Air Quality Permitting

Technical Memorandum

Permit to Construct No. 777-00170

POE ASPHALT PAVING INC., PORTABLE
LEWISTON, IDAHO

Prepared By:

Kent Berry
Environmental Quality Management, Inc.

Project No. P-010209

Date Prepared:

March 26, 2002

Permit Status:

FINAL

LIST OF ACRONYMS

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	Environmental Protection Agency
ft	feet
gr	grain (1 lb = 7,000 grains)
HMA	hot-mix asphalt
HAP	hazardous air pollutants
IDAPA	A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pound per hour
kW	kilowatt
MACT	Maximum Available Control Technology
mg/m^3	micrograms per cubic meter
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards For Hazardous Air Pollutants
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	sulfur dioxide
T/hr	tons per hour
T/yr	tons per year
VOC	volatile organic compound

PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01.200, *Rules for the Control of Air Pollution in Idaho* for issuing permits to construct (PTC).

PROJECT DESCRIPTION

POE Asphalt Paving Inc. is proposing to construct a new portable hot-mix asphalt (HMA) plant to be operated in both attainment and nonattainment areas within the state of Idaho. POE Asphalt Paving Inc. is proposing to use waste fuel oil as an acceptable fuel for the HMA dryer and to allow for collocation.

SUMMARY OF EVENTS

December 4, 2001	The Idaho Department of Environmental Quality (DEQ) received an application from POE Asphalt Paving Inc. for a new portable HMA plant that would replace an existing plant permitted under Tier II operating permit No. 777-00170, issued February 7, 1997.
March 7, 2002	The application was determined complete.
March 27-April 25, 2002	An opportunity for a public comment period was held.

DISCUSSION

1. Process Description

The facility is a portable drum-mix, HMA plant used for the production of asphaltic concrete. The dryer burner is permitted to be fired on natural gas, No. 2 fuel oil, or waste fuel oil only.

The standard PTC requested will allow this HMA facility to collocate and simultaneously operate with one other portable plant (i.e., rock crusher, HMA plant, and/or concrete batch plant) in attainment areas. It is important to note that during collocated operations this HMA plant becomes part of a single, larger source engaged in the production of either asphalt, concrete, and/or aggregate depending upon which type of portable plant the hot-mix plant is collocated with. While collocated, the two portable plants are now considered to be one source, and the emissions of this single source is the sum of the emissions from the two portable plants. This single, larger source must comply with all applicable federal, state, and local requirements. To maintain compliance, specific requirements and limitations have been included in the Standard PTC for this HMA plant for collocated operations. As described in the following sections of this technical memorandum, specific conservative assumptions and calculations were made to determine these standard PTC collocation requirements. For this reason, the permit for other portable plants with which this HMA plant will collocate must also contain specific collocation requirements based on the same conservative assumptions and calculations used in this standard PTC.

2. Equipment Listing

This standard permit analysis includes the following equipment as submitted in the application:

2.1 Portable HMA Plant

Manufacturer/Model:	CMI with Model 360 Hauck Burner
Type:	Drum-mix
Throughput Capacity:	300 T/hr
Burner Fuel Type:	Natural gas, No. 2 fuel oil, or waste fuel oil
Dryer heat Input:	85.0 MMBtu/hr

2.2 Air Pollution Control Device

Type:	Baghouse
Manufacturer:	Roto-Aire
Model:	Roto-Aire 3

2.3 HMA Stack Information

Stack Height:	41.5 ft
Stack Diameter:	4.66 ft
Exhaust Gas Flowrate:	45,000 actual cubic feet per minute (acfm)
Stack Exhaust Temp:	275°F

2.4 Generator

Manufacturer/Model:	Caterpillar
Rated Power Output:	850 kW
Fuel Type:	Diesel
Fuel Usage:	75 gallons per hour (gal/hr)
Stack Height:	13.5 ft
Stack Diameter:	0.67 ft
Exhaust Gas Flowrate:	7,362 acfm
Stack Exhaust Temp:	1026°F

3. Emission Estimates

Emission estimates for this HMA facility were calculated using a spreadsheet and emission factors obtained from AP-42, Section 11.1, 1/95 edition. For purposes of maximum flexibility, the spreadsheet calculates the potential to emit (PTE) based on the worst-case emission factor of all possible fuels to be used at the hot-mix plant (diesel fuel oils, propane, and natural gas). The following air pollutant emissions are calculated by the spreadsheet: particulate matter (PM), particulate matter with an aerodynamic diameter of less than or equal to a nominal 10 micrometers (PM_{10}), oxides of nitrogen (NO_x), sulfur dioxide (SO_2), and carbon monoxide (CO). In calculating the PTE for each pollutant, the spreadsheet solves for the most-limiting pollutant that will give the facility a PTE of less than 100 tons per any consecutive 12-month period (T/yr) (i.e., 99 T/yr). In addition, allowable operational limits for the facility, which corresponds to the PTE <100 T/yr, are given as part of the spreadsheet output. A copy of the spreadsheet showing all calculations and results is presented as

For collocated operations, a conservative approach is taken by limiting the emissions of each of the collocated units to half of the levels allowed when operating alone. Therefore, the combined emissions of the two collocated sources will be within the allowable levels. See the information below for a more detailed description. This approach is designed to result in acceptable throughput limits for most collocation situations. In cases where the throughput limits are too restrictive, a site-specific analysis and permit modification may be completed.

In summary, the emission estimates for this facility assume 300 T/hr throughput to a drum-mix HMA plant, one natural gas/No. 2 fuel oil/waste fuel oil-fired dryer, one diesel-fired electrical generator set rated at 850 kW, and fugitive dust emissions from specified sources (see the spreadsheet). The most-limiting pollutant, which gives the facility a PTE of 99 T/yr, is PM_{10}.

3.1 Collocated Operations in Attainment Areas

Standard PTCs will only allow collocation with one other portable source (i.e., rock-crushing plant, HMA plant, or concrete batch plant) that has also received a standard PTC specifically allowing collocation. When a combination of one portable HMA unit and one other portable unit are operated at a single location, the emissions of both units must be added together when determining PTE. Consistent with the approach taken for attainment area operations, the spreadsheet inherently limits the combined emissions of the two portable units to below certain triggering levels (i.e., PSD and Title V thresholds) by limiting the maximum throughput of each. For collocated operations, half of the attainment area triggering levels are used as limits for calculating throughput for each source. The HMA plant throughput is then established based on the most-limiting pollutant or pollutants (i.e., the pollutant whose emission rate is closest to 49.5 T/yr). For collocated attainment area operations, the most-limiting pollutant, which gives the HMA facility a PTE of 49.5 T/yr, is PM_{10}.

4. Modeling

Modeling of the asphalt plant stack emissions and the electrical generator set emissions were conducted using an EPA-approved SCREEN 3 computer-run model. The maximum one-hour impact from the dryer stack was calculated to be 2.004 $\mu g/m^3$ using a 1 lb/hr unity emission rate input to the model. The maximum one-hour impact from the electrical generator set was calculated to be 10.96 $\mu g/m^3$, also using a 1 lb/hr unity input. The spreadsheet calculates the ambient impact for each air pollutant (PM, PM_{10}, NO_x, SO_2, and CO) based on the calculated lb/hr emission rate, averaging periods, and background concentrations. The spreadsheet solves for the most-limiting pollutant in attainment areas and gives appropriate operational limits that protect the applicable National Ambient Air Quality Standard (NAAQS) as defined in IDAPA 58.01.01.577. In addition, the spreadsheet also calculates the most-limiting pollutant in nonattainment areas and gives operational limits to protect applicable significant contribution requirements as defined in IDAPA 58.01.01.006.89. All SCREEN modeling output files are presented as Appendix B of this memo. Spreadsheet impact calculations and results are presented as Appendix A.

For collocated operations in attainment areas, operation of the HMA plant and its generator (if used) are limited as needed so that the modeled impacts will be half of the available allowable ambient impact. Likewise for collocated operations, the modeled impacts of the other

portable facility will also be limited to half of the available allowable ambient impact so that the combined emissions of the two collocated sources will remain within the NAAQS. Using the 24-hour NAAQS for PM_{10} (attainment area) as an example, one half of the allowable available impact would be equal to 32 $\mu g/m^3$, as follows:

$$32\ \mu g/m^3 = 0.5 \times [150\ \mu g/m^3 - 86\ \mu g/m^3],$$

where 150 $\mu g/m^3$ is the 24-hour average standard and 86 $\mu g/m^3$ is the conservative statewide 24-hour average background value. Therefore, operation of the HMA plant and its generator (if used) would be limited as needed, based on the specific ambient impact modeling, so that the modeled 24-hour concentration does not exceed 32 $\mu g/m^3$ at or beyond the facility's property boundary. This approach is designed to result in acceptable operational limits for most collocation situations. In cases where these limits are too restrictive, a site-specific analysis and permit amendment may be completed. If a generator is used, the modeling estimates are included as Appendix B.

5. Facility Classification

Hot-mix asphalt plants (including collocated operations producing asphalt, concrete, and aggregate) are not designated facilities, as defined in IDAPA 58.01.01.006.27. This plant is not a major facility as defined in IDAPA 58.01.01.006.55 and IDAPA 58.01.01.008.10. The SIC code for this hot-mix asphalt facility is 2951. The AIRS facility classification for this facility is "SM" because allowable emissions are less than all thresholds for Tier I permits. The spreadsheet included as Appendix A automatically determines the facility classification.

6. Area Classification

The HMA facility is a portable source and may operate in both attainment and nonattainment areas throughout the state of Idaho.

7. Regulatory Review

The following rules and regulations were reviewed for this permit analysis:

IDAPA 58.01.01.201	Permit to Construct
IDAPA 58.01.01.202	Application Procedures
IDAPA 58.01.01.203	Permit Requirements for New and Modified Stationary Sources
IDAPA 58.01.01.209	Procedures for Issuing Permits
IDAPA 58.01.01.211	Conditions for Permits to Construct
IDAPA 58.01.01.212	Obligation to Comply
IDAPA 58.01.01.577	Ambient Air Quality Standards
IDAPA 58.01.01.625	Visible Emissions
IDAPA 58.01.01.650	Rules for Control of Fugitive Dust
IDAPA 58.01.01.725	Rules for Sulfur Content of Fuels
IDAPA 58.01.01.805	Rules for the Control of Hot-Mix Asphalt Plants

This facility is an affected facility and is subject to regulation in accordance with 40 CFR Part 60, Subpart I, "Standards of Performance for Hot-mix Asphalt Facilities."

8. Permit Requirements

8.1 Emission Limits

Emission limits for the asphalt dryer stack of 0.04 gr/dscf were set and hourly limits (lb/hr) were calculated based upon the information provided for the HMA dryer and electrical generator to be constructed as part of this plant.

8.2 Operating Requirements

Operating requirements were established based upon the information provided for the HMA dryer and electrical generator to be constructed as part of this plant and the calculated emissions from this equipment.

9. Permit Coordination

This HMA plant is not a major facility as defined by IDAPA 58.01.01.006.55 and IDAPA 58.01.01.008.10. However, it is an NSPS-affected facility (40 CFR Part 60, Subpart I), and as such, it is a Tier I source as defined by IDAPA 58.01.01.006.104(b). In accordance with IDAPA 58.01.01.313.01.e.ii, new Tier I sources constructed after January 1, 2000, but before January 1, 2005 must either 1) submit a Tier I application within 12 months after commencing construction, or 2) register the source with the DEQ by submitting the information in Subsection 313.01.f within 12 months after commencing operation.

10. AIRS Information

AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM

AIR PROGRAM / POLLUTANT	SIP [c]	PSD [d]	NSPS [e] (Part 60)	NESHAP [f] (Part 61)	MACT [g] (Part 63)	TITLE V	AREA CLASSIFICATION A – Attainment U – Unclassifiable N – Nonattainment
SO_2 [h]	B						
NO_x [i]	B						
CO [j]	B						
PM_{10} [k]	SM						
PT (Particulate) [l]	SM						
VOC [m]	B						
THAP (Total HAPs) [n]	NA						
			APPLICABLE SUBPART				
			I				

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant which is below the 10 T/yr threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).

[c] State Implementation Plan
[d] Prevention of Significant Deterioration
[e] New Source Performance Standards
[f] National Emission Standards for Hazardous Air Pollutants
[g] Maximum Achievable Control Technology
[h] Sulfur Dioxide
[i] Nitrogen Oxides
[j] Carbon Monoxide
[k] Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
[l] Particulate Matter
[m] Volatile Organic Compounds
[n] Hazardous Air Pollutants

FEES

The POE Asphalt Paving Inc. plant is not a major facility as defined in IDAPA 58.01.01.008.10. Therefore, registration fees are not applicable in accordance with IDAPA 58.01.01.527.

RECOMMENDATION

Based on review of application materials and all applicable state and federal rules and regulations, staff recommend POE Asphalt Paving Inc. be issued PTC No. 777-00170 for the portable HMA facility. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

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cc: Eric Kopczynski, Lewiston Regional Office
Kent Berry, EQM

