****************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  35

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 *****************************************

  Running AERMOD
 Processing Spring

Processing surface roughness sector  1

*****************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


*****************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7
```

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  35

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ****************************************

  Running AERMOD
 Processing Summer

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   8
```

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  35

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ******************************************

  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  35

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


FLOWSECTOR   ended 07/15/16 13:24:53

REFINE       started 07/15/16 13:24:53
```

AERMOD Finishes Successfully for REFINE stage 3 Winter sector 0

******** WARNING MESSAGES ********

*** NONE ***

REFINE ended 07/15/16 13:24:57

****
AERSCREEN Finished Successfully
With no errors or warnings
Check log file for details
****

Ending date and time 07/15/16 13:24:57

Concentration	Distance	Elevation	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.73703E+01	1.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.76255E+01	25.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.78917E+01	50.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.81464E+01	75.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.83864E+01	100.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.86136E+01	125.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.88285E+01	150.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.90327E+01	175.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.92266E+01	200.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.94113E+01	225.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.95877E+01	250.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.96992E+01	275.01	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
* 0.97059E+01	276.01	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.96462E+01	300.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.74439E+01	325.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.63081E+01	350.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.56747E+01	375.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.52695E+01	400.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.48400E+01	425.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.45066E+01	450.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.42198E+01	475.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.39685E+01	500.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.37511E+01	525.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.35809E+01	550.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.34237E+01	575.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.32772E+01	600.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0							

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31419E+01 625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30160E+01 650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28972E+01 675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27869E+01 700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26841E+01 725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25866E+01 750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24949E+01 775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24091E+01 800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23277E+01 825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22519E+01 850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21789E+01 875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21099E+01 900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20455E+01 925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19841E+01 950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19257E+01 975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18706E+01 1000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18181E+01 1025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17677E+01 1050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17198E+01 1075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16745E+01 1100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16317E+01 1125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15913E+01 1150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15519E+01 1175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15142E+01 1200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14783E+01 1225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14443E+01 1250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14120E+01 1275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13812E+01 1300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13512E+01 1325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13227E+01 1350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12957E+01 1375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12699E+01 1400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12454E+01 1425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12216E+01 1450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11989E+01 1475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11769E+01 1500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11557E+01 1525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11355E+01 1550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11162E+01 1575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10978E+01 1600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10802E+01 1625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10633E+01 1650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10472E+01 1675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10317E+01 1700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10169E+01 1725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10024E+01 1750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.98824E+00 1775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.97462E+00 1800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.96155E+00 1825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.94900E+00 1850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.93694E+00 1875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.92535E+00 1900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.91420E+00 1925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.90347E+00 1950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.89314E+00 1975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.88319E+00 2000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.87360E+00 2025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.86435E+00 2050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.85524E+00 2075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.84640E+00 2100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.83785E+00 2125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.82959E+00 2150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.82161E+00 2175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.81388E+00 2200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.80640E+00 2225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.79900E+00 2250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.79183E+00 2275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.78487E+00 2300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.77812E+00 2325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.77157E+00 2350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76521E+00 2375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75902E+00 2400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75301E+00 2425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.74716E+00 2450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.74146E+00 2475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73592E+00 2500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73052E+00 2525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.72510E+00 2550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71982E+00 2575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71466E+00 2600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70963E+00 2625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70471E+00 2650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69991E+00 2675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69522E+00 2700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69063E+00 2725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68614E+00 2750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68175E+00 2775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67745E+00 2800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67324E+00 2825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66911E+00 2850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66507E+00 2875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66110E+00 2900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65722E+00 2925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65335E+00 2950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64952E+00 2975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64578E+00 3000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64209E+00 3025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63847E+00 3050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63492E+00 3075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63143E+00 3100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.62799E+00 3125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.62461E+00 3150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.62129E+00 3175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.61802E+00 3200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.61480E+00 3225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.61157E+00 3250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.60838E+00 3275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.60523E+00 3300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.60213E+00 3325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59907E+00 3350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59606E+00 3375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59309E+00 3400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59016E+00 3425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58728E+00 3450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58443E+00 3475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58164E+00 3500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57891E+00 3525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57622E+00 3550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57353E+00 3575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57085E+00 3600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56820E+00 3625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56559E+00 3650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56300E+00 3675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56046E+00 3700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55797E+00 3725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55550E+00 3750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55306E+00 3775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55066E+00 3800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54828E+00 3825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54593E+00 3850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54360E+00 3875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54131E+00 3900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53903E+00 3925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53679E+00 3950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53457E+00 3975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53237E+00 4000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53020E+00 4025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52806E+00 4050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52593E+00 4075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52381E+00 4100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52169E+00 4125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51959E+00 4150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51751E+00 4175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51546E+00 4200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51342E+00 4225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51141E+00 4250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50942E+00 4275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50744E+00 4300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50549E+00 4325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50356E+00 4350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50165E+00 4375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49973E+00 4400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49781E+00 4425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49591E+00 4450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49403E+00 4475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49216E+00 4500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49031E+00 4525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48849E+00 4550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48667E+00 4575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48488E+00 4600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48310E+00 4625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48134E+00 4650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47959E+00 4675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47786E+00 4700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47615E+00 4725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47445E+00 4750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47277E+00 4775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47111E+00 4800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46947E+00 4825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46785E+00 4850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46624E+00 4875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46464E+00 4900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46304E+00 4925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46146E+00 4950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.45989E+00 4975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.45833E+00 5000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0

FMPU 2025 Operation

Start date and time 07/15/16 13:28:03
AERSCREEN 11126

FMPU 2025 Operation

FMPU 2025 Operation

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	0.0325 g/s	0.258 lb/hr
Area Height:	3.00 meters	9.84 feet
Area Source Length:	580.00 meters	1902.89 feet
Area Source Width:	300.00 meters	984.25 feet
Vertical Dimension:	1.50 meters	4.92 feet
Model Mode:	URBAN	
Population:	139731	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet

No flagpole receptors

No discrete receptors used

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K - 9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

