



Air Quality Permitting
Technical Memorandum

Permit to Construct No. 777-00299

ASM
REXBURG, IDAHO

Prepared By:

Kent Berry
Environmental Quality Management, Inc.

Project No. P-010311

Date Prepared:

February 6, 2002

Permit Status

FINAL

PURPOSE

The purpose of 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

ASM is proposing to commence construction of a portable hot-mix asphalt (HMA) plant to be operated in both attainment and nonattainment areas within the state of Idaho. Note that the standard PTC for a portable HMA plant also includes provisions for collocated operations in attainment areas with one other portable source (i.e., rock crusher, HMA, or concrete batch plant). The HMA plant's maximum hourly throughput is 100 tons per hour (T/hr) and the facility includes a 200kW electrical generator set. The HMA facility will initially be located near Pocatello, Idaho.

SUMMARY OF EVENTS

The Idaho Department of Environmental Quality (DEQ) received an application dated July 16, 2001, from ASM for a portable HMA plant. On January 31, 2002, the application was determined complete.

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 fuel oil, natural gas, or propane gas.

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, during collocated operations this HMA plant is then 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 the other portable plant 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:	AEDCO
Type:	Drum-mix
Throughput Capacity:	100 T/hr
Burner Fuel Type:	#2 Fuel Oil
Dryer Heat Input:	27 million British thermal units per hour

2.2 Air Pollution Control Device

Type:	Wet scrubber
Manufacturer:	AEDCO
Model:	Venturi type

2.3 HMA Stack Information

Stack Height:	15 ft
Stack Diameter:	2 ft
Exhaust Gas Flow Rate:	18,000 actual cubic feet per minute (acfm)
Stack Exhaust Temperature:	310°F

2.4 Generator

Manufacturer/Model:	Caterpillar
Rated Power Output:	200 kW
Fuel Type:	Diesel
Fuel Usage:	5-7 gal/hr
Stack Height:	12 ft
Stack Diameter:	0.42 ft
Exhaust Gas Flow Rate:	1,186 acfm
Stack Exhaust Temperature:	534°F

When collocated, this HMA plant is then part of a single, larger source that produces either HMA, concrete, and/or aggregate, depending upon which type of portable plant the hot-mix plant is collocated with. The equipment used by this single, larger source would include the HMA plant equipment listed above, plus the equipment of the other portable plant. To see an equipment description for the other portable plant, see the corresponding permitting files for that plant.

3. Area Classification

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

4. Emission Estimates

Emission estimates for this HMA facility were calculated using a Lotus 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 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 which will give the facility a PTE of less than 100 tons per any consecutive 12-month period (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 Appendix A of this memo.

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 amendment may be completed.

In summary, the emission estimates for this facility assume 100 T/hr throughput to a drum-mix HMA plant, one #2 fuel oil-fired dryer, one diesel-fired electrical generator set rated at 200 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 NO_x .

4.1 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., Prevention of Significant Deterioration and Title V thresholds) by limiting the maximum throughput of each. For collocated operations, half of the attainment area triggering levels is 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 NO_x.

5. Modeling

Modeling of the asphalt plant stack emissions and the electrical generator set emissions was conducted using EPA-approved SCREEN 3 computer-run model. The maximum one-hour impact from the dryer stack was calculated to be 8.66 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) using a one pound-per-hour (lb/hr) unity emission rate input to the model. The maximum one-hour impact from the electrical generator set was calculated to be 66.43 $\mu\text{g}/\text{m}^3$, also using a 1 lb/hr unity input. The spreadsheet calculates the ambient impact for each air pollutant (PM, PM₁₀, NO_x, SO₂, and CO) based on the calculated pound-per-hour emission rate, averaging periods, and background concentrations. The spreadsheet solves for the most-limiting pollutant in attainment areas and gives appropriate operational limits, which protects 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 standard for PM₁₀ (attainment area) as an example, one half of the allowable available impact would be equal to 32 $\mu\text{g}/\text{m}^3$, as follows:

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

where 150 $\mu\text{g}/\text{m}^3$ is the 24-hour average standard and 86 $\mu\text{g}/\text{m}^3$ is the conservative state-wide 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 $\mu\text{g}/\text{m}^3$ 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.