APPENDIX A

EMISSION ESTIMATES
& MODELING SUMMARY

HOT-MIX ASPHALT PLANT DRUM DRYER EMISSION FACTORS

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PM-10	2.30E-02	AP42 Tbl 11.1-3 (12/00)	2.30E-02	AP42 Tbl 11.1-3 (12/00)	2.30E-02	AP42 Tbl 11.1-3 (12/00)
SO2	3.40E-03	AP42 Tbl 11.1-7 (12/00)	1.10E-02	AP42 Tbl 11.1-7 (12/00)	5.80E-02	AP42 Tbl 11.1-7 (12/00)
NOx	2.60E-02	AP42 Tbl 11.1-7 (12/00)	5.50E-02	AP42 Tbl 11.1-7 (12/00)	5.50E-02	AP42 Tbl 11.1-7 (12/00)
CO	1.30E-01	AP42 Tbl 11.1-7 (12/00)	1.30E-01	AP42 Tbl 11.1-7 (12/00)	1.30E-01	AP42 Tbl 11.1-7 (12/00)
VOC	3.20E-02	AP42 Tbl 11.1-8 (12/00)	3.20E-02	AP42 Tbl 11.1-8 (12/00)	3.20E-02	AP42 Tbl 11.1-8 (12/00)
Lead	6.20E-07	AP42 Tbl 11.1-12 (12/00)	1.50E-05	AP42 Tbl 11.1-12 (12/00)	1.50E-05	AP42 Tbl 11.1-12 (12/00)
[illegible]						
PM	3.30E-02	AP42 Tbl 11.1-3 (12/00)	3.30E-02	AP42 Tbl 11.1-3 (12/00)	3.30E-02	AP42 Tbl 11.1-3 (12/00)
Beryllium	0.00E+00	AP42 Tbl 11.1-12 (12/00)	0.00E+00	AP42 Tbl 11.1-12 (12/00)	0.00E+00	AP42 Tbl 11.1-12 (12/00)
Mercury	2.40E-07	AP42 Tbl 11.1-12 (12/00)	2.60E-06	AP42 Tbl 11.1-12 (12/00)	2.60E-06	AP42 Tbl 11.1-12 (12/00)
[illegible]						
Acetone					8.30E-04	AP42 Tbl 11.1-10 (12/00)
Acrolein					2.60E-05	AP42 Tbl 11.1-10 (12/00)
Antimony	1.80E-07	AP42 Tbl 11.1-12 (12/00)	1.80E-07	AP42 Tbl 11.1-12 (12/00)	1.80E-07	AP42 Tbl 11.1-12 (12/00)
Barium	5.80E-06	AP42 Tbl 11.1-12 (12/00)	5.80E-06	AP42 Tbl 11.1-12 (12/00)	5.80E-06	AP42 Tbl 11.1-12 (12/00)
Chromium	5.50E-06	AP42 Tbl 11.1-12 (12/00)	5.50E-06	AP42 Tbl 11.1-12 (12/00)	5.50E-06	AP42 Tbl 11.1-12 (12/00)
Cobalt	2.60E-08	AP42 Tbl 11.1-12 (12/00)	2.60E-08	AP42 Tbl 11.1-12 (12/00)	2.60E-08	AP42 Tbl 11.1-12 (12/00)
Copper	3.10E-06	AP42 Tbl 11.1-12 (12/00)	3.10E-06	AP42 Tbl 11.1-12 (12/00)	3.10E-06	AP42 Tbl 11.1-12 (12/00)
Crotonaldehyde					8.60E-05	AP42 Tbl 11.1-10 (12/00)
Ethylbenzene	2.40E-04	AP42 Tbl 11.1-10 (12/00)	2.40E-04	AP42 Tbl 11.1-10 (12/00)	2.40E-04	AP42 Tbl 11.1-10 (12/00)
Fluorene	3.80E-06	AP42 Tbl 11.1-10 (12/00)	1.10E-05	AP42 Tbl 11.1-10 (12/00)	1.10E-05	AP42 Tbl 11.1-10 (12/00)
Hexane	9.20E-04	AP42 Tbl 11.1-10 (12/00)	9.20E-04	AP42 Tbl 11.1-10 (12/00)	9.20E-04	AP42 Tbl 11.1-10 (12/00)
Hydrogen Chloride (CL)	ND	AP42 Tbl 11.1-8 (12/00)	ND	AP42 Tbl 11.1-8 (12/00)	2.10E-04	AP42 Tbl 11.1-8 (12/00)
Manganese	7.70E-06	AP42 Tbl 11.1-12 (12/00)	7.70E-06	AP42 Tbl 11.1-12 (12/00)	7.70E-06	AP42 Tbl 11.1-12 (12/00)
Mercury	2.40E-07	AP42 Tbl 11.1-12 (12/00)	2.60E-06	AP42 Tbl 11.1-12 (12/00)	2.60E-06	AP42 Tbl 11.1-12 (12/00)
Methyl Chloroform (1,1,1 Trichloroethane)	4.80E-05	AP42 Tbl 11.1-10 (12/00)	4.80E-05	AP42 Tbl 11.1-10 (12/00)	4.80E-05	AP42 Tbl 11.1-10 (12/00)
Methyl ethyl ketone					2.00E-05	AP42 Tbl 11.1-10 (12/00)
Naphthalene	9.00E-05	AP42 Tbl 11.1-10 (12/00)	6.50E-04	AP42 Tbl 11.1-10 (12/00)	6.50E-04	AP42 Tbl 11.1-10 (12/00)
Pentane	2.10E-04	AP42 Tbl 11.1-10 (12/00)	2.10E-04	AP42 Tbl 11.1-10 (12/00)	2.10E-04	AP42 Tbl 11.1-10 (12/00)
Phosphorous	2.80E-05	AP42 Tbl 11.1-12 (12/00)	2.80E-05	AP42 Tbl 11.1-12 (12/00)	2.80E-05	AP42 Tbl 11.1-12 (12/00)
Propionaldehyde					1.30E-04	AP42 Tbl 11.1-10 (12/00)
Quinone					1.60E-04	AP42 Tbl 11.1-10 (12/00)
Selenium	3.50E-07	AP42 Tbl 11.1-12 (12/00)	3.50E-07	AP42 Tbl 11.1-12 (12/00)	3.50E-07	AP42 Tbl 11.1-12 (12/00)
Silver	4.80E-07	AP42 Tbl 11.1-12 (12/00)	4.80E-07	AP42 Tbl 11.1-12 (12/00)	4.80E-07	AP42 Tbl 11.1-12 (12/00)
Thallium	4.10E-09	AP42 Tbl 11.1-12 (12/00)	4.10E-09	AP42 Tbl 11.1-12 (12/00)	4.10E-09	AP42 Tbl 11.1-12 (12/00)
Toluene	1.50E-04	AP42 Tbl 11.1-10 (12/00)	2.90E-03	AP42 Tbl 11.1-10 (12/00)	2.90E-03	AP42 Tbl 11.1-10 (12/00)
2,2,4-Trimethyl-pentane (Isooctane)	4.00E-05	AP42 Tbl 11.1-10 (12/00)	4.00E-05	AP42 Tbl 11.1-10 (12/00)	4.00E-05	AP42 Tbl 11.1-10 (12/00)
Valeraldehyde					6.70E-05	AP42 Tbl 11.1-10 (12/00)
o-Xylene	2.00E-04	AP42 Tbl 11.1-10 (12/00)	2.00E-04	AP42 Tbl 11.1-10 (12/00)	2.00E-04	AP42 Tbl 11.1-10 (12/00)
Zinc	6.10E-05	AP42 Tbl 11.1-12 (12/00)	6.10E-05	AP42 Tbl 11.1-12 (12/00)	6.10E-05	AP42 Tbl 11.1-12 (12/00)
[illegible]						
Acetaldehyde					1.30E-03	AP42 Tbl 11.1-10 (12/00)
Arsenic[c]	5.60E-07	AP42 Tbl 11.1-12 (12/00)	5.60E-07	AP42 Tbl 11.1-12 (12/00)	5.60E-07	AP42 Tbl 11.1-12 (12/00)
Benzene[c]	3.90E-04	AP42 Tbl 11.1-10 (12/00)	3.90E-04	AP42 Tbl 11.1-10 (12/00)	3.90E-04	AP42 Tbl 11.1-10 (12/00)
Beryllium[c]	0.00E+00	AP42 Tbl 11.1-12 (12/00)	0.00E+00	AP42 Tbl 11.1-12 (12/00)	0.00E+00	AP42 Tbl 11.1-12 (12/00)
Benzo(a)pyrene[c]	9.80E-09	AP42 Tbl 11.1-10 (12/00)	9.80E-09	AP42 Tbl 11.1-10 (12/00)	9.80E-09	AP42 Tbl 11.1-10 (12/00)
Cadmium[c]	4.10E-07	AP42 Tbl 11.1-12 (12/00)	4.10E-07	AP42 Tbl 11.1-12 (12/00)	4.10E-07	AP42 Tbl 11.1-12 (12/00)
Dioxin and Furons			1.20E-10	AP42 Tbl 11.1-10 (12/00)	1.20E-10	AP42 Tbl 11.1-10 (12/00)
Total PCDD			7.90E-11	AP42 Tbl 11.1-10 (12/00)	7.90E-11	AP42 Tbl 11.1-10 (12/00)
Total PCDF			4.00E-11	AP42 Tbl 11.1-10 (12/00)	4.00E-11	AP42 Tbl 11.1-10 (12/00)
Formaldehyde[c]	3.10E-03	AP42 Tbl 11.1-10 (12/00)	3.10E-03	AP42 Tbl 11.1-10 (12/00)	3.10E-03	AP42 Tbl 11.1-10 (12/00)
Nickel[c]	6.30E-05	AP42 Tbl 11.1-12 (12/00)	6.30E-05	AP42 Tbl 11.1-12 (12/00)	6.30E-05	AP42 Tbl 11.1-12 (12/00)
Polyaromatic Hydrocarbons (PAH or POM)[c,d]						
Benzo(a)anthracene	2.10E-07	AP42 Tbl 11.1-10 (12/00)	2.10E-07	AP42 Tbl 11.1-10 (12/00)	2.10E-07	AP42 Tbl 11.1-10 (12/00)
Benzo(b)fluoranthene	1.00E-07	AP42 Tbl 11.1-10 (12/00)	1.00E-07	AP42 Tbl 11.1-10 (12/00)	1.00E-07	AP42 Tbl 11.1-10 (12/00)
Benzo(k)fluoranthene	4.10E-08	AP42 Tbl 11.1-10 (12/00)	4.10E-08	AP42 Tbl 11.1-10 (12/00)	4.10E-08	AP42 Tbl 11.1-10 (12/00)
Chrysene	1.80E-07	AP42 Tbl 11.1-10 (12/00)	1.80E-07	AP42 Tbl 11.1-10 (12/00)	1.80E-07	AP42 Tbl 11.1-10 (12/00)
Dibenzo(a,h)anthracene						
Indeno(1,2,3-cd)pyrene	7.00E-09	AP42 Tbl 11.1-10 (12/00)	7.00E-09	AP42 Tbl 11.1-10 (12/00)	7.00E-09	AP42 Tbl 11.1-10 (12/00)
Benzo(a)pyrene	9.80E-09	AP42 Tbl 11.1-10 (12/00)	9.80E-09	AP42 Tbl 11.1-10 (12/00)	9.80E-09	AP42 Tbl 11.1-10 (12/00)

a - Non-carcinogenic TAPs are listed in IDAPA 58.01.01.585.

b - Carcinogenic TAPs are listed in IDAPA 58.01.01.586.

c - Indicates carcinogenic toxic air pollutants which have an annual ambient acceptable concentration for carcinogenics (AACC) rather than a 24-hr ambient acceptable concentrations (AAC) like the non-carcinogenic toxics.

d - Polyaromatic Hydrocarbons (PAH) a.k.a Polycyclic Organic Matter (POM) consists of Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Benzo(a)pyrene. PAHs are considered to be one TAP equal in potency to Benzo(a)pyrene.

e - Only the pollutants with emissions higher than the screening limit (EL) need to be modeled.

POE Asphalt Paving, Inc.
Emission Summary for Criteria Air Pollutants

CURRENT MADISON HOT PLANT #1200

Diesel Operating Parameters	
Heat Input (MM Btu/hr) =	100.00
Fuel Heat Value (Btu/gal) =	140,000
Fuel Burned (gal/hr) =	714
Max. Fuel Burned (MMgal/yr) =	6.26
Actual Fuel Burned (Mgal/yr) =	4.79
Max Hours (hr/yr) =	8,760
Actual Hours (hr/yr) =	6,700

Emission Limits					
Source	Pounds/hr	Tons/yr		Pounds/hr	Tons/yr
Pre-Dryer Material Handling	0.63	2.1		---	---
Baghouse Stack	11.64	95.2		28.35	94.8

PRODUCTION DATA		EXHAUST DATA	
Maximum Production Rate (tons/hr) =	210	Flow (acfm)	21,250
Normal Production Rate (tons/hr) =	210	Temperature (°F)	350
		Moisture	18%

PROPOSED NEW CMI PLANT

Natural Gas Operating Parameters		Diesel Operating Parameters		RF04 Oil Operating Parameters		RF04 Oil Properties	
Heat Input (MM Btu/hr) =	85.00	Heat Input (MM Btu/hr) =	85.00	Heat Input (MM Btu/hr) =	85.00	Fuel Sulfur Content (S) (%wt) =	0.5
Fuel Heat Value (Btu/cfm) =	1,020	Fuel Heat Value (Btu/gal) =	140,000	Fuel Heat Value (Btu/gal) =	140,000	Fuel Ash Content (A) (%wt) =	0.8
Fuel Burned (cf/hr) =	83,333	Fuel Burned (gal/hr) =	607	Fuel Burned (gal/hr) =	607	Fuel Lead Content (L) (%wt) =	0.0101533
Max. Fuel Burned (MMcf/yr) =	730.00	Max. Fuel Burned (MMgal/yr) =	5.32	Max. Fuel Burned (MMgal/yr) =	5.32	Fuel Chlorine Content (Cl) (%wt) =	0.10153295
Actual Fuel Burned (MMcf/yr) =	730.00	Actual Fuel Burned (Mgal/yr) =	5.32	Actual Fuel Burned (Mgal/yr) =	5.32	Fuel Arsenic Content (As) (ppm) =	0.5
Max Hours (hr/yr) =	8,760	Max Hours (hr/yr) =	8,760	Max Hours (hr/yr) =	8,760	Fuel Cadmium Content (Ca) (ppm) =	2
Actual Hours (hr/yr) =	8,760	Actual Hours (hr/yr) =	8,760	Actual Hours (hr/yr) =	8,760	Fuel Chromium Content (Cr) (ppm) =	10
						Density of RF04 Oil (lb/gal) =	8.212

PRODUCTION DATA		EXHAUST DATA	
Maximum Production Rate (tons/hr) =	300	Flow (acfm)	45,000
Normal Production Rate (tons/hr) =	300	Temperature (°F)	275
		Moisture	18%

Potential to Emit

Regulated Pollutants	Emission Fators			Actual Emissions		Future Potential Emissions						Increase		
	Natural Gas	Diesel	RF04 Oil	Deisel Emissions		Natural Gas Emissions		Diesel Emissions		RF04 Oil Emissions		Nat. Gas Increase	Diesel increase	RF04 Oil Increase
	(lb/ton)	(lb/ton)	(lb/ton)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(lb/hr)	(lb/hr)
Criteria Pollutants														
PM-10[a]	---	---	---	11.6400	38.994	9.0884	39.807	9.0884	39.807	9.0884	39.807	-2.5516	-2.5516	-2.5516
SO2[a]	3.40E-03	1.10E-02	5.80E-02	28.3500	94.973	1.0200	4.468	3.3000	14.454	17.4000	76.212	-27.3300	-25.0500	-10.9500
NOx	2.60E-02	5.50E-02	5.50E-02	11.5500	38.693	7.8000	34.164	16.5000	72.270	16.5000	72.270	-3.7500	4.9500	4.9500
CO	1.30E-01	1.30E-01	1.30E-01	27.3000	91.455	39.0000	170.820	39.0000	170.820	39.0000	170.820	11.7000	11.7000	11.7000
VOC	3.20E-02	3.20E-02	3.20E-02	6.7200	22.512	9.6000	42.048	9.6000	42.048	9.6000	42.048	2.8800	2.8800	2.8800
Lead	6.20E-07	1.50E-05	1.50E-05	0.0032	0.011	0.0002	0.001	0.0045	0.020	0.0045	0.020	-0.0030	0.0014	0.0014
Non-Criteria Pollutants with a Significant Threshold														
PM[a]	---	---	---	80.6400	270.144	9.0884	39.807	9.0884	39.807	9.0884	39.807	-71.5516	-71.5516	-71.5516
Beryllium	0.00E+00	0.00E+00	0.00E+00	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000
Mercury	2.40E-07	2.60E-06	2.60E-06	5.46E-04	1.8E-03	7.20E-05	3.15E-04	7.80E-04	3.42E-03	7.80E-04	3.42E-03	-4.74E-04	2.34E-04	2.34E-04

Note: [a] Actual Emissions for PM10 and SO2 From Appendix A of Air Pollution Operating Permit #777-00170. PM Emissions from the Technical Memorandum of the Operating Permit.
Future Potential PM10 and PM Emissions Based on NSPS Limit of 0.04 gr/dscf.