```
 Dominant Surface Profile: Urban
 Dominant Climate Type:    Average Moisture


 AERSCREEN output file:
 FMPU 2025 Operation.out


 *** AERSCREEN Run is Ready to Begin



 No terrain used, AERMAP will not be run
************************************************

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture
Season             Albedo     Bo       zo
Winter              0.35     1.50     1.000
Spring              0.14     1.00     1.000
Summer              0.16     2.00     1.000
Autumn              0.18     2.00     1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 07/15/16 13:29:19
 ******************************************

  Running AERMOD
 Processing Winter

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0
```

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 2

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 5

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 3

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 10

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 15

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 20

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 6

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ****************************************

  Running AERMOD
 Processing Spring

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ******************************************

  Running AERMOD
 Processing Summer
```

```
Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ****************************************

  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********
```

*** NONE ***

****
Processing wind flow sector 3

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 10

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 15

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 20

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 6

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 25

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 30

```
    ********   WARNING MESSAGES   ********

                ***  NONE  ***


FLOWSECTOR   ended 07/15/16 13:30:04

REFINE       started 07/15/16 13:30:04

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


REFINE       ended 07/15/16 13:30:08

 ********************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
 Check log file for details
 ********************************************

 Ending date and time  07/15/16 13:30:09
```

Concentration	Distance	Elevation	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.77921E+01	1.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.80512E+01	25.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.83052E+01	50.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.85448E+01	75.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.87706E+01	100.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.89847E+01	125.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.91875E+01	150.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.93805E+01	175.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.95636E+01	200.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.97382E+01	225.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.99042E+01	250.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.10065E+02	275.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
* 0.10171E+02	300.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.97830E+01	325.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.77554E+01	350.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.66536E+01	375.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.59433E+01	400.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.54716E+01	425.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.51022E+01	450.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.47698E+01	475.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.44875E+01	500.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.42664E+01	525.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.40644E+01	550.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.38802E+01	575.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.37085E+01	600.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.35491E+01	625.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0							

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34020E+01 650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32656E+01 675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31363E+01 700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30171E+01 725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29041E+01 750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27998E+01 775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27001E+01 800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26065E+01 825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25188E+01 850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24355E+01 875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23577E+01 900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22845E+01 925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22134E+01 950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21467E+01 975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20842E+01 1000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20243E+01 1025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19673E+01 1050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19136E+01 1075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18630E+01 1100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18144E+01 1125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17672E+01 1150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17226E+01 1175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16803E+01 1200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16403E+01 1225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16024E+01 1250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15659E+01 1275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15308E+01 1300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14974E+01 1325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14655E+01 1350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14349E+01 1375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14058E+01 1400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13781E+01 1425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13514E+01 1450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13255E+01 1475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13009E+01 1500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12774E+01 1525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12550E+01 1550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12336E+01 1575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12131E+01 1600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11936E+01 1625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11749E+01 1650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11567E+01 1675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11388E+01 1700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11217E+01 1725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11053E+01 1750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10896E+01 1775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10746E+01 1800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10601E+01 1825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10462E+01 1850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10329E+01 1875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10201E+01 1900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10077E+01 1925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.99586E+00 1950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.98444E+00 1975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.97328E+00 2000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.96241E+00 2025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.95192E+00 2050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.94180E+00 2075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.93203E+00 2100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.92241E+00 2125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.91311E+00 2150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.90412E+00 2175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.89542E+00 2200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.88700E+00 2225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.87884E+00 2250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.87094E+00 2275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.86327E+00 2300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.85583E+00 2325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.84862E+00 2350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.84161E+00 2375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.83479E+00 2400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.82817E+00 2425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.82161E+00 2450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.81516E+00 2475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.80888E+00 2500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.80276E+00 2525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.79680E+00 2550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.79099E+00 2575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.78532E+00 2600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.77978E+00 2625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.77438E+00 2650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76910E+00 2675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76394E+00 2700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75889E+00 2725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75396E+00 2750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.74912E+00 2775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.74431E+00 2800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73959E+00 2825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73496E+00 2850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73043E+00 2875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.72599E+00 2900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.72163E+00 2925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71736E+00 2950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71317E+00 2975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70905E+00 3000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70501E+00 3025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70104E+00 3050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69714E+00 3075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69330E+00 3100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68947E+00 3125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68567E+00 3150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68193E+00 3175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67826E+00 3200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67464E+00 3225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67108E+00 3250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66757E+00 3275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66412E+00 3300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66071E+00 3325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.65736E+00	3350.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.65406E+00	3375.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.65080E+00	3400.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.64760E+00	3425.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.64443E+00	3450.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.64131E+00	3475.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.63824E+00	3500.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.63520E+00	3525.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.63221E+00	3550.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.62925E+00	3575.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.62634E+00	3600.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.62346E+00	3625.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.62062E+00	3650.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.61781E+00	3675.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.61504E+00	3700.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.61230E+00	3725.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.60960E+00	3750.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.60693E+00	3775.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.60429E+00	3800.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.60168E+00	3825.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.59911E+00	3850.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.59656E+00	3875.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.59399E+00	3900.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.59145E+00	3925.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.58894E+00	3950.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.58646E+00	3975.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		
1.000	1.50	0.35	0.50	10.0	310.0	2.0								
0.58401E+00	4000.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0		

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58158E+00 4025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57918E+00 4050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57680E+00 4075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57446E+00 4100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57213E+00 4125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56983E+00 4150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56756E+00 4175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56531E+00 4200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56305E+00 4225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56079E+00 4250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55856E+00 4275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55635E+00 4300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55416E+00 4325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55200E+00 4350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54985E+00 4375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54773E+00 4400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54562E+00 4425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54354E+00 4450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54148E+00 4475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53944E+00 4500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53742E+00 4525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53541E+00 4550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53343E+00 4575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53146E+00 4600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52951E+00 4625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52758E+00 4650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52567E+00 4675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52380E+00 4700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52195E+00 4725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52011E+00 4750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51827E+00 4775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51644E+00 4800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51463E+00 4825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51283E+00 4850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51105E+00 4875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50929E+00 4900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50754E+00 4925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50581E+00 4950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50409E+00 4975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50239E+00 5000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0