6. Facility Classification

Hot-mix asphalt plants (including collocated operations producing asphalt, concrete, and/or aggregate) are not designated facilities, as defined in IDAPA 58.01.01.006.27. This facility is not a major facility as defined in IDAPA 58.01.01.006.55 and IDAPA 58.01.01.008.10. The Standard Industrial Classification Code for this HMA 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.

7. Regulatory Review

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

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

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 Coordination

This HMA facility is not a major facility as defined by IDAPA 58.01.01.006.55 and IDAPA 58.01.01.008.10. However, it is a New Source Performance Standards-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 DEQ by submitting the information in Subsection 313.01.f within 12 months after commencing operation.

9. AIRS Information

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

Pollutant	Classification	Classification	Classification	Classification	Classification	Classification
SO ₂ ^h	B					
No _x ⁱ	B					
CO ^j	B					
PM ₁₀ ^k	SM		SM			
PM (Particulate) ^l	B		B			
VOC ^m	B					
THAP (Total HAPs) ⁿ	B					

- ^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 ton-per-year (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

This facility is not a major facility as defined in IDAPA 58.01.01.008.10. Therefore, registration and registration fees in accordance with IDAPA 58.01.01.526 are not applicable.

RECOMMENDATION

Based on review of application materials and state and federal rules and regulations, staff recommends ASM be issued a PTC for a portable HMA facility. No public comment period is recommended, no entity has requested a comment period, and the project does not involve Prevention of Significant Deterioration PTC requirements.

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cc: Kent Berry, EQM
Rick Elkins, Pocatello Regional Office

APPENDIX A
EMISSIONS ESTIMATES

INPUT SECTION - enter info in highlighted areas only

Company:	ASM
Permit Engineer:	RQM
Date:	12/10/02
Facility:	ASM PTC Calc.xls
Enter the BMA Plant Type:	B (A = Batch Mix Hot Mix Asphalt Plant) (B = Drum Mix Hot Mix Asphalt Plant)
Bryer Fuel Type:	B (A = Natural Gas-Fired Bryer) (B = Oil-Fired Bryer)
Enter Bryer Stack Flow Rate:	10,000 actual cubic feet per minute (acfm)
Enter Bryer Stack Temperature:	310 temperature (°F)
Enter Bryer Stack Moisture:	10.00 moisture wt % (Default 10 wt%)
Enter Bryer Stack Pressure:	20.70 stack pressure (Default 20.70 - Hg)
Calculated Corrected Flow Rate:	10,310 dry standard cubic feet per minute (scfm)
Enter BMA Maximum Capacity:	100 Tons/hr (Asphalt Throughput)
Enter BMA Model Concentration:	0.05 ppm ³ (1-hr concentration @ 1 ft/hr)
Is a PM performance test required for this BMA plant?	Y or N (Based on 48 CFR 60.90 Requirements)
Does Plant Require a Generator?	Y or N
Enter Generator Size:	200 kW
Enter Data:	(A = Generator or B = Kilowatts)
Calculated Generator Size:	200.00 kW
Enter Generator Fuel Type:	A (A = Diesel-Fired Generator) (B = Coal-Fired or Fuel-Fired Generator)
Enter gen. model concentration:	66.33 ppm ³ (1-hr concentration @ 1 ft/hr)

SPREADSHEET DATA - information used by spreadsheet

Item	1-hr	3-hr	8-hr	14-hr	Annular
PM-10	11,400			86	33.7
CO			9120		
NO _x					
SO _x		310		141	23.0