POE Asphalt Paving, Inc.
Toxic Air Pollutant Information

Toxic Air Pollutant	Emission Fators			Actual Emissions		Future Potential Emissions						Increase			Screening Emission Level (EL)	Modeling Required		
	Natural Gas (lb/ton)	Diesel (lb/ton)	Waste Oil (lb/ton)	Diesel Emissions (lb/hr)	Diesel Emissions (T/yr)	Natural Gas Emissions (lb/hr)	Natural Gas Emissions (T/yr)	Diesel Emissions (lb/hr)	Diesel Emissions (T/yr)	Waste Oil Emissions (lb/hr)	Waste Oil Emissions (T/yr)	Nat. Gas Increase (lb/hr)	Diesel Increase (lb/hr)	Waste Oil Increase (lb/hr)	(lb/hr)	Nat. Gas Y or N	Diesel Y or N	Waste oil Y or N
[redacted]																		
Acetone	ND	ND	8.30E-04	ND	ND	ND	ND	ND	ND	0.249	1.0906	ND	ND	2.49E-01	119	NO	NO	NO
Acrolien	ND	ND	2.60E-05	ND	ND	ND	ND	ND	ND	0.0078	0.0342	ND	ND	7.80E-03	0.017	NO	NO	NO
Antimony	1.80E-07	1.80E-07	1.80E-07	3.78E-05	1.3E-04	5.40E-05	2.4E-04	5.40E-05	2.4E-04	5E-05	0.0002	1.62E-05	1.62E-05	1.62E-05	0.033	NO	NO	NO
Barium	5.80E-06	5.80E-06	5.80E-06	1.22E-03	4.1E-03	1.74E-03	7.6E-03	1.74E-03	7.6E-03	0.0017	0.0076	5.22E-04	5.22E-04	5.22E-04	0.033	NO	NO	NO
Chromium	5.50E-06	5.50E-06	5.50E-06	1.16E-03	3.9E-03	1.65E-03	7.2E-03	1.65E-03	7.2E-03	0.0017	0.0072	4.95E-04	4.95E-04	4.95E-04	0.033	NO	NO	NO
Cobalt	2.60E-08	2.60E-08	2.60E-08	5.46E-06	1.8E-05	7.80E-06	3.4E-05	7.80E-06	3.4E-05	8E-06	3E-05	2.34E-06	2.34E-06	2.34E-06	0.0033	NO	NO	NO
Copper	3.10E-06	3.10E-06	3.10E-06	6.51E-04	2.2E-03	9.30E-04	4.1E-03	9.30E-04	4.1E-03	0.0009	0.0041	2.79E-04	2.79E-04	2.79E-04	0.067	NO	NO	NO
Crotonaldehyde	ND	ND	8.60E-05	ND	ND	ND	ND	ND	ND	0.0258	0.113	ND	ND	2.58E-02	0.38	NO	NO	NO
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	5.04E-02	1.7E-01	7.20E-02	3.2E-01	7.20E-02	3.2E-01	0.072	0.3154	2.16E-02	2.16E-02	2.16E-02	29	NO	NO	NO
Fluorene	3.80E-06	1.10E-05	1.10E-05	2.31E-03	7.7E-03	1.14E-03	5.0E-03	3.30E-03	1.4E-02	0.0033	0.0145	-1.17E-03	9.90E-04	9.90E-04	0.133	NO	NO	NO
Hexane	9.20E-04	9.20E-04	9.20E-04	1.93E-01	6.5E-01	2.76E-01	1.2E+00	2.76E-01	1.2E+00	0.276	1.2089	8.28E-02	8.28E-02	8.28E-02	12	NO	NO	NO
Hydrogen Chloride	ND	ND	2.10E-04	ND	ND	ND	ND	ND	ND	0.063	0.2759	ND	ND	6.30E-02	0.05	NO	NO	YES
Manganese	7.70E-06	7.70E-06	7.70E-06	1.62E-03	5.4E-03	2.31E-03	1.0E-02	2.31E-03	1.0E-02	0.0023	0.0101	6.93E-04	6.93E-04	6.93E-04	0.067	NO	NO	NO
Mercury	2.40E-07	2.60E-06	2.60E-06	5.46E-04	1.8E-03	7.20E-05	3.2E-04	7.80E-04	3.4E-03	0.0008	0.0034	-4.74E-04	2.34E-04	2.34E-04	0.003	NO	NO	NO
Methyl Chloroform	4.80E-05	4.80E-05	4.80E-05	1.01E-02	3.4E-02	1.44E-02	6.3E-02	1.44E-02	6.3E-02	0.0144	0.0631	4.32E-03	4.32E-03	4.32E-03	127	NO	NO	NO
Methyl ethyl ketone	ND	ND	2.00E-05	ND	ND	ND	ND	ND	ND	0.006	0.0263	ND	ND	6.00E-03	39.3	NO	NO	NO
Napthalene	9.00E-05	6.50E-04	6.50E-04	1.37E-01	4.8E-01	2.70E-02	1.2E-01	1.95E-01	8.5E-01	0.195	0.8541	-1.10E-01	5.85E-02	5.85E-02	3.33	NO	NO	NO
Pentane	2.10E-04	2.10E-04	2.10E-04	4.41E-02	1.5E-01	6.30E-02	2.8E-01	6.30E-02	2.8E-01	0.063	0.2759	1.89E-02	1.89E-02	1.89E-02	118	NO	NO	NO
Phosphorous	2.80E-05	2.80E-05	2.80E-05	5.88E-03	2.0E-02	8.40E-03	3.7E-02	8.40E-03	3.7E-02	0.0084	0.0368	2.52E-03	2.52E-03	2.52E-03	0.007	NO	NO	NO
Propionaldehyde	ND	ND	1.30E-04	ND	ND	ND	ND	ND	ND	0.039	0.1708	ND	ND	3.90E-02	0.0287	NO	NO	YES
Quinone	ND	ND	1.60E-04	ND	ND	ND	ND	ND	ND	0.048	0.2102	ND	ND	4.80E-02	0.027	NO	NO	YES
Selenium	3.50E-07	3.50E-07	3.50E-07	7.35E-05	2.5E-04	1.05E-04	4.6E-04	1.05E-04	4.6E-04	0.0001	0.0005	3.15E-05	3.15E-05	3.15E-05	0.013	NO	NO	NO
Silver	4.80E-07	4.80E-07	4.80E-07	1.01E-04	3.4E-04	1.44E-04	6.3E-04	1.44E-04	6.3E-04	0.0001	0.0006	4.32E-05	4.32E-05	4.32E-05	0.001	NO	NO	NO
Thallium	4.10E-09	4.10E-09	4.10E-09	8.61E-07	2.9E-06	1.23E-06	5.4E-06	1.23E-06	5.4E-06	1E-06	5E-06	3.69E-07	3.69E-07	3.69E-07	0.007	NO	NO	NO
Toluene	1.50E-04	2.90E-03	2.90E-03	6.09E-01	2.0E+00	4.50E-02	2.0E-01	8.70E-01	3.8E+00	0.87	3.8106	-5.64E-01	2.61E-01	2.61E-01	25	NO	NO	NO
2,2,4-Trimethyl-pentane	4.00E-05	4.00E-05	4.00E-05	8.40E-03	2.8E-02	1.20E-02	5.3E-02	1.20E-02	5.3E-02	0.012	0.0526	3.60E-03	3.60E-03	3.60E-03	23.3	NO	NO	NO
Valeraldehyde	ND	ND	6.70E-05	ND	ND	ND	ND	ND	ND	0.0201	0.088	ND	ND	2.01E-02	11.7	NO	NO	NO
o-Xylene	2.00E-04	2.00E-04	2.00E-04	4.20E-02	1.4E-01	6.00E-02	2.6E-01	6.00E-02	2.6E-01	0.06	0.2628	1.80E-02	1.80E-02	1.80E-02	29	NO	NO	NO
Zinc	6.10E-05	6.10E-05	6.10E-05	1.28E-02	4.3E-02	1.83E-02	8.0E-02	1.83E-02	8.0E-02	0.0183	0.0802	5.49E-03	5.49E-03	5.49E-03	0.667	NO	NO	NO
[redacted]																		
Acetaldehyde	ND	ND	1.30E-03	ND	ND	ND	ND	ND	ND	0.39	1.7082	ND	ND	3.90E-01	3.00E-03	NO	NO	YES
Arsenic[c]	5.60E-07	5.60E-07	5.60E-07	1.18E-04	3.9E-04	1.68E-04	7.4E-04	1.68E-04	7.4E-04	0.0002	0.0007	5.04E-05	5.04E-05	5.04E-05	1.50E-06	YES	YES	YES
Benzene[c]	3.90E-04	3.90E-04	3.90E-04	8.19E-02	2.7E-01	1.17E-01	5.1E-01	1.17E-01	5.1E-01	0.117	0.5125	3.51E-02	3.51E-02	3.51E-02	8.00E-04	YES	YES	YES
Beryllium[c]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.0E+00	0.00E+00	0.0E+00	0.00E+00	0.0E+00	0	0	0.00E+00	0.00E+00	0.00E+00	2.80E-05	NO	NO	NO
Benzo(a)pyrene[c]	9.80E-09	9.80E-09	9.80E-09	2.06E-06	6.9E-06	2.94E-06	1.3E-05	2.94E-06	1.3E-05	3E-06	1E-05	8.82E-07	8.82E-07	8.82E-07	2.00E-06	NO	NO	NO
Cadmium[c]	4.10E-07	4.10E-07	4.10E-07	8.61E-05	2.9E-04	1.23E-04	5.4E-04	1.23E-04	5.4E-04	0.0001	0.0005	3.69E-05	3.69E-05	3.69E-05	3.70E-06	YES	YES	YES
Dioxin and Furons	ND	1.20E-10	1.20E-10	2.52E-08	8.4E-08	ND	ND	3.60E-08	1.6E-07	4E-08	2E-07	ND	1.08E-08	1.08E-08	1.50E-10	NO	YES	YES
Total PCDD's	ND	7.90E-11	7.90E-11	1.66E-08	5.6E-08	ND	ND	2.37E-08	1.0E-07	2E-08	1E-07	ND	7.11E-09	7.11E-09	N/A	N/A	N/A	N/A
Total PCDF's	ND	4.00E-11	4.00E-11	8.40E-09	2.8E-08	ND	ND	1.20E-08	5.3E-08	1E-08	5E-08	ND	3.60E-09	3.60E-09	N/A	N/A	N/A	N/A
Formaldehyde[c]	3.10E-03	3.10E-03	3.10E-03	6.51E-01	2.2E+00	9.30E-01	4.1E+00	9.30E-01	4.1E+00	0.93	4.0734	2.79E-01	2.79E-01	2.79E-01	5.10E-04	YES	YES	YES
Nickel[c]	6.30E-05	6.30E-05	6.30E-05	1.32E-02	4.4E-02	1.89E-02	8.3E-02	1.89E-02	8.3E-02	0.0189	0.0828	5.67E-03	5.67E-03	5.67E-03	2.70E-05	YES	YES	YES
Polyaromatic Hydrocarbons (PAH or POM)[c,d]	5.48E-07	5.48E-07	5.48E-07	1.15E-04	3.9E-04	1.64E-04	7.2E-04	1.64E-04	7.2E-04	0.0002	0.0007	4.93E-05	4.93E-05	4.93E-05	9.10E-05	NO	NO	NO
Benzo(a)anthracene	2.10E-07	2.10E-07	2.10E-07	4.41E-05	1.5E-04	6.30E-05	2.8E-04	6.30E-05	2.8E-04	6E-05	0.0003	1.89E-05	1.89E-05	1.89E-05	N/A	N/A	N/A	N/A
Benzo(b)fluoranthene	1.00E-07	1.00E-07	1.00E-07	2.10E-05	7.0E-05	3.00E-05	1.3E-04	3.00E-05	1.3E-04	3E-05	0.0001	9.00E-06	9.00E-06	9.00E-06	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	4.10E-08	4.10E-08	4.10E-08	8.61E-06	2.9E-05	1.23E-05	5.4E-05	1.23E-05	5.4E-05	1E-05	5E-05	3.69E-06	3.69E-06	3.69E-06	N/A	N/A	N/A	N/A
Chrysene	1.80E-07	1.80E-07	1.80E-07	3.78E-05	1.3E-04	5.40E-05	2.4E-04	5.40E-05	2.4E-04	5E-05	0.0002	1.62E-05	1.62E-05	1.62E-05	N/A	N/A	N/A	N/A
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	7.00E-09	7.00E-09	7.00E-09	1.47E-06	4.9E-06	2.10E-06	9.2E-06	2.10E-06	9.2E-06	2E-06	9E-06	6.30E-07	6.30E-07	6.30E-07	N/A	N/A	N/A	N/A
Benzo(a)pyrene	9.80E-09	9.80E-09	9.80E-09	2.06E-06	6.9E-06	2.94E-06	1.3E-05	2.94E-06	1.3E-05	3E-06	1E-05	8.82E-07	8.82E-07	8.82E-07	N/A	N/A	N/A	N/A

a - Non-carcinogenic TAPs are listed in IDAPA 58.01.01.585.

b - Carcinogenic TAPs are listed in IDAPA 58.01.01.586.

c - Indicates carcinogenic toxic air pollutants which have an annual ambient acceptable concentration for carcinogenics (AACC) rather than a 24-hr ambient acceptable concentrations (AAC) like the non-carcinogenic toxics.

d - Polyaromatic Hydrocarbons (PAH) a.k.a Polycyclic Organic Matter (POM) consists of Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Benzo(a)pyrene. PAHs are considered to be one TAP equal in potency to Benzo(a)pyrene.

e - Only the pollutants with emissions higher than the screening limit (EL) need to be modeled.