PEP Phase 1 & Phase 2

Start date and time 07/15/16 13:02:44
AERSCREEN 11126

PEP Phase 1 & Phase 2

PEP Phase 1 & Phase 2

DATA ENTRY VALIDATION

** AREADATA **	METRIC	ENGLISH
Emission Rate:	0.0410 g/s	0.325 lb/hr
Area Height:	3.00 meters	9.84 feet
Area Source Length:	450.00 meters	1476.38 feet
Area Source Width:	330.00 meters	1082.68 feet
Vertical Dimension:	1.50 meters	4.92 feet
Model Mode:	URBAN	
Population:	139731	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet

No flagpole receptors

No discrete receptors used

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K - 9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

 Dominant Surface Profile: Urban
 Dominant Climate Type: Average Moisture

 AERSCREEN output file:
 PEP Phase 1 & Phase 2.out

 *** AERSCREEN Run is Ready to Begin

 No terrain used, AERMAP will not be run
****

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season	Albedo	Bo	zo
Winter	0.35	1.50	1.000
Spring	0.14	1.00	1.000
Summer	0.16	2.00	1.000
Autumn	0.18	2.00	1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 07/15/16 13:05:41
 ****

  Running AERMOD
 Processing Winter

Processing surface roughness sector 1

****
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6
```

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 25

    ********   WARNING MESSAGES   ********

                *** NONE ***

****
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 30

    ********   WARNING MESSAGES   ********

                *** NONE ***

****
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 35

    ********   WARNING MESSAGES   ********

                *** NONE ***

****
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 40

    ********   WARNING MESSAGES   ********

                *** NONE ***

 ****

  Running AERMOD
 Processing Spring

Processing surface roughness sector 1

****
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6
```

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  35

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  40

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ******************************************

  Running AERMOD
 Processing Summer

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6
```

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 25

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 30

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 8

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 35

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 9

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 40

******** WARNING MESSAGES ********

*** NONE ***

****

Running AERMOD
Processing Autumn

Processing surface roughness sector 1

****

Processing wind flow sector 1

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 0

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6
```

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  35

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  40

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


FLOWSECTOR   ended 07/15/16 13:06:32

REFINE       started 07/15/16 13:06:32

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***
```

```
REFINE       ended 07/15/16 13:06:38

 ********************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
 Check log file for details
 ********************************************

 Ending date and time  07/15/16 13:06:38
```

Concentration	Distance	Elevation	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.10594E+02	1.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.10996E+02	25.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.11393E+02	50.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.11769E+02	75.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.12132E+02	100.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.12478E+02	125.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.12808E+02	150.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.13130E+02	175.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.13445E+02	200.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.13748E+02	225.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.13942E+02	250.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
* 0.14145E+02	274.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.14132E+02	275.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.11064E+02	300.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.92815E+01	325.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.82915E+01	350.01	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.76451E+01	375.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.69965E+01	400.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.64675E+01	425.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.60177E+01	450.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.56294E+01	475.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.53039E+01	500.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.50170E+01	525.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.47596E+01	550.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.45293E+01	575.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.43199E+01	600.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.41360E+01 625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39660E+01 650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38180E+01 675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.36787E+01 700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35491E+01 725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34254E+01 750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33097E+01 775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31996E+01 800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30971E+01 825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29985E+01 850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29049E+01 875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28174E+01 900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27335E+01 925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26544E+01 950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25794E+01 975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25074E+01 1000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24383E+01 1025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23732E+01 1050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23117E+01 1075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22533E+01 1100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21966E+01 1125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21423E+01 1150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20908E+01 1175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20420E+01 1200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19956E+01 1225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19504E+01 1250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19075E+01 1275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18668E+01 1300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18281E+01 1325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17906E+01 1350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17549E+01 1375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17203E+01 1400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16871E+01 1425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16554E+01 1450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16254E+01 1475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15964E+01 1500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15690E+01 1525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15427E+01 1550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15177E+01 1575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14932E+01 1600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14692E+01 1625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14463E+01 1650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14244E+01 1675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14036E+01 1700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13835E+01 1725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13641E+01 1750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13455E+01 1775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13278E+01 1800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13107E+01 1825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12944E+01 1850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12783E+01 1875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12628E+01 1900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12478E+01 1925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12335E+01 1950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12194E+01 1975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12058E+01 2000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11927E+01 2025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11801E+01 2050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11679E+01 2075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11561E+01 2100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11447E+01 2125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11337E+01 2150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11231E+01 2175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11128E+01 2200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11027E+01 2225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10928E+01 2250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10832E+01 2275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10739E+01 2300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10648E+01 2325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10561E+01 2350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10475E+01 2375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10393E+01 2400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10312E+01 2425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10234E+01 2450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10157E+01 2475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10081E+01 2500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10006E+01 2525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.99342E+00 2550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.98637E+00 2575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.97949E+00 2600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.97278E+00 2625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.96622E+00 2650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.95982E+00 2675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.95356E+00 2700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.94744E+00 2725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.94128E+00 2750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.93524E+00 2775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.92933E+00 2800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.92354E+00 2825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.91786E+00 2850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.91235E+00 2875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.90695E+00 2900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.90164E+00 2925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.89643E+00 2950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.89124E+00 2975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.88614E+00 3000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.88112E+00 3025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.87621E+00 3050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.87142E+00 3075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.86671E+00 3100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.86207E+00 3125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.85752E+00 3150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.85304E+00 3175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.84863E+00 3200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.84429E+00 3225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.83998E+00 3250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.83569E+00 3275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.83145E+00 3300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.82728E+00 3325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.82317E+00 3350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.81912E+00 3375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.81513E+00 3400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.81120E+00 3425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.80732E+00 3450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.80349E+00 3475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.79972E+00 3500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.79590E+00 3525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.79213E+00 3550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.78842E+00 3575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.78475E+00 3600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.78113E+00 3625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.77755E+00 3650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.77402E+00 3675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.77053E+00 3700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76713E+00 3725.01 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76377E+00 3750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76046E+00 3775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75718E+00 3800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75390E+00 3825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75066E+00 3850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.74746E+00 3875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.74429E+00 3900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.74116E+00 3925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73806E+00 3950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73500E+00 3975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73197E+00 4000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.72897E+00 4025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.72598E+00 4050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.72302E+00 4075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.72009E+00 4100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71720E+00 4125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71433E+00 4150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71150E+00 4175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70872E+00 4200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70597E+00 4225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70325E+00 4250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70056E+00 4275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69789E+00 4300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69525E+00 4325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69264E+00 4350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69005E+00 4375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68749E+00 4400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68496E+00 4425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68244E+00 4450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67996E+00 4475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67749E+00 4500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67501E+00 4525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67254E+00 4550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67010E+00 4575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66767E+00 4600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66527E+00 4625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66290E+00 4650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66054E+00 4675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65821E+00 4700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65590E+00 4725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65361E+00 4750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65131E+00 4775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64901E+00 4800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64673E+00 4825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64447E+00 4850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64223E+00 4875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64000E+00 4900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63780E+00 4925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63562E+00 4950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63345E+00 4975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63131E+00 5000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0

Start date and time 07/15/16 12:55:00
AERSCREEN 11126

PEP Phase 1

PEP Phase 1

DATA ENTRY VALIDATION

** AREADATA **	METRIC	ENGLISH
Emission Rate:	0.750E-02 g/s	0.595E-01 lb/hr
Area Height:	3.00 meters	9.84 feet
Area Source Length:	430.00 meters	1410.76 feet
Area Source Width:	300.00 meters	984.25 feet
Vertical Dimension:	1.50 meters	4.92 feet
Model Mode:	URBAN	
Population:	139731	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet

No flagpole receptors

No discrete receptors used

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K - 9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