Parameters used in the Emissions Estimation Calculations

Mean Wind Speed (ft) 10 mph
 Material Moisture Content (M) 2.5 %
 Particle Size Multiplier (N) 0.25 (noncombustible)
 Emission Factor¹
 PM-10 (<10 µm) 0.005 MAT
 PM^{2.5} 0.003 MAT
 Notes: ¹ EF = 1.0 * 0.003 * (CO/1000) * (1.0/0.025) * 1.4
 Dry-Pond Evaporation Rate: "A" AS-42, 96, 84, 6, 11.1, 1.1
 Assumptions: Wind Speed = 10 mph; Moisture = 2.5%; and
 Aggregate = 54% of product.

FACILITY CLASSIFICATION INPUT

Enter Annual Emissions Limit:
 Note: Use 100 Tpyr for Title V Limitation
 Use 200 Tpyr for PSD Limitation
 For the standard BMA permit, use 100 Tpyr.

100 Tpyr

PERMIT REQUIREMENTS SECTION - enforceable permit limits
AIRS Facility Classification: A2

Non-attainment Area			Attainment Area		
	Allowable Emission Limits			Allowable Emission Limits	
HMA Dryer Stack:	3.5 lb/hr of PM	NA T/yr	HMA Dryer Stack:	3.5 lb/hr of PM	NA T/yr
Generator:	4.3 hr/day 1,581.46 hr/year	NA T/yr	Generator:	24.0 hr/day 8,760.00 hr/year	NA T/yr
HMA Plant Throughput Limits:	433 T/day	158,146 T/yr	HMA Plant Throughput Limit:	NA T/day	876,000 T/yr

Collocated Attainment Areas					
	Allowable Emission Limits		CO 1-hr Standard	OI 3-hr standard	OI 8-hr Standard
			minutes/1-hr	hr/3-hr	hr/8-hr
HMA Dryer Stack:	3.5 lb/hr of PM	NA T/yr	60.0	3.0	8.0
Generator:	24.0 hr/day 4,380.00 hr/year	NA T/yr			
HMA Plant Throughput Limits:	NA T/day	438,000 T/yr			

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	876,000	T/yr
	<<OR>>		
	Daily Throughput Limit	NA	T/day
Section B.1.3 Generator Hours of Operation:	Annual Throughput Limit	876,000	T/yr
	Annual Hours of Operation	8,760	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	438,000	T/yr
	<<OR>>		
	Daily Throughput Limit	NA	T/day
Section C.1.4 Generator Hours of Operation:	Annual Throughput Limit	438,000	T/yr
	Annual Hours of Operation	4,380	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	158,146	T/yr
	<<OR>>		
	Daily Throughput Limit	433	T/day
Section D.1.3 Generator Hours of Operation:	Annual Throughput Limit	158,146	T/yr
	Annual Hours of Operation	1,581	hr/year
	<<AND/OR>>		
Daily Hours of Operation	4.3	hr/day	

DRYER EMISSION RATE CALCULATIONS

Pollutant	DRYER STACK		
	Emission Factor (Uncontrolled) lb/ton	Emission Rate (Uncontrolled) lb/hr	Emission Rate (Controlled) lb/hr
Total PM	19.00	1,900.00	3.47
Total PM-10	0.04	430.00	3.47
CO	0.836	3.60	3.60
NO _x	0.875	7.50	7.50
SO ₂	0.100	10.00	10.00

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

GENERATOR EMISSION RATE CALCULATIONS

Pollutant	GENERATOR STACK		
	Emission Factor (Uncontrolled) lb/tpy	Emission Rate (Uncontrolled) lb/hr	Emission Rate (Controlled) lb/hr
Total PM	0.80	0.59	0.59
Total PM-10	0.00	0.59	0.59
CO	0.01	1.79	1.79
NO _x	0.83	8.31	8.31
SO ₂	0.98	8.55	8.55