POE Asphalt Paving, Inc.
NAAQS Analysis - #2 Diesel Combustion - Increased Emissions Screen Modeling

Persistence Factors for NAAQS = 0.9 for 3-hr, 0.7 for 8-hr, 0.4 for 24-hr, 0.225 for quarterly, and 0.08 for annual

Modeled 1-hr maximum unit concentrationn ($\mu g/m^3$) =	2.004

NAAQS Concentrations

Pollutant	Emission Rate (lb/hr)	1-hr Actual ($\mu g/m^3$)	24-hr Actual ($\mu g/m^3$)	24-hr Background ($\mu g/m^3$)	24-hr Total ($\mu g/m^3$)	24-hr Limit ($\mu g/m^3$)	Annual Actual ($\mu g/m^3$)	Annual Background ($\mu g/m^3$)	Annual Total ($\mu g/m^3$)	Annual Limit ($\mu g/m^3$)	Meets Limit?
PM-10	-2.55	-5.113	-2.045384	86	83.955	150	-0.4091	32.7	32.2909	50	YES

	Emission Rate (lb/hr)	1-hr Actual ($\mu g/m^3$)	3-hr Actual ($\mu g/m^3$)	3-hr Background ($\mu g/m^3$)	3-hr Total ($\mu g/m^3$)	3-hr Limit ($\mu g/m^3$)	24-hr Actual ($\mu g/m^3$)	24-hr Background ($\mu g/m^3$)	24-hr Total ($\mu g/m^3$)	24-hr Limit ($\mu g/m^3$)	Annual Actual ($\mu g/m^3$)	Annual Background ($\mu g/m^3$)	Annual Total ($\mu g/m^3$)	Annual Limit ($\mu g/m^3$)	Meets Limit?
SO2	-25.1	-50.2	-45.18018	543	497.82	1,300	-20.08	144	123.92	365	-4.016	23.5	19.484	80	YES

	Emission Rate (lb/hr)	1-hr Actual ($\mu g/m^3$)	Annual Actual ($\mu g/m^3$)	Annual Background ($\mu g/m^3$)	Annual Total ($\mu g/m^3$)	Annual Limit ($\mu g/m^3$)	Meets Limit?
NOx	4.95	9.9198	0.793584	40	40.794	100	YES

	Emission Rate (lb/hr)	1-hr Actual ($\mu g/m^3$)	1-hr Actual ($\mu g/m^3$)	1-hr Background ($\mu g/m^3$)	1-hr Total ($\mu g/m^3$)	1-hr Limit ($\mu g/m^3$)	8-hr Actual ($\mu g/m^3$)	8-hr Background ($\mu g/m^3$)	8-hr Total ($\mu g/m^3$)	8-hr Limit ($\mu g/m^3$)	Meets Limit?
CO	11.70	23.447	23.4468	11,400	11,423	40,000	16.413	5,130	5,146	10,000	YES

	Emission Rate (lb/hr)	1-hr Actual ($\mu g/m^3$)	Quarterly Actual ($\mu g/m^3$)	Quarterly Background ($\mu g/m^3$)	Quarterly Total ($\mu g/m^3$)	Quarterly Limit ($\mu g/m^3$)	Meets Limit?
Lead	1.35E-03	0.0027	6.09E-04	0.17	0.17	1.5	YES

Note - Background values are subject to change - Check with DEQ

POE Asphalt Paving, Inc.
NAAQS Analysis - Natural Gas Combustion - Increased Emissions Screen Modeling

Persistence Factors for NAAQS = 0.9 for 3-hr, 0.7 for 8-hr, 0.4 for 24-hr, 0.225 for quarterly, and 0.08 for annual

Modeled 1-hr maximum unit concentrationn (μg/m³) =	2.004

			NAAQS Concentrations												
Pollutant	Emission Rate (lb/hr)	1-hr Actual (μg/m³)	24-hr Actual (μg/m³)	24-hr Background (μg/m³)	24-hr Total (μg/m³)	24-hr Limit (μg/m³)	Annual Actual (μg/m³)	Annual Background (μg/m³)	Annual Total (μg/m³)	Annual Limit (μg/m³)					Meets Limit?
PM-10	-2.55	-5.1135	-2.0453841	86	83.955	150	-0.4091	32.7	32.2909	50					YES
	Emission Rate (lb/hr)	1-hr Actual (μg/m³)	3-hr Actual (μg/m³)	3-hr Background (μg/m³)	3-hr Total (μg/m³)	3-hr Limit (μg/m³)	24-hr Actual (μg/m³)	24-hr Background (μg/m³)	24-hr Total (μg/m³)	24-hr Limit (μg/m³)	Annual Actual (μg/m³)	Annual Background (μg/m³)	Annual Total (μg/m³)	Annual Limit (μg/m³)	Meets Limit?
SO2	-27.3	-54.769	-49.292388	543	493.71	1,300	-21.908	144	122.092	365	-4.3815	23.5	19.118	80	YES
	Emission Rate (lb/hr)	1-hr Actual (μg/m³)	Annual Actual (μg/m³)	Annual Background (μg/m³)	Annual Total (μg/m³)	Annual Limit (μg/m³)									Meets Limit?
NOx	-3.75	-7.515	-0.6012	40	39.399	100									YES
	Emission Rate (lb/hr)	1-hr Actual (μg/m³)	1-hr Actual (μg/m³)	1-hr Background (μg/m³)	1-hr Total (μg/m³)	1-hr Limit (μg/m³)	8-hr Actual (μg/m³)	8-hr Background (μg/m³)	8-hr Total (μg/m³)	8-hr Limit (μg/m³)					Meets Limit?
CO	11.70	23.447	23.4468	11,400	11,423	40,000	16.413	5,130	5,146	10,000					YES
	Emission Rate (lb/hr)	1-hr Actual (μg/m³)	Quarterly Actual (μg/m³)	Quarterly Background (μg/m³)	Quarterly Total (μg/m³)	Quarterly Limit (μg/m³)									Meets Limit?
Lead	-2.96E-03	-0.0059	-1.34E-03	0.17	0.17	1.5									YES

Note - Background values are subject to change - Check with DEQ

POE Asphalt Paving, Inc.
NAAQS Analysis - RF04 Fuel Oil - Increased Emissions Screen Modeling

Persistence Factors for NAAQS = 0.9 for 3-hr, 0.7 for 8-hr, 0.4 for 24-hr, 0.225 for quarterly, and 0.08 for annual

Modeled 1-hr maximum unit concentrationn ($\mu g/m^3$) =	2.004

			NAAQS Concentrations												
Pollutant	Emission Rate (lb/hr)	1-hr Actual ($\mu g/m^3$)	24-hr Actual ($\mu g/m^3$)	24-hr Background ($\mu g/m^3$)	24-hr Total ($\mu g/m^3$)	24-hr Limit ($\mu g/m^3$)	Annual Actual ($\mu g/m^3$)	Annual Background ($\mu g/m^3$)	Annual Total ($\mu g/m^3$)	Annual Limit ($\mu g/m^3$)					Meets Limit?
PM-10	-2.55	-5.113	-2.045384	86	83.955	150	-0.4091	32.7	32.2909	50					YES
	Emission Rate (lb/hr)	1-hr Actual ($\mu g/m^3$)	3-hr Actual ($\mu g/m^3$)	3-hr Background ($\mu g/m^3$)	3-hr Total ($\mu g/m^3$)	3-hr Limit ($\mu g/m^3$)	24-hr Actual ($\mu g/m^3$)	24-hr Background ($\mu g/m^3$)	24-hr Total ($\mu g/m^3$)	24-hr Limit ($\mu g/m^3$)	Annual Actual ($\mu g/m^3$)	Annual Background ($\mu g/m^3$)	Annual Total ($\mu g/m^3$)	Annual Limit ($\mu g/m^3$)	Meets Limit?
SO2	-11.0	-21.94	-19.74942	543	523.25	1,300	-8.7775	144	135.222	365	-1.7555	23.5	21.744	80	YES
	Emission Rate (lb/hr)	1-hr Actual ($\mu g/m^3$)	Annual Actual ($\mu g/m^3$)	Annual Background ($\mu g/m^3$)	Annual Total ($\mu g/m^3$)	Annual Limit ($\mu g/m^3$)									Meets Limit?
NOx	4.95	9.9198	0.793584	40	40.794	100									YES
	Emission Rate (lb/hr)	1-hr Actual ($\mu g/m^3$)	1-hr Actual ($\mu g/m^3$)	1-hr Background ($\mu g/m^3$)	1-hr Total ($\mu g/m^3$)	1-hr Limit ($\mu g/m^3$)	8-hr Actual ($\mu g/m^3$)	8-hr Background ($\mu g/m^3$)	8-hr Total ($\mu g/m^3$)	8-hr Limit ($\mu g/m^3$)					Meets Limit?
CO	11.70	23.447	23.4468	11,400	11,423	40,000	16.413	5,130	5,146	10,000					YES
	Emission Rate (lb/hr)	1-hr Actual ($\mu g/m^3$)	Quarterly Actual ($\mu g/m^3$)	Quarterly Background ($\mu g/m^3$)	Quarterly Total ($\mu g/m^3$)	Quarterly Limit ($\mu g/m^3$)									Meets Limit?
Lead	1.35E-03	0.0027	6.09E-04	0.17	0.17	1.5									YES

Note - Background values are subject to change - Check with DEQ

POE Asphalt Paving, Inc.
TAP Ambient Impacts - Natural Gas Combustion - Increased Emissions Screen Modeling

Persistence factors for TAPs = 0.4 for 24-hr and 0.125 for annual

Modeled 1-hr maximum unit concentrationn ($\mu g/m^3$) =	2.004

	Emission Rate (lb/hr)	EL (lb/hr)	Concentrations 1-hr Actual ($\mu g/m^3$)	24-hr Actual (mg/m^3)	24-hr Limit (mg/m^3)	Annual Actual ($\mu g/m^3$)	Annual Limit ($\mu g/m^3$)	Meets Limit?
Non-carcinogenic TAPs								
Acetone	ND	119	ND	ND	89	N/A	N/A	N/A
Acrolien	ND	0.017	ND	ND	0.0125	N/A	N/A	N/A
Antimony	1.62E-05	0.033	3.25E-05	1.29859E-08	0.025	N/A	N/A	YES
Barium	5.22E-04	0.033	1.05E-03	4.18435E-07	0.025	N/A	N/A	YES
Chromium	4.95E-04	0.033	9.92E-04	3.96792E-07	0.025	N/A	N/A	YES
Cobalt	2.34E-06	0.0033	4.69E-06	1.87574E-09	0.00250	N/A	N/A	YES
Copper	2.79E-04	0.067	5.59E-04	2.23646E-07	0.010	N/A	N/A	YES
Crotonaldehyde	ND	0.38	ND	ND	0.285	N/A	N/A	N/A
Ethylbenzene	2.16E-02	29	4.33E-02	1.73146E-05	21.75	N/A	N/A	YES
Fluorene	-1.17E-03	0.133	-2.34E-03	-9.37872E-07	0.1	N/A	N/A	YES
Hexane	8.28E-02	12	1.66E-01	6.63725E-05	9.00	N/A	N/A	YES
Hydrogen Chloride	ND	0.05	ND	ND	0.38	N/A	N/A	N/A
Manganese	6.93E-04	0.067	1.39E-03	5.55509E-07	0.05	N/A	N/A	YES
Mercury	-4.74E-04	0.003	-9.50E-04	-3.79958E-07	0.0025	N/A	N/A	YES
Methyl Chloroform	4.32E-03	127	8.66E-03	3.46291E-06	95.5000	N/A	N/A	YES
Methyl ethyl ketone	ND	39.3	ND	ND	29.5000	N/A	N/A	N/A
Napthalene	-1.10E-01	3.33	-2.19E-01	-8.77752E-05	2.5	N/A	N/A	YES
Pentane	1.89E-02	118	3.79E-02	1.51502E-05	88.5	N/A	N/A	YES
Phosphorous	2.52E-03	0.007	5.05E-03	2.02003E-06	0.005	N/A	N/A	YES
Propionaldehyde	ND	0.0287	ND	ND	0.0215	N/A	N/A	N/A
Quinone	ND	0.027	ND	ND	0.02	N/A	N/A	N/A
Selenium	3.15E-05	0.013	6.31E-05	2.52504E-08	0.01	N/A	N/A	YES
Silver	4.32E-05	0.001	8.66E-05	3.46291E-08	0.01	N/A	N/A	YES
Thallium	3.69E-07	0.007	7.39E-07	2.9579E-10	0.01	N/A	N/A	YES
Toluene	-5.64E-01	25	-1.13E+00	-0.000452102	18.75	N/A	N/A	YES
2,2,4-Trimethyl-pentane	3.60E-03	23.3	7.21E-03	2.88576E-06	17.50	N/A	N/A	YES
Valeraldehyde	ND	11.7	ND	ND	8.75	N/A	N/A	N/A
o-Xylene	1.80E-02	29	3.61E-02	1.44288E-05	0.5	N/A	N/A	YES
Zinc	5.49E-03	0.667	1.10E-02	4.40078E-06	0.05	N/A	N/A	YES
Carcinogenic TAPs								
Acetaldehyde	ND	3.00E-03	ND	N/A	N/A	ND	4.50E-01	N/A
Arsenic[c]	5.04E-05	1.50E-06	1.01E-04	N/A	N/A	1.26E-05	2.30E-04	YES
Benzene[c]	3.51E-02	8.00E-04	7.03E-02	N/A	N/A	8.79E-03	1.20E-01	YES
Beryllium[c]	0.00E+00	2.80E-05	0.00E+00	N/A	N/A	0.00E+00	4.20E-03	YES
Benzo(a)pyrene[c]	8.82E-07	2.00E-06	1.77E-06	N/A	N/A	2.21E-07	3.00E-04	YES
Cadmium[c]	3.69E-05	3.70E-06	7.39E-05	N/A	N/A	9.24E-06	5.60E-04	YES
Dioxin and Furons	ND	1.50E-10	ND	N/A	N/A	ND	2.20E-08	N/A
Total PCDD's	ND	N/A		N/A	N/A			
Total PCDF's	ND	N/A		N/A	N/A			
Formaldehyde[c]	2.79E-01	5.10E-04	5.59E-01	N/A	N/A	6.99E-02	7.70E-02	YES
Nickel[c]	5.67E-03	2.70E-05	1.14E-02	N/A	N/A	1.42E-03	4.20E-03	YES
Polyaromatic Hydrocarbons (PAH or POM)[c,d]	4.93E-05	9.10E-05	9.88E-05	N/A	N/A	1.24E-05	3.00E-04	YES
Benzo(a)anthracene	1.89E-05	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(b)fluoranthene	9.00E-06	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	3.69E-06	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	1.62E-05	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenzo(a,h)anthracene	ND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	6.30E-07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	8.82E-07	N/A	N/A	N/A	N/A	N/A	N/A	N/A

a - Non-carcinogenic TAPs are listed in IDAPA 58.01.01.585 - AACs are in milligrams per cubic meter.

b - Carcinogenic TAPs are listed in IDAPA 58.01.01.586 - AACCs are in micrograms per cubic meter.

c - Indicates carcinogenic toxic air pollutants which have an annual ambient acceptable concentration for carcinogenics (AACC) rather than a 24-hr ambient acceptable concentrations (AAC) like the non-carcinogenic toxics.

d - Polyaromatic Hydrocarbons (PAH) a.k.a Polycyclic Organic Matter (POM) consists of Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Benzo(a)pyrene. PAHs are considered to be one TAP equal in potency to Benzo(a)pyrene.

e - Only the pollutants with emissions higher than the screening limit (EL) need to be modeled.