```
 Dominant Surface Profile: Urban
 Dominant Climate Type:    Average Moisture


 AERSCREEN output file:
 PEP Phase 1.out


 *** AERSCREEN Run is Ready to Begin



 No terrain used, AERMAP will not be run
**************************************************

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture
Season             Albedo     Bo       zo
Winter              0.35     1.50     1.000
Spring              0.14     1.00     1.000
Summer              0.16     2.00     1.000
Autumn              0.18     2.00     1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 07/15/16 13:00:23
 ****************************************

  Running AERMOD
 Processing Winter

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0
```

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 2

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 5

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 3

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 10

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 15

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 20

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 6

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 25

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 30

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 8

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 35

******** WARNING MESSAGES ********

*** NONE ***

****

Running AERMOD
Processing Spring

Processing surface roughness sector 1

****

Processing wind flow sector 1

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 0

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 2

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 5

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 3

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 10

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 15

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 20

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 6

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 25

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 7

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  35

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ****************************************

  Running AERMOD
 Processing Summer

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10
```

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 15

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 20

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 6

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 25

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 30

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 8

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  35

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ******************************************

  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15
```

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 20

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 6

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 25

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 30

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 8

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 35

******** WARNING MESSAGES ********

*** NONE ***

FLOWSECTOR ended 07/15/16 13:01:06

REFINE started 07/15/16 13:01:06

```
 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


REFINE       ended 07/15/16 13:01:12

 ********************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
 Check log file for details
 ********************************************

 Ending date and time  07/15/16 13:01:12
```

Concentration	Distance	Elevation	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.21697E+01	1.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.22588E+01	25.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.23461E+01	50.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.24286E+01	75.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.25069E+01	100.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.25849E+01	125.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.26595E+01	150.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.27298E+01	175.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.27966E+01	200.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.28540E+01	225.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.28751E+01	250.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
* 0.28774E+01	253.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.23836E+01	275.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.19493E+01	300.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.17160E+01	325.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.15767E+01	350.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.14300E+01	375.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.13193E+01	400.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.12244E+01	425.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.11421E+01	450.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.10711E+01	475.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.10090E+01	500.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.95594E+00	525.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.90853E+00	550.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.86850E+00	575.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.83168E+00	600.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0							

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.79736E+00 625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76512E+00 650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73519E+00 675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70714E+00 700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68096E+00 725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65610E+00 750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63276E+00 775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.61111E+00 800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59041E+00 825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57087E+00 850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55257E+00 875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53496E+00 900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51846E+00 925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50299E+00 950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48826E+00 975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47398E+00 1000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46054E+00 1025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.44788E+00 1050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.43593E+00 1075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.42436E+00 1100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.41340E+00 1125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40301E+00 1150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39303E+00 1175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38358E+00 1200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37454E+00 1225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.36581E+00 1250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35752E+00 1275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34965E+00 1300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34218E+00 1325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33506E+00 1350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32830E+00 1375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32172E+00 1400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31532E+00 1425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30923E+00 1450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30341E+00 1475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29790E+00 1500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29258E+00 1525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28752E+00 1550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28270E+00 1575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27809E+00 1600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27368E+00 1625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26936E+00 1650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26522E+00 1675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26124E+00 1700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25738E+00 1725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25368E+00 1750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25012E+00 1775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24672E+00 1800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24345E+00 1825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24031E+00 1850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23729E+00 1875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23438E+00 1900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23159E+00 1925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22888E+00 1950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22623E+00 1975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22367E+00 2000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22121E+00 2025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21883E+00 2050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21654E+00 2075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21432E+00 2100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21218E+00 2125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21010E+00 2150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20805E+00 2175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20608E+00 2200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20416E+00 2225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20230E+00 2250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20050E+00 2275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19876E+00 2300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19706E+00 2325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19542E+00 2350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19382E+00 2375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19225E+00 2400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19070E+00 2425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18919E+00 2450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18772E+00 2475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18628E+00 2500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18489E+00 2525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18353E+00 2550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18220E+00 2575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18092E+00 2600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17964E+00 2625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17840E+00 2650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17720E+00 2675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17602E+00 2700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17486E+00 2725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17373E+00 2750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17263E+00 2775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17155E+00 2800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17048E+00 2825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16942E+00 2850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16838E+00 2875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16737E+00 2900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16637E+00 2925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16539E+00 2950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16443E+00 2975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16348E+00 3000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16255E+00 3025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16164E+00 3050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16074E+00 3075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15983E+00 3100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15895E+00 3125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15808E+00 3150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15722E+00 3175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15637E+00 3200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15554E+00 3225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15472E+00 3250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15393E+00 3275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15314E+00 3300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15237E+00 3325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15161E+00 3350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15085E+00 3375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15010E+00 3400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14936E+00 3425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14864E+00 3450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14792E+00 3475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14721E+00 3500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14650E+00 3525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14581E+00 3550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14512E+00 3575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14444E+00 3600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14378E+00 3625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14312E+00 3650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14248E+00 3675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14184E+00 3700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14121E+00 3725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14059E+00 3750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13997E+00 3775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13937E+00 3800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13877E+00 3825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13817E+00 3850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13759E+00 3875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13701E+00 3900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13643E+00 3925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13585E+00 3950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13528E+00 3975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13472E+00 4000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13416E+00 4025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13361E+00 4050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13306E+00 4075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13252E+00 4100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13198E+00 4125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13145E+00 4150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13092E+00 4175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13039E+00 4200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12987E+00 4225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12935E+00 4250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12883E+00 4275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12833E+00 4300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12782E+00 4325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12732E+00 4350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12683E+00 4375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12634E+00 4400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12585E+00 4425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12538E+00 4450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12490E+00 4475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12443E+00 4500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12397E+00 4525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12352E+00 4550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12306E+00 4575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12261E+00 4600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12216E+00 4625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12171E+00 4650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12127E+00 4675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12084E+00 4700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12041E+00 4725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11998E+00 4750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11956E+00 4775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11914E+00 4800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11873E+00 4825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11832E+00 4850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11791E+00 4875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11751E+00 4900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11710E+00 4925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11670E+00 4950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11630E+00 4975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11590E+00 5000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0

Start date and time 07/15/16 13:07:27
AERSCREEN 11126

PEP Phase 2

PEP Phase 2

DATA ENTRY VALIDATION

** AREADATA **	METRIC	ENGLISH
Emission Rate:	0.0325 g/s	0.258 lb/hr
Area Height:	3.00 meters	9.84 feet
Area Source Length:	200.00 meters	656.17 feet
Area Source Width:	100.00 meters	328.08 feet
Vertical Dimension:	1.50 meters	4.92 feet
Model Mode:	URBAN	
Population:	139731	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet

No flagpole receptors

No discrete receptors used

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K - 9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