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

MODELING ANALYSIS CALCULATIONS FOR ATTACHMENT AREAS

Pollutant	Allowable Impacts				Permitted Impacts			
	NAAQS			< 100 TPY	NAAQS			< 100 TPY
	Hours of Operation hr/day	Hours of Operation hr/year	Other ***	Hours of Operation hr/year	Calculated 24-hr Impact ppb/m3	Calculated Annual Impact ppb/m3	Other ***	Calculated Emissions ton/year
PM	N/S	N/S		8,760				
PM-10	24.0	8,760		8,760	27.70	5.54		20.27
CO	N/S	N/S		8,760	66.07	12.01		23.61
CO ^a			1.0				150.17	
CO ^b			8.0				165.12	
NO _x	N/S	8,760		8,760		49.37		49.26
SO ₂	24.0	8,760		8,760	49.25	9.85		46.21
SO ₂ ^c			3.0				110.82	

Based on: 24.0 hr/day, 8,760 hr/year
 Based on: None, None
 No emission limitations.

MODELING ANALYSIS CALCULATIONS FOR NONATTACHMENT AREAS

Pollutant	Allowable Impacts				Permitted Impacts			
	NAAQS			< 100 TPY	NAAQS			< 100 TPY
	Hours of Operation hr/day	Hours of Operation hr/year	Other ***	Hours of Operation hr/year	Calculated 24-hr Impact ppb/m3	Calculated Annual Impact ppb/m3	Other ***	Calculated Emissions ton/year
PM	N/S	N/S		8,760				
PM-10	4.3	1,581		8,760	5.00	1.00		3.66
CO	N/S	N/S		8,760	10.84	2.17		4.26
CO ^a			1.0				150.17	
CO ^b			8.0				56.93	
NO _x	N/S	8,760		8,760		8.91		12.50
SO ₂	24.0	8,760		8,760	11.09	1.78		8.54
SO ₂ ^c			3.0				110.82	

Based on: 4.3 hr/day, 1,581 hr/year
 Based on: PM-10, PM-10
 Limited by Significant Co

FUGITIVE EMISSION CALCULATIONS FOR ATTAINMENT AREAS

	PM	PM-10
Pre-Dryer Source Emissions (lb/yr)		
Loader -> Cold Aggregate Bin	0.28	0.19
Cold Aggregate Bin -> Conveyor	0.28	0.19
Conveyor -> Drum Dryer	0.28	0.19
Total Pre-Dryer Source Emissions	0.84	0.57
Post-Dryer Source Emissions		
Screening Process	N/A	N/A
Screen -> Hot Bin	N/A	N/A
Hot Bin -> Weigh Hopper	N/A	N/A
Weigh Hopper -> Pkg MTR	0.28	0.19
Total Post-Dryer Source Emissions	0.28	0.19
Scavenger Control Efficiency		
Total Uncontrolled Emissions (lb/yr)	1.12	0.77
Total Uncontrolled Emissions (TSP)	1.12	0.77
Total Controlled Emissions (lb/yr)	0.84	0.57
Total Controlled Emissions (TSP)	0.84	0.57

Source: National Asphalt Pavement Association

* CO 1-Hr Averaging Period

* CO 24-hr Averaging Period

* SO₂ 3-hr Averaging Period

FUGITIVE EMISSION CALCULATIONS FOR NONATTAINMENT AREAS

	PM	PM-10
Pre-Dryer Source Emissions (lb/yr)		
Loader -> Cold Aggregate Bin	0.28	0.19
Cold Aggregate Bin -> Conveyor	0.28	0.19
Conveyor -> Drum Dryer	0.28	0.19
Total Pre-Dryer Source Emissions	0.84	0.57
Post-Dryer Source Emissions 2		
Screening Process	N/A	N/A
Screen -> Hot Bin	N/A	N/A
Hot Bin -> Weigh Hopper	N/A	N/A
Weigh Hopper -> Pkg MTR	0.28	0.19
Total Post-Dryer Source Emissions	0.28	0.19
Scavenger Control Efficiency		
Total Uncontrolled Emissions (lb/yr)	1.12	0.77
Total Uncontrolled Emissions (TSP)	1.12	0.77
Total Controlled Emissions (lb/yr)	0.84	0.57
Total Controlled Emissions (TSP)	0.84	0.57