INPUT SECTION - enter info in highlighted areas only

Company:	POE Asphalt Paving
Permit Engineer:	Spidell and Associates
Date:	04/04/01
Filename:	POE - CMI Plant, Lewiston, Idaho Natural Gas

Enter the HMA Plant Type:	B	(A = Batch Mix Hot Mix Asphalt Plant) (B = Drum Mix Hot Mix Asphalt Plant)
Dryer Fuel Type:	A	(A = Natural Gas-Fired Dryer) (B = Oil-Fired Dryer) (C = RF04 Fuel Oil-Fired Dryer)
Enter Dryer Stack Flow Rate:	45,000	[=] actual cubic feet per minute (acfm)
Enter Dryer Stack Temperature:	275	[=] temperature (°F)
Enter Dryer Stack Moisture:	18.00	[=] moisture wt % (Default 18 wt%)
Enter Dryer Stack Pressure:	29.92	[=] stack pressure (Default 29.92 "Hg)
Calculated Corrected Flow Rate:	26,503	[=] dry standard cubic feet per minute (dscfm)
Enter HMA Maximum Capacity:	300	[=] Ton/hr (Asphalt Throughput)
Enter HMA Modeled Concentration:	2.00	[=] µg/m³, (1-hr concentration @ 1 lb/hr)
Is a PM performance test required for this HMA plant?	Y	Y or N (based on 40 CFR 60.90 Requirements)
Does Plant Require a Generator?	Y	Y or N
Enter Generator Size:	820	[=] kW
Enter Units:	B	(A = Horsepower or B = Kilowatts)
Calculated Generator Size:	1099.37	[=] Horsepower
Enter Generator Fuel Type:	A	(A = Diesel-Fired Generator) (B = Gasoline-Fired or Dual-Fired Generator)
Enter Generator Fuel Useage:	63.7	[=] gal/hr
Calculated Generator Heat Output:	8.67	[=] MMBtu/hr
Enter gen. modeled concentration:	10.96	[=] µg/m3, (1-hr concentration @ 1 lb/hr)

SPREADSHEET DATA - information used by spreadsheet

State Wide Background Concentrations for Criteria Air Pollutants

	1-hr	3-hr	8-hr	24-hr	Annual
PM-10				86	32.7
CO	11400		5130		
NO_x					40
SO_x		543		144	23.5

Parameters used in the Fugitive Emission Calculations

Mean Wind Speed (U)	10	[=] mph
Material Moisture Content (M)	2.5	[=] %
Particle Size Multiplier (k)		
PM-10 (<10 µm)	0.35	[=] dimensionless
Emission Factor [1]		
PM-10 (<10 µm)	0.0020	[=] lb/T
PM [2]	0.0053	[=] lb/T

Notes: □u1□ EF = k*0.0032*(U/5)^1.3/(M/2)^1.4
Drop-Point Equation, Rating "A." AP-42, 5th Ed. p.13.2.4-3.
Assumptions: Wind Speed = 10 mph; Moisture = 2.5%; and Aggregate = 94% of product.

FACILITY CLASSIFICATION INPUT

Enter Annual Emission Limit: 100 [=]T/yr
Note: Use 100 T/yr for Title V Limitation
Use 250 T/yr for PSD Limitation
For the standard HMA permit, use 100 T/yr.

PERMIT REQUIREMENTS SECTION - enforceable permit limits

AIRS Facility Classification: A2

Non-attainment Area	Allowable Emission Limits	
HMA Dryer Stack:	9.09 lb/hr of PM	83.9 T/yr of CO
Generator:	12.7 hr/day 4,302.43 hr/year	15.1 T/yr of CO
HMA Plant Throughput Limits:	3,805 T/day	1,290,728 T/yr

Attainment Area	Allowable Emission Limits	
HMA Dryer Stack:	9.1 lb/hr of PM	83.9 T/yr of CO
Generator:	24.0 hr/day 4,302.43 hr/year	15.1 T/yr of CO
HMA Plant Throughput Limits:	#N/A T/day	1,290,728 T/yr

Collocated Attainment Areas	Allowable Emission Limits	
HMA Dryer Stack:	9.09 lb/hr of PM	41.9 T/yr of CO
Generator:	24.0 hr/day 2,151.21 hr/year	7.6 T/yr of CO
HMA Plant Throughput Limits:	#N/A T/day	645,364 T/yr

	CO 1-hr Standard	SO2 3-hr standard	CO 8-hr Standard
	minutes/1-hr	hr/3-hr	hr/8-hr
	60.0	3.0	8.0

INPUTS TO PERMIT TO CONSTRUCT (PTC)		Value	Units
Section B "Attainment Area When Not Collocated"			
Section B.1.1 Facility Throughput Limits:	Annual Throughput Limit	1,290,728	T/yr
	<<OR>>		
	Daily Throughput Limit	#N/A	T/day
	Annual Throughput Limit	1,290,728	T/yr
Section B.1.3 Generator Hours of Operation:	Annual Hours of Operation	4,302	hr/year
	<<AND/OR>>		
	Daily Hours of Operation	24	hr/day
Section C "Attainment Area When Collocated"			
Section C.1.3 Facility Throughput Limits:	Annual Throughput Limit	645,364	T/yr
	<<OR>>		
	Daily Throughput Limit	#N/A	T/day
	Annual Throughput Limit	645,364	T/yr
Section C.1.4 Generator Hours of Operation:	Annual Hours of Operation	2,151	hr/year
	<<AND/OR>>		
	Daily Hours of Operation	24.0	hr/day
Section D "Nonattainment Area"			
Section D.1.1 Facility Throughput Limits:	Annual Throughput Limit	1,290,728	T/yr
	<<OR>>		
	Daily Throughput Limit	3,805	T/day
	Annual Throughput Limit	1,290,728	T/yr
Section D.1.3 Generator Hours of Operation:	Annual Hours of Operation	4,302	hr/year
	<<AND/OR>>		
	Daily Hours of Operation	12.7	hr/day

DRYER EMISSION RATE CALCULATIONS

Pollutant	DRYER STACK Emission Factor [=] lb/ton	Emission Rate (Uncontrolled) [=] lb/hr	Emission Rate (Controlled) [=] lb/hr
Total PM	28.00	8,400.00	9.09
Total PM-10	[=] gr/dscf 0.04	1,290.00	9.09
	[=] lb/ton		
CO	0.130	39.00	39.00
NOX	0.026	7.80	7.80
SO2	0.003	1.02	1.02

HMA emission factors for CO, NOx, SO2 and uncontrolled PM & PM-10 are from AP-42 Section 11.1. Controlled PM & PM-10 is from the NSPS 0.04 gr/dscf.

GENERATOR EMISSION RATE CALCULATIONS

Pollutant	GENERATOR STACK Emission Factor [=] lb/MMBtu	Emission Rate (Uncontrolled) [=] lb/hr	Emission Rate (Controlled) [=] lb/hr
Total PM	0.07	0.60	0.60
Total PM-10	0.06	0.50	0.50
CO	0.81	7.02	7.02
NOX	3.10	26.87	26.87
SO2	0.51	4.38	4.38

Generator emission factors are from AP-42 Section 3.3 and 3.4.

MODELING ANALYSIS CALCULATIONS FOR ATTAINMENT AREAS

Pollutant	Allowable Impacts: NAAQS Hours of Operation [=] hr/day	NAAQS Hours of Operation [=] hr/year	NAAQS Other [a,b,c]	< 100 TPY Hours of Operation [=] hr/year	Permitted Impacts: Hours of Operation [=] hr/day	Hours of Operation [=] hr/year	NAAQS Calculated 24-hr Impact [=] µg/m3	NAAQS Calculated Annual Impact [=] µg/m3	NAAQS Other [a,b,c]	< 100 TPY Calculated Emissions [=] ton/year
PM	N/S	N/S			24.0	4,302				
PM-10	24.0	8,760		8,760	Based on:	Based on:	9.46	0.93		24.29
CO	N/S	N/S		4,302	None	CO	62.04	6.09		99.00
CO [a]			1.0				---	---	155.10	
CO [b]			8.0		Limited to 99.0 T/yr.		---	---	108.57	
NOX	N/S	8,760		5,711			---	12.18		74.58
SO2	24.0	8,760		8,760			20.01	1.97		11.61
SO2 [c]			3.0				---	---	45.01	

MODELING ANALYSIS CALCULATIONS FOR NONATTAINMENT AREAS

Pollutant	Allowable Impacts: NAAQS Hours of Operation [=] hr/day	NAAQS Hours of Operation [=] hr/year	NAAQS Other [a,b,c]	< 100 TPY Hours of Operation [=] hr/year	Permitted Impacts: Hours of Operation [=] hr/day	Hours of Operation [=] hr/year	NAAQS Calculated 24-hr Impact [=] µg/m3	NAAQS Calculated Annual Impact [=] µg/m3	NAAQS Other [a,b,c]	< 100 TPY Calculated Emissions [=] ton/year
PM	N/S	N/S			12.7	4,302				
PM-10	12.7	4,629		8,760	Based on:	Based on:	5.00	0.93		24.29
CO	N/S	N/S		4,302	PM-10	CO	32.79	6.09		99.00
CO [a]			1.0				---	---	155.10	
CO [b]			8.0		Limited to 99.0 T/yr.		---	---	108.57	
NOX	N/S	8,760		5,711			---	12.18		74.58
SO2	24.0	8,760		8,760			3.67	1.97		11.61
SO2 [c]			3.0				---	---	45.01	

FUGITIVE EMISSION CALCULATIONS FOR ATTAINMENT AREAS

	PM	PM-10
Pre-Dryer Source Emissions ([=] lb/hr)		
Loader -> Cold Aggregate Bin	1.50	0.57
Cold Aggregate Bin -> Conveyor	1.50	0.57
Conveyor -> Drum Dryer	1.50	0.57
Total Pre-Dryer Source Emissions	4.51	1.71
Post-Dryer Source Emissions		
Screening Process	#N/A	#N/A
Screen -> Hot Bins	#N/A	#N/A
Hot Bins -> Weigh Hopper	#N/A	#N/A
Weigh Hopper -> Pug Mill	#N/A	#N/A
Total Post-Dryer Source Emissions	#N/A	#N/A
Scavenger Control Efficiency	#N/A	#N/A
Total Uncontrolled Emissions ([=] lb/hr)	4.51	1.71
Total Uncontrolled Emissions ([=] T/yr)	9.71	3.67
Total Controlled Emissions ([=] lb/hr)	4.51	1.71
Total Controlled Emissions ([=] T/yr)	9.71	3.67

Source: National Asphalt Pavement Association

[a] CO 1-hr Averaging Period

[b] CO 8-hr Averaging Period

[c] SO2 3-hr Averaging Period

FUGITIVE EMISSION CALCULATIONS FOR NONATTAINMENT AREAS

	PM	PM-10
Pre-Dryer Source Emissions ([=] lb/hr)		
Loader -> Cold Aggregate Bin	1.50	0.57
Cold Aggregate Bin -> Conveyor	1.50	0.57
Conveyor -> Drum Dryer	1.50	0.57
Total Pre-Dryer Source Emissions	4.51	1.71
Post-Dryer Source Emissions (2)		
Screening Process	#N/A	#N/A
Screen -> Hot Bins	#N/A	#N/A
Hot Bins -> Weigh Hopper	#N/A	#N/A
Weigh Hopper -> Pug Mill	#N/A	#N/A
Total Post-Dryer Source Emissions	#N/A	#N/A
Scavenger Control Efficiency	#N/A	#N/A
Total Uncontrolled Emissions ([=] lb/hr)	4.51	1.71
Total Uncontrolled Emissions ([=] T/yr)	9.71	3.67
Total Controlled Emissions ([=] lb/hr)	4.51	1.71
Total Controlled Emissions ([=] T/yr)	9.71	3.67

SPREADSHEET SUMMARY - results of emission and modeling calcs for all pollutants

ATTAINMENT & UNCLASSIFIABLE AREAS			NONATTAINMENT AREAS		
Uncontrolled	Controlled		Dryer	Uncontrolled	Controlled
18070.2 T/yr	19.5 T/yr		PM	18070.2 T/yr	19.5 T/yr
2775.1 T/yr	19.5 T/yr		PM-10	2775.1 T/yr	19.5 T/yr
83.9 T/yr	83.9 T/yr		CO	83.9 T/yr	83.9 T/yr
16.8 T/yr	16.8 T/yr		NOx	16.8 T/yr	16.8 T/yr
2.2 T/yr	2.2 T/yr		SO2	2.2 T/yr	2.2 T/yr
			Generator		
1.3 T/yr	1.3 T/yr		PM	1.3 T/yr	1.3 T/yr
1.1 T/yr	1.1 T/yr		PM-10	1.1 T/yr	1.1 T/yr
15.1 T/yr	15.1 T/yr		CO	15.1 T/yr	15.1 T/yr
57.8 T/yr	57.8 T/yr		NOx	57.8 T/yr	57.8 T/yr
9.4 T/yr	9.4 T/yr		SO2	9.4 T/yr	9.4 T/yr
			Fugitives		
9.7 T/yr	9.7 T/yr		PM	9.7 T/yr	9.7 T/yr
3.7 T/yr	3.7 T/yr		PM-10	3.7 T/yr	3.7 T/yr
			Total [1]		
18081.2 T/yr	30.6 T/yr		PM	18081.2 T/yr	30.6 T/yr
2779.8 T/yr	24.3 T/yr		PM-10	2779.8 T/yr	24.3 T/yr
99.0 T/yr	99.0 T/yr		CO	99.0 T/yr	99.0 T/yr
74.6 T/yr	74.6 T/yr		NOx	74.6 T/yr	74.6 T/yr
11.6 T/yr	11.6 T/yr		SO2	11.6 T/yr	11.6 T/yr
2779.8 [=] T/yr of PM-10	99.0 [=] T/yr of CO		Title V PTE Summary [2]	2779.8 [=] T/yr of PM-10	99.0 [=] T/yr of CO
18081.2 [=] T/yr of PM	99.0 [=] T/yr of CO		Facility PTE Summary	18081.2 [=] T/yr of PM	99.0 [=] T/yr of CO
Enforceable Limits -- Attainment Areas				Enforceable Limits -- Non-Attainment Areas	
24.0 hr/day	4,302 hr/yr			12.7 hr/day	4,302 hr/yr
Dryer Controlled Emission Rates			Emission Limits	Dryer Controlled Emission Rates	
9.1 lb/hr	19.5 T/yr		PM/PM-10	9.1 lb/hr	19.5 T/yr
39.0 lb/hr	83.9 T/yr		CO	39.0 lb/hr	83.9 T/yr
7.8 lb/hr	16.8 T/yr		NOx	7.8 lb/hr	16.8 T/yr
1.0 lb/hr	2.2 T/yr		SO2	1.0 lb/hr	2.2 T/yr
Generator Controlled Emission Rates			Emission Limits	Generator Controlled Emission Rates	
0.5 lb/hr	1.1 T/yr		PM-10	0.5 lb/hr	1.1 T/yr
7.0 lb/hr	15.1 T/yr		CO	7.0 lb/hr	15.1 T/yr
26.9 lb/hr	57.8 T/yr		NOx	26.9 lb/hr	57.8 T/yr
4.4 lb/hr	9.4 T/yr		SO2	4.4 lb/hr	9.4 T/yr

[1] Total is the dryer, generator and fugitives added together for total PTE.