```
 Dominant Surface Profile: Urban
 Dominant Climate Type:    Average Moisture


 AERSCREEN output file:
 PEP Phase 2.out


 *** AERSCREEN Run is Ready to Begin



 No terrain used, AERMAP will not be run
************************************************

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture
Season             Albedo     Bo       zo
Winter              0.35     1.50     1.000
Spring              0.14     1.00     1.000
Summer              0.16     2.00     1.000
Autumn              0.18     2.00     1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 07/15/16 13:08:55
 ******************************************

  Running AERMOD
 Processing Winter

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0
```

```
    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   6
```

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ****************************************

  Running AERMOD
 Processing Spring

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10
```

```
    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  30

    ********   WARNING MESSAGES   ********

                ***  NONE  ***

 ******************************************

  Running AERMOD
 Processing Summer
```

```
Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ****************************************

  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********
```

*** NONE ***

****
Processing wind flow sector 3

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 10

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 15

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 20

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 6

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 25

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 30

******** WARNING MESSAGES ********

*** NONE ***

FLOWSECTOR ended 07/15/16 13:09:15

REFINE started 07/15/16 13:09:15

AERMOD Finishes Successfully for REFINE stage 3 Winter sector 0

******** WARNING MESSAGES ********

*** NONE ***

REFINE ended 07/15/16 13:09:18

****
AERSCREEN Finished Successfully
With no errors or warnings
Check log file for details
****

Ending date and time 07/15/16 13:09:18

Concentration	Distance	Elevation	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.41456E+02	1.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.45474E+02	25.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.48853E+02	50.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.51685E+02	75.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.54577E+02	100.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
* 0.54672E+02	101.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.40624E+02	125.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.29735E+02	150.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.24204E+02	175.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.20346E+02	200.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.17430E+02	225.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.15175E+02	250.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.13375E+02	275.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.11916E+02	300.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.10720E+02	325.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.97053E+01	350.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.88553E+01	375.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.81218E+01	400.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.74916E+01	425.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.69379E+01	450.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.64506E+01	475.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.60226E+01	500.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.56439E+01	525.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.53018E+01	550.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.49922E+01	575.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.47132E+01	600.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0							