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

ATTAINMENT & UNCLASSIFIABLE AREAS			NONATTAINMENT AREAS		
Uncontrolled	Controlled	Dryer	Uncontrolled	Controlled	
8321.9 T/yr	15.2 T/yr	PM	1562.4 T/yr	2.7 T/yr	
1883.4 T/yr	15.2 T/yr	PM-10	348.0 T/yr	2.7 T/yr	
15.8 T/yr	15.8 T/yr	CO	2.8 T/yr	2.8 T/yr	
32.9 T/yr	32.9 T/yr	NOx	5.9 T/yr	5.9 T/yr	
43.8 T/yr	43.8 T/yr	SO ₂	7.9 T/yr	7.9 T/yr	
		Generator			
2.6 T/yr	2.6 T/yr	PM	0.5 T/yr	0.5 T/yr	
2.6 T/yr	2.6 T/yr	PM-10	0.5 T/yr	0.5 T/yr	
7.8 T/yr	7.8 T/yr	CO	1.4 T/yr	1.4 T/yr	
36.4 T/yr	36.4 T/yr	NOx	6.6 T/yr	6.6 T/yr	
2.4 T/yr	2.4 T/yr	SO ₂	0.4 T/yr	0.4 T/yr	
		Fugitives			
4.6 T/yr	4.6 T/yr	PM	1.2 T/yr	1.2 T/yr	
2.5 T/yr	2.5 T/yr	PM-10	0.4 T/yr	0.4 T/yr	
		Total ¹			
8331.2 T/yr	24.4 T/yr	PM	1564.9 T/yr	4.4 T/yr	
1885.5 T/yr	20.3 T/yr	PM-10	348.9 T/yr	3.7 T/yr	
23.6 T/yr	23.6 T/yr	CO	4.3 T/yr	4.3 T/yr	
69.3 T/yr	69.3 T/yr	NOx	12.5 T/yr	12.5 T/yr	
46.2 T/yr	46.2 T/yr	SO ₂	8.3 T/yr	8.3 T/yr	
1888.5 [=] T/yr	69.3 T/yr	Title V PTE Summary ¹	348.9 T/yr	12.5 T/yr	
of PM-10	of NOx		of PM-10	of NOx	
8331.2 [=] T/yr	69.3 T/yr	Facility PTE Summary	1564.9 T/yr	12.5 T/yr	
of PM	of NOx		of PM	of NOx	
Enforceable Limits - Attainment Areas			Enforceable Limits - Non-Attainment Areas		
24.8 hr/day	8,760 hr/yr		4.3 hr/day	1,581 hr/yr	
Dryer Controlled Emission Rates			Generator Controlled Emission Rates		
		Emission Limits			
3.5 lb/hr	15.2 T/yr	PM/PM-10	3.5 lb/hr	2.7 T/yr	
3.6 lb/hr	15.8 T/yr	CO	3.6 lb/hr	2.8 T/yr	
7.5 lb/hr	32.9 T/yr	NOx	7.5 lb/hr	5.9 T/yr	
18.0 lb/hr	43.8 T/yr	SO ₂	18.0 lb/hr	7.9 T/yr	
Generator Controlled Emission Rates			Facility PTE Summary		
		Emission Limits			
0.6 lb/hr	2.6 T/yr	PM-10	0.6 lb/hr	0.5 T/yr	
1.8 lb/hr	7.8 T/yr	CO	1.8 lb/hr	1.4 T/yr	
8.3 lb/hr	36.4 T/yr	NOx	8.3 lb/hr	6.6 T/yr	
0.5 lb/hr	2.4 T/yr	SO ₂	0.5 lb/hr	0.4 T/yr	

a1 Total is the dryer, generator and fugitives added together for total PTE.

a2 Title V PTE summary does not account for PM, only PM-10.