[2] Title V PTE summary does not account for PM, only PM-10.

Attainment Area - Collocated Units - Calculations

Collocation Ambient Air Quality Standards - Calculations

Pollutant	(1-hr,3-hr,8-hr,& 24-hr standards are cut in half for collocation) 1-hr	3-hr	8-hr	24-hr	Annual (50% Attainment Hours)
PM					
PM-10				22.5388	8.1853
CO	14144.8988		2326.4292		
NOx					23.9076
SO2		333.4855		90.4936	27.2674
TOC					

Background Concentrations -- Attainment/Non-Classifiable Areas (ug/m3)

Pollutant	1-hr	3-hr	8-hr	24-hr	Annual
PM					
PM-10				86	32.7
CO	11400		5130		
NOx					40
SO2		543		144	23.5
TOC					

INPUT SECTION - enter info in highlighted areas only

Company:	POE Asphalt Paving
Permit Engineer:	Spidell and Associates
Date:	04/04/01
Filename:	POE - CMI Plant Lewiston, Idaho #2 Diesel

Enter the HMA Plant Type:	B	(A = Batch Mix Hot Mix Asphalt Plant) (B = Drum Mix Hot Mix Asphalt Plant)
Dryer Fuel Type:	B	(A = Natural Gas-Fired Dryer) (B = Oil-Fired Dryer) (C = RF04 Fuel Oil-Fired Dryer)
Enter Dryer Stack Flow Rate:	45,000	[=] actual cubic feet per minute (acfm)
Enter Dryer Stack Temperature:	275	[=] temperature (°F)
Enter Dryer Stack Moisture:	18.00	[=] moisture wt % (Default 18 wt%)
Enter Dryer Stack Pressure:	29.92	[=] stack pressure (Default 29.92 "Hg)
Calculated Corrected Flow Rate:	26,503	[=] dry standard cubic feet per minute (dscfm)
Enter HMA Maximum Capacity:	300	[=] Ton/hr (Asphalt Throughput)
Enter HMA Modeled Concentration:	2.00	[=] µg/m³, (1-hr concentration @ 1 lb/hr)
Is a PM performance test required for this HMA plant?	Y	Y or N (based on 40 CFR 60.90 Requirements)
Does Plant Require a Generator?	Y	Y or N
Enter Generator Size:	820	[=] kW
Enter Units:	B	(A = Horsepower or B = Kilowatts)
Calculated Generator Size:	1099.37	[=] Horsepower
Enter Generator Fuel Type:	A	(A = Diesel-Fired Generator) (B = Gasoline-Fired or Dual-Fired Generator)
Enter Generator Fuel Usage:	63.7	[=] gal/hr
Calculated Generator Heat Output:	8.67	[=] MMBtu/hr
Enter gen. modeled concentration:	10.96	[=] µg/m3, (1-hr concentration @ 1 lb/hr)

SPREADSHEET DATA - information used by spreadsheet

State Wide Background Concentrations for Criteria Air Pollutants

	1-hr	3-hr	8-hr	24-hr	Annual
PM-10				86	32.7
CO	11400		5130		
NOx					40
SOx		543		144	23.5

Parameters used in the Fugitive Emission Calculations

Mean Wind Speed (U)	10	[=] mph
Material Moisture Content (M)	2.5	[=] %
Particle Size Multiplier (k)		
PM-10 (<10 µm)	0.35	[=] dimensionless
Emission Factor [1]		
PM-10 (<10 µm)	0.0020	[=] lb/T
PM [1]	0.0053	[=] lb/T

Notes: □u1□ EF = k*0.0032*(U/5)^1.3/(M/2)^1.4
Drop-Point Equation, Rating "A." AP-42, 5th Ed. p.13.2.4-3.
Assumptions: Wind Speed = 10 mph; Moisture = 2.5%; and Aggregate = 94% of product.

FACILITY CLASSIFICATION INPUT

Enter Annual Emission Limit: 100 [=]T/yr
Note: Use 100 T/yr for Title V Limitation
Use 250 T/yr for PSD Limitation
For the standard HMA permit, use 100 T/yr.

PERMIT REQUIREMENTS SECTION - enforceable permit limits

AIRS Facility Classification: A2

Non-attainment Area	Allowable Emission Limits	
HMA Dryer Stack:	9.09 lb/hr of PM	83.9 T/yr of CO
Generator:	12.7 hr/day 4,302.43 hr/year	15.1 T/yr of CO
HMA Plant Throughput Limits:	3,805 T/day	1,290,728 T/yr

Attainment Area	Allowable Emission Limits	
HMA Dryer Stack:	9.1 lb/hr of PM	83.9 T/yr of CO
Generator:	24.0 hr/day 4,302.43 hr/year	15.1 T/yr of CO
HMA Plant Throughput Limits:	#N/A T/day	1,290,728 T/yr

Collocated Attainment Areas	Allowable Emission Limits	
HMA Dryer Stack:	9.09 lb/hr of PM	41.9 T/yr of CO
Generator:	24.0 hr/day 2,151.21 hr/year	7.6 T/yr of CO
HMA Plant Throughput Limits:	#N/A T/day	645,364 T/yr

	CO 1-hr Standard	SO2 3-hr standard	CO 8-hr Standard
	minutes/1-hr	hr/3-hr	hr/8-hr
	60.0	3.0	8.0

INPUTS TO PERMIT TO CONSTRUCT (PTC)		Value	Units
Section B "Attainment Area When Not Collocated"			
Section B.1.1 Facility Throughput Limits:	Annual Throughput Limit	1,290,728	T/yr
	<<OR>>		
	Daily Throughput Limit	#N/A	T/day
	Annual Throughput Limit	1,290,728	T/yr
Section B.1.3 Generator Hours of Operation:	Annual Hours of Operation	4,302	hr/year
	<<AND/OR>>		
	Daily Hours of Operation	24	hr/day
Section C "Attainment Area When Collocated"			
Section C.1.3 Facility Throughput Limits:	Annual Throughput Limit	645,364	T/yr
	<<OR>>		
	Daily Throughput Limit	#N/A	T/day
	Annual Throughput Limit	645,364	T/yr
Section C.1.4 Generator Hours of Operation:	Annual Hours of Operation	2,151	hr/year
	<<AND/OR>>		
	Daily Hours of Operation	24.0	hr/day
Section D "Nonattainment Area"			
Section D.1.1 Facility Throughput Limits:	Annual Throughput Limit	1,290,728	T/yr
	<<OR>>		
	Daily Throughput Limit	3,805	T/day
	Annual Throughput Limit	1,290,728	T/yr
Section D.1.3 Generator Hours of Operation:	Annual Hours of Operation	4,302	hr/year
	<<AND/OR>>		
	Daily Hours of Operation	12.7	hr/day

B-20

DRYER EMISSION RATE CALCULATIONS

Pollutant	DRYER STACK Emission Factor [=] lb/ton	Emission Rate (Uncontrolled) [=] lb/hr	Emission Rate (Controlled) [=] lb/hr
Total PM	28.00	8,400.00	9.09
	[=] gr/dscf		
Total PM-10	0.04	1,290.00	9.09
	[=] lb/ton		
CO	0.130	39.00	39.00
NOX	0.055	16.50	16.50
SO2	0.011	3.30	3.30

HMA emission factors for CO, NOx, SO2 and uncontrolled PM & PM-10 are from AP-42 Section 11.1. Controlled PM & PM-10 is from the NSPS 0.04 gr/dscf.

GENERATOR EMISSION RATE CALCULATIONS

Pollutant	GENERATOR STACK Emission Factor [=] lb/MMBtu	Emission Rate (Uncontrolled) [=] lb/hr	Emission Rate (Controlled) [=] lb/hr
Total PM	0.07	0.60	0.60
Total PM-10	0.06	0.50	0.50
CO	0.81	7.02	7.02
NOX	3.10	26.87	26.87
SO2	0.51	4.38	4.38

Generator emission factors are from AP-42 Section 3.3 and 3.4.

MODELING ANALYSIS CALCULATIONS FOR ATTAINMENT AREAS

Pollutant	Allowable Impacts: NAAQS Hours of Operation [=] hr/day	NAAQS Hours of Operation [=] hr/year	NAAQS Other [a,b,c]	< 100 TPY Hours of Operation [=] hr/year	Permitted Impacts: Hours of Operation [=] hr/day	Hours of Operation [=] hr/year	NAAQS Calculated 24-hr Impact [=] µg/m3	NAAQS Calculated Annual Impact [=] µg/m3	NAAQS Other [a,b,c]	< 100 TPY Calculated Emissions [=] ton/year
PM	N/S	N/S			24.0	4,302				
PM-10	24.0	8,760		8,760	Based on:	Based on:	9.46	0.93		24.29
CO	N/S	N/S		4,302	None	CO	62.84	6.09		99.00
CO [a]			1.0				---	---	155.10	
CO [b]			8.0		Limited to 99.0 T/yr.		---	---	108.57	
NOX	N/S	8,760		4,565			---	12.87		93.30
SO2	24.0	8,760		8,760			21.83	2.14		16.51
SO2 [c]			3.0				---	---	49.13	

MODELING ANALYSIS CALCULATIONS FOR NONATTAINMENT AREAS

Pollutant	Allowable Impacts: NAAQS Hours of Operation [=] hr/day	NAAQS Hours of Operation [=] hr/year	NAAQS Other [a,b,c]	< 100 TPY Hours of Operation [=] hr/year	Permitted Impacts: Hours of Operation [=] hr/day	Hours of Operation [=] hr/year	NAAQS Calculated 24-hr Impact [=] µg/m3	NAAQS Calculated Annual Impact [=] µg/m3	NAAQS Other [a,b,c]	< 100 TPY Calculated Emissions [=] ton/year
PM	N/S	N/S			12.7	4,302				
PM-10	12.7	4,629		8,760	Based on:	Based on:	5.00	0.93		24.29
CO	N/S	N/S		4,302	PM-10	CO	32.79	6.09		99.00
CO [a]			1.0				---	---	155.10	
CO [b]			8.0		Limited to 99.0 T/yr.		---	---	108.57	
NOX	N/S	8,760		4,565			---	12.87		93.30
SO2	24.0	8,760		8,760			4.64	2.14		16.51
SO2 [c]			3.0				---	---	49.13	

FUGITIVE EMISSION CALCULATIONS FOR ATTAINMENT AREAS

	PM	PM-10
Pre-Dryer Source Emissions ([=] lb/hr)		
Loader -> Cold Aggregate Bin	1.50	0.57
Cold Aggregate Bin -> Conveyor	1.50	0.57
Conveyor -> Drum Dryer	1.50	0.57
Total Pre-Dryer Source Emissions	4.51	1.71
Post-Dryer Source Emissions		
Screening Process	#N/A	#N/A
Screen -> Hot Bins	#N/A	#N/A
Hot Bins -> Weigh Hopper	#N/A	#N/A
Weigh Hopper -> Pug Mill	#N/A	#N/A
Total Post-Dryer Source Emissions	#N/A	#N/A
Scavenger Control Efficiency	#N/A	#N/A
Total Uncontrolled Emissions ([=] lb/hr)	4.51	1.71
Total Uncontrolled Emissions ([=] T/yr)	9.71	3.67
Total Controlled Emissions ([=] lb/hr)	4.51	1.71
Total Controlled Emissions ([=] T/yr)	9.71	3.67

Source: National Asphalt Pavement Association

[a] CO 1-hr Averaging Period

[b] CO 8-hr Averaging Period

[c] SO2 3-hr Averaging Period

FUGITIVE EMISSION CALCULATIONS FOR NONATTAINMENT AREAS

	PM	PM-10
Pre-Dryer Source Emissions ([=] lb/hr)		
Loader -> Cold Aggregate Bin	1.50	0.57
Cold Aggregate Bin -> Conveyor	1.50	0.57
Conveyor -> Drum Dryer	1.50	0.57
Total Pre-Dryer Source Emissions	4.51	1.71
Post-Dryer Source Emissions (2)		
Screening Process	#N/A	#N/A
Screen -> Hot Bins	#N/A	#N/A
Hot Bins -> Weigh Hopper	#N/A	#N/A
Weigh Hopper -> Pug Mill	#N/A	#N/A
Total Post-Dryer Source Emissions	#N/A	#N/A
Scavenger Control Efficiency	#N/A	#N/A
Total Uncontrolled Emissions ([=] lb/hr)	4.51	1.71
Total Uncontrolled Emissions ([=] T/yr)	9.71	3.67
Total Controlled Emissions ([=] lb/hr)	4.51	1.71
Total Controlled Emissions ([=] T/yr)	9.71	3.67

SPREADSHEET SUMMARY - results of emission and modeling calcs for all pollutants

ATTAINMENT & UNCLASSIFIABLE AREAS			NONATTAINMENT AREAS		
Uncontrolled	Controlled			Uncontrolled	Controlled
18070.2 T/yr	19.5 T/yr	Dryer	PM	18070.2 T/yr	19.5 T/yr
2775.1 T/yr	19.5 T/yr		PM-10	2775.1 T/yr	19.5 T/yr
83.9 T/yr	83.9 T/yr		CO	83.9 T/yr	83.9 T/yr
35.5 T/yr	35.5 T/yr		NOx	35.5 T/yr	35.5 T/yr
7.1 T/yr	7.1 T/yr		SO2	7.1 T/yr	7.1 T/yr
		Generator			
1.3 T/yr	1.3 T/yr		PM	1.3 T/yr	1.3 T/yr
1.1 T/yr	1.1 T/yr		PM-10	1.1 T/yr	1.1 T/yr
15.1 T/yr	15.1 T/yr		CO	15.1 T/yr	15.1 T/yr
57.8 T/yr	57.8 T/yr		NOx	57.8 T/yr	57.8 T/yr
9.4 T/yr	9.4 T/yr		SO2	9.4 T/yr	9.4 T/yr
		Fugitives			
9.7 T/yr	9.7 T/yr		PM	9.7 T/yr	9.7 T/yr
3.7 T/yr	3.7 T/yr		PM-10	3.7 T/yr	3.7 T/yr
		Total [1]			
18081.2 T/yr	30.6 T/yr		PM	18081.2 T/yr	30.6 T/yr
2779.8 T/yr	24.3 T/yr		PM-10	2779.8 T/yr	24.3 T/yr
99.0 T/yr	99.0 T/yr		CO	99.0 T/yr	99.0 T/yr
93.3 T/yr	93.3 T/yr		NOx	93.3 T/yr	93.3 T/yr
16.5 T/yr	16.5 T/yr		SO2	16.5 T/yr	16.5 T/yr
2779.8 [=] T/yr of PM-10	99.0 [=] T/yr of CO	Title V PTE Summary [2]		2779.8 [=] T/yr of PM-10	99.0 [=] T/yr of CO
18081.2 [=] T/yr of PM	99.0 [=] T/yr of CO	Facility PTE Summary		18081.2 [=] T/yr of PM	99.0 [=] T/yr of CO
Enforceable Limits -- Attainment Areas				Enforceable Limits -- Non-Attainment Areas	
24.0 hr/day	4,302 hr/yr			12.7 hr/day	4,302 hr/yr
Dryer Controlled Emission Rates		Emission Limits		Dryer Controlled Emission Rates	
9.1 lb/hr	19.5 T/yr		PM/PM-10	9.1 lb/hr	19.5 T/yr
39.0 lb/hr	83.9 T/yr		CO	39.0 lb/hr	83.9 T/yr
16.5 lb/hr	35.5 T/yr		NOx	16.5 lb/hr	35.5 T/yr
3.3 lb/hr	7.1 T/yr		SO2	3.3 lb/hr	7.1 T/yr
Generator Controlled Emission Rates		Emission Limits		Generator Controlled Emission Rates	
0.5 lb/hr	1.1 T/yr		PM-10	0.5 lb/hr	1.1 T/yr
7.0 lb/hr	15.1 T/yr		CO	7.0 lb/hr	15.1 T/yr
26.9 lb/hr	57.8 T/yr		NOx	26.9 lb/hr	57.8 T/yr
4.4 lb/hr	9.4 T/yr		SO2	4.4 lb/hr	9.4 T/yr

[1] Total is the dryer, generator and fugitives added together for total PTE.