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.44611E+01 625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.42323E+01 650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40233E+01 675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38300E+01 700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.36527E+01 725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34895E+01 750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33390E+01 775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31989E+01 800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30686E+01 825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29475E+01 850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28347E+01 875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27295E+01 900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26299E+01 925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25367E+01 950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24492E+01 975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23672E+01 1000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22902E+01 1025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22174E+01 1050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21488E+01 1075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20842E+01 1100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20232E+01 1125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19655E+01 1150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19109E+01 1175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18593E+01 1200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18101E+01 1225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17634E+01 1250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17190E+01 1275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16769E+01 1300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16368E+01 1325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15985E+01 1350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15620E+01 1375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15272E+01 1400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14941E+01 1425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14626E+01 1450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14325E+01 1475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14038E+01 1500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13764E+01 1525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13502E+01 1550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13252E+01 1575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13013E+01 1600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12784E+01 1625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12564E+01 1650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12354E+01 1675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12153E+01 1700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11960E+01 1725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11775E+01 1750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11597E+01 1775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11427E+01 1800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11263E+01 1825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11105E+01 1850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11042E+01 1875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10893E+01 1900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10749E+01 1925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10611E+01 1950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10478E+01 1975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10350E+01 2000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10225E+01 2025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10106E+01 2050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.99898E+00 2075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.98779E+00 2100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.97696E+00 2125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.96648E+00 2150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.95634E+00 2175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.94650E+00 2200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.93696E+00 2225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.92772E+00 2250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.91874E+00 2275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.91002E+00 2300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.90156E+00 2325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.89332E+00 2350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.88532E+00 2375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.87753E+00 2400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.86995E+00 2425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.86256E+00 2450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.85537E+00 2475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.84835E+00 2500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.84151E+00 2525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.83483E+00 2550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.82832E+00 2575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.82195E+00 2600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.81573E+00 2625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.80965E+00 2650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.80371E+00 2675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.79789E+00 2700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.79220E+00 2725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.78663E+00 2750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.78117E+00 2775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.77583E+00 2800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.77059E+00 2825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76545E+00 2850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76041E+00 2875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75547E+00 2900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75062E+00 2925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.74585E+00 2950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.74118E+00 2975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73659E+00 3000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73207E+00 3025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.72764E+00 3050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.72327E+00 3075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71899E+00 3100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71477E+00 3125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71062E+00 3150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70653E+00 3174.99 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70251E+00 3199.99 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69855E+00 3225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69466E+00 3250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69082E+00 3275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68704E+00 3300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68331E+00 3325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67963E+00 3350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67602E+00 3375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67244E+00 3400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66892E+00 3425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66545E+00 3450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66203E+00 3475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65865E+00 3500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65532E+00 3525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65203E+00 3550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64878E+00 3575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64557E+00 3600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64241E+00 3625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63928E+00 3650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63620E+00 3675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63315E+00 3700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63014E+00 3725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.62716E+00 3750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.62422E+00 3775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.62132E+00 3800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.61845E+00 3825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.61561E+00 3849.99 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.61280E+00 3875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.61003E+00 3900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.60729E+00 3925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.60458E+00 3950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.60190E+00 3975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59925E+00 4000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59662E+00 4025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59403E+00 4050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59147E+00 4075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58893E+00 4100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58642E+00 4125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58393E+00 4150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58147E+00 4175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57904E+00 4200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57663E+00 4225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57425E+00 4250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57189E+00 4275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56955E+00 4300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56724E+00 4325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56495E+00 4350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56268E+00 4375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56044E+00 4400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55822E+00 4425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55601E+00 4450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55383E+00 4475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55168E+00 4500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54954E+00 4525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54742E+00 4550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54532E+00 4575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54324E+00 4600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54118E+00 4625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53914E+00 4650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53712E+00 4675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53511E+00 4700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53313E+00 4725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53116E+00 4750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52921E+00 4775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52728E+00 4800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52536E+00 4825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52346E+00 4850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52158E+00 4875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51972E+00 4900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51787E+00 4924.99 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51604E+00 4950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51422E+00 4975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51242E+00 5000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0

Start date and time 07/15/16 13:16:31
AERSCREEN 11126

PEP Phase 2

PEP Phase 2

DATA ENTRY VALIDATION

** AREADATA **	METRIC	ENGLISH
Emission Rate:	0.0205 g/s	0.163 lb/hr
Area Height:	3.00 meters	9.84 feet
Area Source Length:	200.00 meters	656.17 feet
Area Source Width:	100.00 meters	328.08 feet
Vertical Dimension:	1.50 meters	4.92 feet
Model Mode:	URBAN	
Population:	139731	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet

No flagpole receptors

No discrete receptors used

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K - 9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

```
 Dominant Surface Profile: Urban
 Dominant Climate Type:    Average Moisture


 AERSCREEN output file:
 PEP Phase 2-2.out


 *** AERSCREEN Run is Ready to Begin



 No terrain used, AERMAP will not be run
************************************************

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture
Season             Albedo     Bo       zo
Winter              0.35     1.50     1.000
Spring              0.14     1.00     1.000
Summer              0.16     2.00     1.000
Autumn              0.18     2.00     1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 07/15/16 13:17:42
 ******************************************

  Running AERMOD
 Processing Winter

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0
```

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 2

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 5

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 3

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 10

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 15

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 20

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 6

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ****************************************

  Running AERMOD
 Processing Spring

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10
```

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 15

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 20

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 6

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 25

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 30

******** WARNING MESSAGES ********

*** NONE ***

****

Running AERMOD
Processing Summer

```
Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ****************************************

  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********
```

*** NONE ***

****
Processing wind flow sector 3

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 10

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 15

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 20

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 6

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 25

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 30

```
    ********   WARNING MESSAGES   ********

                ***  NONE  ***


FLOWSECTOR   ended 07/15/16 13:18:03

REFINE       started 07/15/16 13:18:03

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********

                ***  NONE  ***


REFINE       ended 07/15/16 13:18:05

 ********************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
 Check log file for details
 ********************************************