Collection Area - Collection Units - Calculations						
Collection Ambient Air Quality Standards - Calculations						
Pollutant	(100% 24-hr, 3-yr, 21-yr standards are met in half for collection)					
	1-yr	3-yr	8-yr	21-yr	Annual	(50% Attainment)
PM-10	14149.82903		2328.880722	4,304.02648	5,880.10265	
CO						
NO _x		267.678633		61,34571704	3,31880152	
SO ₂						23,3245717
TSP						
Background Concentrations - Attainment/Non-Classifiable Areas (µg/m ³)						
Pollutant	1-yr	3-yr	8-yr	21-yr	Annual	
PM-10	11400		2130	86	32.7	
CO					40	
NO _x		543		144	23.5	
SO ₂						
TSP						

APPENDIX B
SCREEN 3 MODELING OUTPUT

01/07/02
11:25:16

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

ASM HMA Plant Pocatello Airport

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = .126000
STACK HEIGHT (M) = 4.5720
STK INSIDE DIAM (M) = .6096
STK EXIT VELOCITY (M/S) = 29.1063
STK GAS EXIT TEMP (K) = 427.6000
AMBIENT AIR TEMP (K) = 293.0000
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = RURAL
BUILDING HEIGHT (M) = .0000
MIN HORIZ BLDG DIM (M) = .0000
MAX HORIZ BLDG DIM (M) = .0000

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

STACK EXIT VELOCITY WAS CALCULATED FROM
VOLUME FLOW RATE = 18000.000 (ACFM)

BUOY. FLUX = 8.347 M**4/S**3; MOM. FLUX = 53.930 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.	.0000	1	1.0	1.0	320.0	109.78	3.06	3.04	NO
100.	6.171	4	20.0	20.0	6400.0	9.78	8.26	4.76	NO
200.	8.092	4	15.0	15.0	4800.0	11.59	15.69	8.73	NO
300.	6.776	4	10.0	10.0	3200.0	15.09	22.81	12.46	NO
400.	5.689	4	8.0	8.0	2560.0	17.72	29.69	15.72	NO
500.	4.709	4	8.0	8.0	2560.0	17.72	36.34	18.68	NO
600.	4.295	4	5.0	5.0	1600.0	25.61	43.14	22.05	NO
700.	3.842	4	4.5	4.5	1440.0	27.95	49.64	24.95	NO
800.	3.472	4	4.0	4.0	1280.0	30.87	56.08	27.82	NO
900.	3.162	4	3.5	3.5	1120.0	34.63	62.48	30.69	NO
1000.	2.917	4	3.5	3.5	1120.0	34.63	68.67	33.22	NO
1100.	2.694	4	3.0	3.0	960.0	39.64	74.98	35.57	NO
1200.	2.515	4	3.0	3.0	960.0	39.64	81.06	37.46	NO
1300.	2.348	4	3.0	3.0	960.0	39.64	87.10	39.30	NO
1400.	2.211	5	1.0	1.0	10000.0	64.86	71.33	31.81	NO
1500.	2.290	5	1.0	1.0	10000.0	64.86	75.68	32.82	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:
 151. 8.662 4 20.0 20.0 6400.0 9.78 12.15 6.82 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 TERRAIN HEIGHTS ENTERED FOR *
 * SIMPLE ELEVATED TERRAIN PROCEDURE *

TERRAIN HT (M)	DISTANCE RANGE (M)	
	MINIMUM	MAXIMUM
0.	1.	1500.

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	8.662	151.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

APPENDIX C
AIRS INFORMATION