[2] Title V PTE summary does not account for PM, only PM-10.

Attainment Area - Collocated Units - Calculations

Collocation Ambient Air Quality Standards - Calculations

Pollutant	(1-hr,3-hr,8-hr,& 24-hr standards are cut in half for collocation) 1-hr	3-hr	8-hr	24-hr	Annual (50% Attainment Hours)
PM					
PM-10				22.5388	8.1853
CO	14144.8988		2326.4292		
NOx					23.5651
SO2		329.3733		88.6659	27.1776
TOC					

Background Concentrations -- Attainment/Non-Classifiable Areas (ug/m3)

Pollutant	1-hr	3-hr	8-hr	24-hr	Annual
PM					
PM-10				86	32.7
CO	11400		5130		
NOx					40
SO2		543		144	23.5
TOC					

INPUT SECTION - enter info in highlighted areas only

Company:	POE Asphalt Paving
Permit Engineer:	Spidell and Associates
Date:	07/07/01
Filename:	POE - CMI Plant Lewiston, Idaho RF04 Fuel Oil

Enter the HMA Plant Type:	B	(A = Batch Mix Hot Mix Asphalt Plant) (B = Drum Mix Hot Mix Asphalt Plant)
Dryer Fuel Type:	C	(A = Natural Gas-Fired Dryer) (B = Oil-Fired Dryer) (C = RF04 Fuel Oil-Fired Dryer)
Enter Dryer Stack Flow Rate:	45,000	[=] actual cubic feet per minute (acfm)
Enter Dryer Stack Temperature:	275	[=] temperature (°F)
Enter Dryer Stack Moisture:	18.00	[=] moisture wt % (Default 18 wt%)
Enter Dryer Stack Pressure:	29.92	[=] stack pressure (Default 29.92 "Hg)
Calculated Corrected Flow Rate:	26,503	[=] dry standard cubic feet per minute (dscfm)
Enter HMA Maximum Capacity:	300	[=] Ton/hr (Asphalt Throughput)
Enter HMA Modeled Concentration:	2.00	[=] µg/m³, (1-hr concentration @ 1 lb/hr)
Is a PM performance test required for this HMA plant?	Y	Y or N (based on 40 CFR 60.90 Requirements)
Does Plant Require a Generator?	Y	Y or N
Enter Generator Size:	820	[=] kW
Enter Units:	B	(A = Horsepower or B = Kilowatts)
Calculated Generator Size:	1099.37	[=] Horsepower
Enter Generator Fuel Type:	A	(A = Diesel-Fired Generator) (B = Gasoline-Fired or Dual-Fired Generator)
Enter Generator Fuel Useage:	63.7	[=] gal/hr
Calculated Generator Heat Output:	8.67	[=] MMBtu/hr
Enter gen. modeled concentration:	10.96	[=] µg/m3, (1-hr concentration @ 1 lb/hr)

SPREADSHEET DATA - information used by spreadsheet

State Wide Background Concentrations for Criteria Air Pollutants

	1-hr	3-hr	8-hr	24-hr	Annual
PM-10				86	32.7
CO	11400		5130		
NOx					40
SOx		543		144	23.5

Parameters used in the Fugitive Emission Calculations

Mean Wind Speed (U)	10	[=] mph
Material Moisture Content (M)	2.5	[=] %
Particle Size Multiplier (k)		
PM-10 (<10 µm)	0.35	[=] dimensionless
Emission Factor [1]		
PM-10 (<10 µm)	0.0020	[=] lb/T
PM [2]	0.0053	[=] lb/T

Notes: □u1□ EF = k*0.0032*(U/5)^1.3/(M/2)^1.4
Drop-Point Equation, Rating "A." AP-42, 5th Ed. p.13.2.4-3.
Assumptions: Wind Speed = 10 mph; Moisture = 2.5%; and Aggregate = 94% of product.

FACILITY CLASSIFICATION INPUT

Enter Annual Emission Limit: 100 [=]T/yr
Note: Use 100 T/yr for Title V Limitation
Use 250 T/yr for PSD Limitation
For the standard HMA permit, use 100 T/yr.

PERMIT REQUIREMENTS SECTION - enforceable permit limits

AIRS Facility Classification: A2

Non-attainment Area	Allowable Emission Limits	
HMA Dryer Stack:	9.09 lb/hr of PM	83.9 T/yr of CO
Generator:	12.7 hr/day 4,302.43 hr/year	15.1 T/yr of CO
HMA Plant Throughput Limits:	3,805 T/day	1,290,728 T/yr

Attainment Area	Allowable Emission Limits	
HMA Dryer Stack:	9.1 lb/hr of PM	83.9 T/yr of CO
Generator:	24.0 hr/day 4,302.43 hr/year	15.1 T/yr of CO
HMA Plant Throughput Limits:	#N/A T/day	1,290,728 T/yr

Collocated Attainment Areas	Allowable Emission Limits	
HMA Dryer Stack:	9.09 lb/hr of PM	41.9 T/yr of CO
Generator:	24.0 hr/day 2,151.21 hr/year	7.6 T/yr of CO
HMA Plant Throughput Limits:	#N/A T/day	645,364 T/yr

	CO 1-hr Standard	SO2 3-hr standard	CO 8-hr Standard
	minutes/1-hr	hr/3-hr	hr/8-hr
	60.0	3.0	8.0

INPUTS TO PERMIT TO CONSTRUCT (PTC)		Value	Units
Section B "Attainment Area When Not Collocated"			
Section B.1.1 Facility Throughput Limits:	Annual Throughput Limit	1,290,728	T/yr
	<<OR>>		
	Daily Throughput Limit	#N/A	T/day
	Annual Throughput Limit	1,290,728	T/yr
Section B.1.3 Generator Hours of Operation:	Annual Hours of Operation	4,302	hr/year
	<<AND/OR>>		
	Daily Hours of Operation	24	hr/day
Section C "Attainment Area When Collocated"			
Section C.1.3 Facility Throughput Limits:	Annual Throughput Limit	645,364	T/yr.
	<<OR>>		
	Daily Throughput Limit	#N/A	T/day
	Annual Throughput Limit	645,364	T/yr
Section C.1.4 Generator Hours of Operation:	Annual Hours of Operation	2,151	hr/year
	<<AND/OR>>		
	Daily Hours of Operation	24.0	hr/day
Section D "Nonattainment Area"			
Section D.1.1 Facility Throughput Limits:	Annual Throughput Limit	1,290,728	T/yr
	<<OR>>		
	Daily Throughput Limit	3,805	T/day
	Annual Throughput Limit	1,290,728	T/yr
Section D.1.3 Generator Hours of Operation:	Annual Hours of Operation	4,302	hr/year
	<<AND/OR>>		
	Daily Hours of Operation	12.7	hr/day

DRYER EMISSION RATE CALCULATIONS

Pollutant	DRYER STACK Emission Factor [=] lb/ton	Emission Rate (Uncontrolled) [=] lb/hr	Emission Rate (Controlled) [=] lb/hr
Total PM	28.00	8,400.00	9.09
	[=] gr/dscf		
Total PM-10	0.04	1,290.00	9.09
	[=] lb/ton		
CO	0.130	39.00	39.00
NOX	0.055	16.50	16.50
SO2	0.058	17.40	17.40

HMA emission factors for CO, NOx, SO2 and uncontrolled PM & PM-10 are from AP-42 Section 11.1. Controlled PM & PM-10 is from the NSPS 0.04 gr/dscf.

GENERATOR EMISSION RATE CALCULATIONS

Pollutant	GENERATOR STACK Emission Factor [=] lb/MMBtu	Emission Rate (Uncontrolled) [=] lb/hr	Emission Rate (Controlled) [=] lb/hr
Total PM	0.07	0.60	0.60
Total PM-10	0.06	0.50	0.50
CO	0.81	7.02	7.02
NOX	3.10	26.87	26.87
SO2	0.51	4.38	4.38

Generator emission factors are from AP-42 Section 3.3 and 3.4.

MODELING ANALYSIS CALCULATIONS FOR ATTAINMENT AREAS

Pollutant	Allowable Impacts: NAAQS Hours of Operation [=] hr/day	NAAQS Hours of Operation [=] hr/year	NAAQS Other [a,b,c]	< 100 TPY Hours of Operation [=] hr/year	Permitted Impacts: Hours of Operation [=] hr/day	Hours of Operation [=] hr/year	NAAQS Calculated 24-hr Impact [=] µg/m3	NAAQS Calculated Annual Impact [=] µg/m3	NAAQS Other [a,b,c]	< 100 TPY Calculated Emissions [=] ton/year
PM	N/S	N/S			24.0	4,302				
PM-10	24.0	8,760		8,760	Based on:	Based on:	9.46	0.93		24.29
CO	N/S	N/S		4,302	None	CO	62.04	6.09		99.00
CO [a]			1.0				---	---	155.10	
CO [b]			8.0		Limited to 99.0 T/yr.		---	---	108.57	
NOX	N/S	8,760		4,565			---	12.87		93.30
SO2	24.0	8,760		8,760			33.14	3.25		46.85
SO2 [c]			3.0				---	---	74.56	

MODELING ANALYSIS CALCULATIONS FOR NONATTAINMENT AREAS

Pollutant	Allowable Impacts: NAAQS Hours of Operation [=] hr/day	NAAQS Hours of Operation [=] hr/year	NAAQS Other [a,b,c]	< 100 TPY Hours of Operation [=] hr/year	Permitted Impacts: Hours of Operation [=] hr/day	Hours of Operation [=] hr/year	NAAQS Calculated 24-hr Impact [=] µg/m3	NAAQS Calculated Annual Impact [=] µg/m3	NAAQS Other [a,b,c]	< 100 TPY Calculated Emissions [=] ton/year
PM	N/S	N/S			12.7	4,302				
PM-10	12.7	4,629		8,760	Based on:	Based on:	5.00	0.93		24.29
CO	N/S	N/S		4,302	PM-10	CO	32.79	6.09		99.00
CO [a]			1.0				---	---	155.10	
CO [b]			8.0		Limited to 99.0 T/yr.		---	---	108.57	
NOX	N/S	8,760		4,565			---	12.87		93.30
SO2	24.0	8,760		8,760			10.61	3.25		46.85
SO2 [c]			3.0				---	---	74.56	

UGITIVE EMISSION CALCULATIONS FOR ATTAINMENT AREAS

	PM	PM-10
re-Dryer Source Emissions ([=] lb/hr)		
Loader -> Cold Aggregate Bin	1.50	0.57
Cold Aggregate Bin -> Conveyor	1.50	0.57
Conveyor -> Drum Dryer	1.50	0.57
'otal Pre-Dryer Source Emissions	4.51	1.71
'ost-Dryer Source Emissions		
Screening Process	#N/A	#N/A
Screen -> Hot Bins	#N/A	#N/A
Hot Bins -> Weigh Hopper	#N/A	#N/A
Weigh Hopper -> Pug Mill	#N/A	#N/A
'otal Post-Dryer Source Emissions	#N/A	#N/A
'cavenger Control Efficiency	#N/A	#N/A
Total Uncontrolled Emissions ([=] lb/hr)	4.51	1.71
Total Uncontrolled Emissions ([=] T/yr)	9.71	3.67
Total Controlled Emissions ([=] lb/hr)	4.51	1.71
Total Controlled Emissions ([=] T/yr)	9.71	3.67

Source: National Asphalt Pavement Association

[a] CO 1-hr Averaging Period

[b] CO 8-hr Averaging Period

[c] SO2 3-hr Averaging Period

FUGITIVE EMISSION CALCULATIONS FOR NONATTAINMENT AREAS

	PM	PM-10
Pre-Dryer Source Emissions ([=] lb/hr)		
Loader -> Cold Aggregate Bin	1.50	0.57
Cold Aggregate Bin -> Conveyor	1.50	0.57
Conveyor -> Drum Dryer	1.50	0.57
Total Pre-Dryer Source Emissions	4.51	1.71
Post-Dryer Source Emissions (2)		
Screening Process	#N/A	#N/A
Screen -> Hot Bins	#N/A	#N/A
Hot Bins -> Weigh Hopper	#N/A	#N/A
Weigh Hopper -> Pug Mill	#N/A	#N/A
Total Post-Dryer Source Emissions	#N/A	#N/A
Scavenger Control Efficiency	#N/A	#N/A
Total Uncontrolled Emissions ([=] lb/hr)	4.51	1.71
Total Uncontrolled Emissions ([=] T/yr)	9.71	3.67
Total Controlled Emissions ([=] lb/hr)	4.51	1.71
Total Controlled Emissions ([=] T/yr)	9.71	3.67