 Ending date and time  07/15/16 13:18:06
```

Concentration	Distance	Elevation	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH
M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT				
0.26149E+02	1.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000
1.50	0.35	0.50	10.0	310.0	2.0								
0.28683E+02	25.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000
1.50	0.35	0.50	10.0	310.0	2.0								
0.30815E+02	50.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000
1.50	0.35	0.50	10.0	310.0	2.0								
0.32601E+02	75.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000
1.50	0.35	0.50	10.0	310.0	2.0								
0.34426E+02	100.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
* 0.34486E+02	101.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.25624E+02	125.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.18756E+02	150.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.15267E+02	175.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.12834E+02	200.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.10994E+02	225.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.95722E+01	250.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.84363E+01	275.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.75163E+01	300.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.67621E+01	325.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.61218E+01	350.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.55857E+01	375.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.51230E+01	400.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.47255E+01	425.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.43762E+01	450.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.40689E+01	475.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.37989E+01	500.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.35600E+01	525.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.33442E+01	550.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.31489E+01	575.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	
1.000	1.50	0.35	0.50	10.0	310.0	2.0							
0.29730E+01	600.00	0.00	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28140E+01 625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26696E+01 650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25378E+01 675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24158E+01 700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23040E+01 725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22011E+01 750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21061E+01 775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20178E+01 800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19356E+01 825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18592E+01 850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17881E+01 875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17217E+01 900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16589E+01 925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16000E+01 950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15449E+01 975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14931E+01 1000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14446E+01 1025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13987E+01 1050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13554E+01 1075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13147E+01 1100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12762E+01 1125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12398E+01 1150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12054E+01 1175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11728E+01 1200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11418E+01 1225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11123E+01 1250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10843E+01 1275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10577E+01 1300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10325E+01 1325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10083E+01 1350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.98526E+00 1375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.96333E+00 1400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.94244E+00 1425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.92254E+00 1450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.90355E+00 1475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.88550E+00 1500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.86821E+00 1525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.85169E+00 1550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.83590E+00 1575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.82080E+00 1600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.80635E+00 1625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.79252E+00 1650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.77927E+00 1675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76658E+00 1700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75441E+00 1725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.74274E+00 1750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73153E+00 1775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.72077E+00 1800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71043E+00 1825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70049E+00 1850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69646E+00 1875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68708E+00 1900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67803E+00 1925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66932E+00 1950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66092E+00 1975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65281E+00 2000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64499E+00 2025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63743E+00 2050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63013E+00 2075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.62307E+00 2100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.61624E+00 2125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.60963E+00 2150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.60323E+00 2175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59702E+00 2200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59101E+00 2225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58517E+00 2250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57951E+00 2275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57401E+00 2300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56867E+00 2325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56348E+00 2350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55843E+00 2375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55352E+00 2400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54874E+00 2425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54408E+00 2450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53954E+00 2475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53511E+00 2500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53080E+00 2525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52659E+00 2550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52248E+00 2575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51846E+00 2600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51454E+00 2625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51070E+00 2650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50695E+00 2675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50329E+00 2700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49970E+00 2725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49618E+00 2750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
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0.48937E+00 2800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.48606E+00 2825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48282E+00 2850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.47964E+00 2875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.47046E+00 2950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.46177E+00 3025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.45897E+00 3050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.45622E+00 3075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.44566E+00 3175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.44312E+00 3200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.44063E+00 3225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.43817E+00 3250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.42869E+00 3350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.41975E+00 3450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.41759E+00 3475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.41128E+00 3550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.40923E+00 3575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.40521E+00 3625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.40324E+00 3650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.40129E+00 3675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.39937E+00 3700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.39747E+00 3725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.39559E+00 3750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.39374E+00 3775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.39191E+00 3800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.39010E+00 3825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.38831E+00 3850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.38654E+00 3875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.38479E+00 3900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.38306E+00 3925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.38135E+00 3950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.37966E+00 3975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

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0.37799E+00 4000.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.37633E+00 4025.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.37470E+00 4050.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.37308E+00 4075.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.37148E+00 4100.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.36989E+00 4125.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.36833E+00 4150.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.36678E+00 4175.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.36524E+00 4200.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.36372E+00 4225.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.36222E+00 4250.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.36073E+00 4275.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.35926E+00 4300.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.35780E+00 4325.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35635E+00 4350.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.35492E+00 4375.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.35351E+00 4400.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.35210E+00 4425.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35072E+00 4450.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34934E+00 4475.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34798E+00 4500.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.34663E+00 4525.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34529E+00 4550.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34397E+00 4575.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.34266E+00 4600.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34136E+00 4625.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.34007E+00 4650.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

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0.33880E+00 4675.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33753E+00 4700.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.33628E+00 4725.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.33504E+00 4750.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.33381E+00 4775.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33259E+00 4800.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.33138E+00 4825.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.33019E+00 4850.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32900E+00 4875.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32782E+00 4900.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32666E+00 4925.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32550E+00 4950.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32435E+00 4975.00 0.00 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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1.000 1.50 0.35 0.50 10.0 310.0 2.0

EXHIBIT B

KUNZMAN ASSOCIATES, INC.
OVER 40 YEARS OF EXCELLENT SERVICE

July 19, 2016

Mr. Justin Carlson, City Planner
CITY OF WALNUT
21201 La Puente Road
Walnut, CA 91789

Dear Mr. Carlson:

INTRODUCTION

The firm of Kunzman Associates, Inc. is pleased to provide this letter summarizing our peer review of the Mt. SAC 2015 Facilities Master Plan Update project in the City of Walnut. We have reviewed the Mt. SAC 2015 Facilities Master Plan Update & Physical Education Projects Traffic Impact Study Draft Report (Iteris, April 1, 2016) (hereinafter "the Traffic Impact Study") and offer the following comments.

COMMENT 1

General Comment: The Traffic Impact Study appendices only contain partial information as provided in the 2015 Facilities Master Plan Update and Physical Education Projects, Appendices – Volume 2 of 2 (June 2016). The complete set of appendices for the Traffic Impact Study should be included in the publicly available documentation.

COMMENT 2

General Comment: The project description indicates that the 2015 Facilities Master Plan Update, compared to the 2012 Facilities Master Plan, includes a redesign of the athletic facilities, relocation of the Public Transportation Center, expansion of the Wildlife Sanctuary and Open Space Area, a pedestrian bridge across Temple Avenue, a net increase in buildout square footage, and continuation of special annual events. The project description also indicates that the District is filing an application to host Olympic track and field trials in year 2020. It should be noted, the Traffic Impact Study only evaluates the traffic impacts associated with additional trips generated by a net increase in enrollment of 3,745 students by year 2020 and 7,153 students by year 2025 (compared to existing 2015 conditions). Traffic impacts associated with other aspects of the project description appear to have been evaluated in a separate document.

COMMENT 3

General Comment: The study area consisting of 19 intersections appears appropriate based on the project trip generation and trip distribution forecasts.

COMMENT 4

List of Figures: There are several inconsistencies between the titles shown in the List of Figures and the titles shown on the actual figures. For example, Figure 1 is shown as "Project Location and Study Intersections" in the List of Figures, but Figure 1 is titled "Study Area".

COMMENT 5

Figure 1, Study Area: Study intersection #2 is incorrectly shown at Creekside Drive/Amar Road instead of Lemon Avenue/Amar Road.

COMMENT 6

Pages 3/4, Roadway Configurations: The description for Amar Road/Temple Avenue states that on-street parking is prohibited; on-street parking is permitted along Temple Avenue between Mt. SAC Way and Bonita Avenue. Mountaineer Road terminates at Grand Avenue at the west end, not the east end as stated. Baker Parkway terminates at Grand Avenue at the east end, not the west end as stated.

COMMENT 7

Page 8, Table 2 – Intersection Level of Service Definitions - HCM Methodology: The source noted in the footnote of Table 2 appears to indicate the 2000 Highway Capacity Manual methodology was used to analyze intersections under Caltrans' jurisdiction. The latest version (2010) of the Highway Capacity Manual delay methodology should be used for delay calculations. Additionally, Table 2 should show the delay ranges for unsignalized intersections since the unsignalized study intersection of Lot F/Temple Avenue is also analyzed using the Highway Capacity Manual delay methodology.

COMMENT 8

Page 9, Table 3 – Intersection Significant Impact Criteria: It should be noted that Table 3 shows the thresholds of significance for corresponding Levels of Service based on "with project" conditions, whereas the Los Angeles County Public Works Traffic Impact Analysis Report Guidelines (January 1997) defines intersection thresholds of significance based on "pre-project" conditions. While inconsistent with the Los Angeles County guidelines, the thresholds of significance used in the Traffic Impact Study are more stringent based on the scenarios analyzed.

COMMENT 9

Figure 3 - Existing Intersection Lane Configuration: Nogales Street/Amar Road (#1) incorrectly shows one additional westbound through lane.

COMMENT 10

Figure 3 - Existing Intersection Lane Configuration: It should be noted that the eastbound approach at Grand Avenue/I-10 Eastbound Ramps (#4) has been restriped to consist of one left-turn lane and one right-turn lane.

COMMENT 11

Figure 3 - Existing Intersection Lane Configuration: It should be noted that the northbound approach at Grand Avenue/SR-60 Eastbound Ramps (#13) has been restriped to consist of two through lanes and one shared through/right-turn lane (identified as a mitigation measure); the southbound approach has been restriped to consist of one left-turn lane and three through lanes.

COMMENT 12

Figure 3 - Existing Intersection Lane Configuration: It should be noted, that the southbound approach at Valley Boulevard/Temple Avenue (#17) has been restriped to consist of one left-turn lane, one through lane, one shared through/right-turn lane, and one right-turn lane.

COMMENT 13

Page 13, Table 5 - 2020 Project Trip Generation: The inbound and outbound trips generated during both peak hours are incorrectly calculated based on the in/out percentages shown. The AM peak hour should equal 377 inbound trips and 72 outbound trips. The PM peak hour should equal 283 inbound trips and 166 outbound trips.

COMMENT 14

Page 13, Table 6 - 2025 Project Trip Generation: The inbound and outbound trips generated during both peak hours are incorrectly calculated based on the in/out percentages shown. The AM peak hour should equal 721 inbound trips and 137 outbound trips. The PM peak hour should equal 541 inbound trips and 317 outbound trips.

COMMENT 15

Figure 5, 2020 Project Trip Assignment: Several intersection turning movements appear incorrect based on the project trip distribution percentages shown on Figure 4. For example, based on Figure 4, it would appear that the northbound right-turn movement at Nogales Street/Amar Road (#1) should equal 15 AM peak hour trips (375 inbound AM peak hour project trips X 4% = 15). If the project trips have been improperly assigned to the study intersections, all subsequent analysis scenarios will also require revision.

COMMENT 16

Figure 6, 2025 Project Trip Assignment: Several intersection turning movements appear incorrect based on the project trip distribution percentages shown on Figure 4. For example, based on Figure 4, it would appear that the northbound right-turn movement at Nogales Street/Amar Road (#1) should equal 29 AM peak hour trips (715 inbound AM peak hour project trips X 4% = 29). If the project trips have been improperly assigned to the study intersections, all subsequent analysis scenarios will also require revision.

COMMENT 17

Page 22, first paragraph: The intersection of Grand Avenue/La Puente Road should indicate a significant impact during both the AM and PM peak hours.

COMMENT 18

Page 54, Congestion Management Program Analysis (CMP): The Los Angeles County Guidelines for CMP Transportation Impact Analysis (CMP Appendix D) state that projects must consider transit impacts as defined in Section D.8.4 even if no CMP arterial intersections or freeway locations are identified for analysis; however, the Traffic Impact Study does not provide an assessment of transit impacts.

CONCLUSIONS

Overall, the Traffic Impact Study identified significant traffic impacts at 13 of the 19 study intersections. Mitigation measures that would reduce the project's impact to a less than significant level were identified for the following seven study intersections:

- Nogales Street/Amar Road;
- Lemon Avenue/Amar Road;
- Grand Avenue/Amar Road;
- Grand Avenue/La Puente Road;
- Grand Avenue/SR-60 Eastbound Ramps;
- Mt. SAC Way/Temple Avenue; and
- Bonita Avenue/Temple Avenue.

The project's traffic impacts at the following six study intersections would remain significant and unavoidable:

- Grand Avenue/Mountaineer Road;
- Grand Avenue/San Jose Hills Road;
- Grand Avenue/Temple Avenue;
- Grand Avenue/Valley Boulevard;
- Grand Avenue/Baker Parkway; and
- Valley Boulevard/Temple Avenue.

Mr. Justin Carlson, City Planner
CITY OF WALNUT
July 19, 2016

The revisions required to correct some of the comments noted in this letter, particularly those regarding the project trip generation and trip assignment, have the potential to alter the findings of significance. The Traffic Impact Study should be revised to ensure accuracy of the findings.

It has been a pleasure to service your needs on this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 973-8383.

Sincerely,

KUNZMAN ASSOCIATES, INC.

Giancarlo Ganddini, T.E.
Manager of Traffic Engineering

JN 6619

KUNZMAN ASSOCIATES, INC.

Carl Ballard, LEED GA
Principal