SPREADSHEET SUMMARY - results of emission and modeling calcs for all pollutants

ATTAINMENT & UNCLASSIFIABLE AREAS			*NONATTAINMENT AREAS*		
Uncontrolled	**Controlled**	**Dryer**	**Uncontrolled**	**Controlled**	
18070.2 T/yr	19.5 T/yr	PM	18070.2 T/yr	19.5 T/yr	
2775.1 T/yr	19.5 T/yr	PM-10	2775.1 T/yr	19.5 T/yr	
83.9 T/yr	83.9 T/yr	CO	83.9 T/yr	83.9 T/yr	
35.5 T/yr	35.5 T/yr	NOx	35.5 T/yr	35.5 T/yr	
37.4 T/yr	37.4 T/yr	SO2	37.4 T/yr	37.4 T/yr	
		Generator			
1.3 T/yr	1.3 T/yr	PM	1.3 T/yr	1.3 T/yr	
1.1 T/yr	1.1 T/yr	PM-10	1.1 T/yr	1.1 T/yr	
15.1 T/yr	15.1 T/yr	CO	15.1 T/yr	15.1 T/yr	
57.8 T/yr	57.8 T/yr	NOx	57.8 T/yr	57.8 T/yr	
9.4 T/yr	9.4 T/yr	SO2	9.4 T/yr	9.4 T/yr	
		Fugitives			
9.7 T/yr	9.7 T/yr	PM	9.7 T/yr	9.7 T/yr	
3.7 T/yr	3.7 T/yr	PM-10	3.7 T/yr	3.7 T/yr	
		Total [1]			
18081.2 T/yr	30.6 T/yr	PM	18081.2 T/yr	30.6 T/yr	
2779.8 T/yr	24.3 T/yr	PM-10	2779.8 T/yr	24.3 T/yr	
99.0 T/yr	99.0 T/yr	CO	99.0 T/yr	99.0 T/yr	
93.3 T/yr	93.3 T/yr	NOx	93.3 T/yr	93.3 T/yr	
46.8 T/yr	46.8 T/yr	SO2	46.8 T/yr	46.8 T/yr	
2779.8 [=] T/yr of PM-10	99.0 [=] T/yr of CO	Title V PTE Summary [2]	2779.8 [=] T/yr of PM-10	99.0 [=] T/yr of CO	
18081.2 [=] T/yr of PM	99.0 [=] T/yr of CO	Facility PTE Summary	18081.2 [=] T/yr of PM	99.0 [=] T/yr of CO	
Enforceable Limits -- Attainment Areas			**Enforceable Limits -- Non-Attainment Areas**		
24.0 hr/day	4,302 hr/yr		12.7 hr/day	4,302 hr/yr	
Dryer Controlled Emission Rates		**Emission Limits**	**Dryer Controlled Emission Rates**		
9.1 lb/hr	19.5 T/yr	PM/PM-10	9.1 lb/hr	19.5 T/yr	
39.0 lb/hr	83.9 T/yr	CO	39.0 lb/hr	83.9 T/yr	
16.5 lb/hr	35.5 T/yr	NOx	16.5 lb/hr	35.5 T/yr	
17.4 lb/hr	37.4 T/yr	SO2	17.4 lb/hr	37.4 T/yr	
Generator Controlled Emission Rates		**Emission Limits**	**Generator Controlled Emission Rates**		
0.5 lb/hr	1.1 T/yr	PM-10	0.5 lb/hr	1.1 T/yr	
7.0 lb/hr	15.1 T/yr	CO	7.0 lb/hr	15.1 T/yr	
26.9 lb/hr	57.8 T/yr	NOx	26.9 lb/hr	57.8 T/yr	
4.4 lb/hr	9.4 T/yr	SO2	4.4 lb/hr	9.4 T/yr	

[1] Total is the dryer, generator and fugitives added together for total PTE.

[2] *Title V PTE summary does not account for PM, only PM-10.*

tainment Area - Collocated Units - Calculations

Collocation Ambient Air Quality Standards - Calculations

ollutant	(1-hr,3-hr,8-hr,& 24-hr standards are cut in half for collocation) 1-hr	3-hr	8-hr	24-hr	Annual (50% Attainment Hours)
M					
M-10					
'O	14144.8988		2326.4292	22.5388	8.1853
Ox					
O2		303.9426			23.5651
OC				77.3634	26.6225

Background Concentrations -- Attainment/Non-Classifiable Areas (ug/m3)

Pollutant	1-hr	3-hr	8-hr	24-hr	Annual
PM					
PM-10					
CO	11400		5130	86	32.7
NOx					
SO2		543			40
TOC				144	23.5

APPENDIX B

MODELING OUTPUT

07/05/01
14:42:16

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

POE Asphalt Paving, Inc.

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.126000
STACK HEIGHT (M)	=	12.6492
STK INSIDE DIAM (M)	=	1.4211
STK EXIT VELOCITY (M/S)	=	13.3896
STK GAS EXIT TEMP (K)	=	408.1500
AMBIENT AIR TEMP (K)	=	293.1500
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 18.678 M**4/S**3; MOM. FLUX = 65.012 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	0.000	1	1.0	1.0	320.0	202.00	3.00	2.98	NO
100.	0.2218E-01	5	1.0	1.1	10000.0	89.39	22.77	22.21	NO
200.	1.192	3	10.0	10.2	3200.0	30.91	23.97	14.60	NO
300.	1.982	4	20.0	20.7	6400.0	19.51	22.76	12.37	NO
400.	1.912	4	20.0	20.7	6400.0	19.51	29.57	15.50	NO
500.	1.754	4	15.0	15.5	4800.0	23.22	36.32	18.64	NO
600.	1.563	4	15.0	15.5	4800.0	23.22	42.86	21.50	NO
700.	1.465	4	10.0	10.4	3200.0	30.64	49.47	24.61	NO
800.	1.353	4	10.0	10.4	3200.0	30.64	55.83	27.30	NO
900.	1.271	4	8.0	8.3	2560.0	35.88	62.24	30.20	NO
1000.	1.185	4	8.0	8.3	2560.0	35.88	68.45	32.77	NO
1100.	1.096	4	8.0	8.3	2560.0	35.88	74.61	34.76	NO
1200.	1.056	4	5.0	5.2	1600.0	49.81	81.14	37.62	NO
1300.	1.015	4	5.0	5.2	1600.0	49.81	87.17	39.46	NO
1400.	0.9719	4	5.0	5.2	1600.0	49.81	93.16	41.25	NO
1500.	0.9288	4	5.0	5.2	1600.0	49.81	99.11	43.00	NO
1600.	0.8865	4	5.0	5.2	1600.0	49.81	105.03	44.72	NO
1700.	0.8514	4	4.5	4.7	1440.0	53.94	111.04	46.68	NO
1800.	0.8169	4	4.5	4.7	1440.0	53.94	116.88	48.32	NO
1900.	0.7854	4	4.0	4.1	1280.0	59.11	122.85	50.30	NO
2000.	0.7765	5	1.0	1.1	10000.0	89.39	98.18	40.03	NO
2100.	0.8037	5	1.0	1.1	10000.0	89.39	102.40	40.82	NO
2200.	0.8284	5	1.0	1.1	10000.0	89.39	106.61	41.61	NO
2300.	0.8508	5	1.0	1.1	10000.0	89.39	110.81	42.38	NO
2400.	0.8709	5	1.0	1.1	10000.0	89.39	115.00	43.15	NO
2500.	0.8888	5	1.0	1.1	10000.0	89.39	119.17	43.91	NO
2600.	0.9047	5	1.0	1.1	10000.0	89.39	123.34	44.66	NO
2700.	0.9186	5	1.0	1.1	10000.0	89.39	127.49	45.40	NO
2800.	0.9308	5	1.0	1.1	10000.0	89.39	131.62	46.13	NO
2900.	0.9413	5	1.0	1.1	10000.0	89.39	135.75	46.86	NO
3000.	0.9502	5	1.0	1.1	10000.0	89.39	139.86	47.58	NO
3500.	0.9750	5	1.0	1.1	10000.0	89.39	160.26	51.06	NO
4000.	0.9752	5	1.0	1.1	10000.0	89.39	180.40	54.38	NO
4500.	0.9506	5	1.0	1.1	10000.0	89.39	200.29	57.19	NO
5000.	0.9269	6	1.0	1.1	10000.0	75.34	146.77	38.61	NO
5500.	0.9357	6	1.0	1.1	10000.0	75.34	159.70	39.99	NO
6000.	0.9378	6	1.0	1.1	10000.0	75.34	172.51	41.32	NO
6500.	0.9347	6	1.0	1.1	10000.0	75.34	185.21	42.59	NO
7000.	0.9277	6	1.0	1.1	10000.0	75.34	197.81	43.83	NO
7500.	0.9129	6	1.0	1.1	10000.0	75.34	210.30	44.89	NO
8000.	0.8970	6	1.0	1.1	10000.0	75.34	222.71	45.92	NO
8500.	0.8803	6	1.0	1.1	10000.0	75.34	235.02	46.91	NO
9000.	0.8631	6	1.0	1.1	10000.0	75.34	247.26	47.88	NO
9500.	0.8457	6	1.0	1.1	10000.0	75.34	259.41	48.81	NO
10000.	0.8284	6	1.0	1.1	10000.0	75.34	271.49	49.72	NO
15000.	0.6700	6	1.0	1.1	10000.0	75.34	388.84	57.73	NO
20000.	0.5455	6	1.0	1.1	10000.0	75.34	501.27	62.90	NO
25000.	0.4587	6	1.0	1.1	10000.0	75.34	610.01	67.28	NO
30000.	0.3950	6	1.0	1.1	10000.0	75.34	715.81	71.13	NO
40000.	0.3082	6	1.0	1.1	10000.0	75.34	920.40	76.61	NO
50000.	0.2525	6	1.0	1.1	10000.0	75.34	1117.57	81.19	NO

```
MAXIMUM 1-HR CONCENTRATION AT OR BEYOND     1. M:
   328.   2.004        4    20.0   20.7  6400.0   19.51   24.76   13.30    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

 *** INVERSION BREAK-UP FUMIGATION CALC. ***
  CONC (UG/M**3)    =    1.909
  DIST TO MAX (M)   =  2593.93

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION          MAX CONC    DIST TO   TERRAIN
  PROCEDURE          (UG/M**3)    MAX (M)    HT (M)
--------------      -----------  -------   -------
SIMPLE TERRAIN        2.004        328.        0.

INV BREAKUP FUMI      1.909       2594.       --
```

07/05/01
15:47:12

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

820 kW Generator

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.126000
STACK HEIGHT (M)	=	4.1148
STK INSIDE DIAM (M)	=	0.2042
STK EXIT VELOCITY (M/S)	=	106.0910
STK GAS EXIT TEMP (K)	=	825.3722
AMBIENT AIR TEMP (K)	=	293.1500
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 6.993 M**4/S**3; MOM. FLUX = 41.672 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	0.000	1	1.0	1.0	320.0	96.25	2.95	2.92	NO
100.	9.457	4	20.0	20.0	6400.0	8.72	8.25	4.75	NO
200.	9.784	4	15.0	15.0	4800.0	10.26	15.66	8.68	NO
300.	8.043	4	8.0	8.0	2560.0	15.63	22.85	12.53	NO
400.	6.563	4	8.0	8.0	2560.0	15.63	29.64	15.62	NO
500.	5.723	4	5.0	5.0	1600.0	22.54	36.53	19.04	NO
600.	5.031	4	4.5	4.5	1440.0	24.59	43.12	22.00	NO
700.	4.479	4	4.0	4.0	1280.0	27.15	49.63	24.92	NO
800.	4.037	4	3.5	3.5	1120.0	30.44	56.08	27.82	NO
900.	3.663	4	3.5	3.5	1120.0	30.44	62.34	30.41	NO
1000.	3.382	4	3.0	3.0	960.0	34.83	68.69	33.27	NO
1100.	3.111	4	3.0	3.0	960.0	34.83	74.83	35.23	NO
1200.	2.905	4	2.5	2.5	800.0	40.97	81.13	37.60	NO
1300.	2.721	4	2.5	2.5	800.0	40.97	87.16	39.43	NO
1400.	2.702	5	1.0	1.0	10000.0	60.96	71.09	31.29	NO
1500.	2.774	5	1.0	1.0	10000.0	60.96	75.47	32.31	NO
1600.	2.828	5	1.0	1.0	10000.0	60.96	79.82	33.32	NO
1700.	2.890	6	1.5	1.5	10000.0	45.33	56.19	22.79	NO
1800.	3.000	6	1.0	1.0	10000.0	51.29	59.42	24.31	NO
1900.	3.101	6	1.0	1.0	10000.0	51.29	62.26	24.90	NO
2000.	3.191	6	1.0	1.0	10000.0	51.29	65.09	25.48	NO
2100.	3.239	6	1.0	1.0	10000.0	51.29	67.91	25.98	NO
2200.	3.278	6	1.0	1.0	10000.0	51.29	70.72	26.47	NO
2300.	3.310	6	1.0	1.0	10000.0	51.29	73.52	26.95	NO
2400.	3.335	6	1.0	1.0	10000.0	51.29	76.32	27.43	NO
2500.	3.353	6	1.0	1.0	10000.0	51.29	79.10	27.90	NO
2600.	3.366	6	1.0	1.0	10000.0	51.29	81.88	28.36	NO
2700.	3.374	6	1.0	1.0	10000.0	51.29	84.65	28.82	NO
2800.	3.376	6	1.0	1.0	10000.0	51.29	87.41	29.27	NO
2900.	3.375	6	1.0	1.0	10000.0	51.29	90.16	29.71	NO
3000.	3.370	6	1.0	1.0	10000.0	51.29	92.91	30.16	NO
3500.	3.251	6	1.0	1.0	10000.0	51.29	106.51	31.96	NO
4000.	3.111	6	1.0	1.0	10000.0	51.29	119.93	33.65	NO
4500.	2.964	6	1.0	1.0	10000.0	51.29	133.19	35.25	NO
5000.	2.818	6	1.0	1.0	10000.0	51.29	146.29	36.77	NO
5500.	2.677	6	1.0	1.0	10000.0	51.29	159.26	38.21	NO
6000.	2.544	6	1.0	1.0	10000.0	51.29	172.11	39.60	NO
6500.	2.418	6	1.0	1.0	10000.0	51.29	184.83	40.93	NO
7000.	2.300	6	1.0	1.0	10000.0	51.29	197.45	42.21	NO
7500.	2.188	6	1.0	1.0	10000.0	51.29	209.97	43.31	NO
8000.	2.084	6	1.0	1.0	10000.0	51.29	222.39	44.38	NO
8500.	1.988	6	1.0	1.0	10000.0	51.29	234.73	45.40	NO
9000.	1.900	6	1.0	1.0	10000.0	51.29	246.98	46.40	NO
9500.	1.818	6	1.0	1.0	10000.0	51.29	259.14	47.37	NO
10000.	1.742	6	1.0	1.0	10000.0	51.29	271.24	48.30	NO
15000.	1.210	6	1.0	1.0	10000.0	51.29	388.66	56.51	NO
20000.	0.9178	6	1.0	1.0	10000.0	51.29	501.13	61.78	NO
25000.	0.7356	6	1.0	1.0	10000.0	51.29	609.90	66.24	NO
30000.	0.6115	6	1.0	1.0	10000.0	51.29	715.71	70.14	NO
40000.	0.4576	6	1.0	1.0	10000.0	51.29	920.32	75.70	NO
50000.	0.3644	6	1.0	1.0	10000.0	51.29	1117.50	80.33	NO

```
MAXIMUM 1-HR CONCENTRATION AT OR BEYOND     1. M:
   133.   10.96        4    20.0   20.0  6400.0    8.72   10.81    6.11    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

     ****************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ****************************************

 CALCULATION         MAX CONC    DIST TO   TERRAIN
  PROCEDURE         (UG/M**3)    MAX (M)    HT (M)
--------------     -----------   -------   -------
SIMPLE TERRAIN       10.96         133.        0.
```