State of Idaho
Department of Environmental Quality
Air Quality Division

AIR QUALITY PERMIT
STATEMENT OF BASIS

Permit to Construct No. P-2008.0058

Final Draft

Gordon Paving Company, Inc.

ADM 225 T/hr Portable Hot Mix Asphalt Plant

Twin Falls, Idaho

Facility ID No. 777-00430

June 16, 2009

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Permit Writer

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01.et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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Acronyms, Units, and Chemical Nomenclature

acfm	actual cubic feet per minute
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
CFR	Code of Federal Regulations
CO	carbon monoxide
Cy/hr	cubic yard per hour
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
ft	feet
gal/hr	gallons per hour
gr/dscf	grains per dry standard cubic foot
HAP	hazardous air pollutants
HMA	hot mix asphalt
hr/yr	hours per consecutive 12-calendar month period
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometers
lb/hr	pounds per hour
m	meters
m/sec	meters per second
mg/dscm	milligrams per dry standard cubic meter
MMBtu/hr	million British thermal units per hour
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
PAH	polyaromatic hydrocarbons
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
PTC	permit to construct
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
scf	standard cubic feet
SIC	Standard Industrial Classification
SM	synthetic minor
SO_2	sulfur dioxide
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per any consecutive 12-calendar month period
UTM	Universal Transverse Mercator

1. FACILITY INFORMATION

1.1 Facility Description

This portable HMA plant that consists of aggregate and RAP pile and bin storage and handling, a drum mix dryer, a heated aboveground asphalt oil storage tank, and HMA conveyors, storage silos and truck load-out.

Stockpiled aggregate is transferred to feed bins. Aggregate may consist of up to 50 percent RAP with no effect on facility emissions. Aggregate is dispensed from the bins onto feeder conveyors, which transfer the aggregate to the drum mix dryer. Aggregate travels through the rotating drum dryer, and when dried, the aggregate is mixed with liquid asphalt cement. The resulting HMA is then conveyed to hot storage bins or silos until it can be loaded into trucks for transport off site.

1.2 Permitting Action and Facility Permitting History

This permit is the initial PTC for this facility.

2. APPLICATION SCOPE AND APPLICATION CHRONOLOGY

2.1 Application Scope

This permit to construct is for a portable hot mix asphalt plant initially located at 1310 Addison Ave. East, Twin Falls, Idaho.

2.2 Application Chronology

April 22, 2008	15-day PTC application received by DEQ
May 6, 2008	DEQ deemed the application complete
May 22, 2009	Modeling review complete
May 28, 2009	Facility Draft completed and sent for review
June 16, 2009	Processing Fee received
June 24, 2009	Final Permit issued

3. TECHNICAL ANALYSIS

3.1 Emission Unit and Control Device

Table 3.1 SUMMARY OF REGULATED EMISSIONS SOURCES

Permit Section	Source Description	Emissions Control
2	Hot Mix Asphalt Dryer (or equivalent[a]) Manufacturer: ADM Model: Milemaker series ™ MM225 – Counter-flow portable Manufacture date: March 2008 Maximum capacity: 75 MMBtu/hr Maximum production: 225 T/hr, 2,000 T/day, and 270,000 T/yr Fuel: 0.5% sulfur distillate fuel oil, natural gas, Reprocessed fuel oil, propane Maximum fuel usage rate: 382.5 gal/hr	Hot Mix Asphalt Dryer Baghouse (or equivalent[a]) Manufacturer: ADM. Model: BHP-585-9 Type: Pulse Jet PM/PM_{10} efficiency: 99.5%
2	Asphalt Tank Heater Fuel: 0.5% sulfur distillate fuel oil Maximum fuel usage rate: 14.6 gal/hr Heating capacity : 2.0 MMBtu/hr	None
2	Fuel Oil Storage Tank(s) Tank 1: 20,000-gallon capacity, above-ground tank Tank 2: 44,000-gallon capacity, above-ground tank	None
2	Scalping Screen Serial #: RB874-08 Equipment #: 7157 Construction Date: 2008 Rated Capacity: 24 sq ft Maximum operation: 1,200 hr/yr	None
2	Materials transfer points (includes fugitives) Aggregate dump to ground, Aggregate dump to conveyor, Aggregate conveyor to elevated storage	Minimized drop heights, water sprays, or equivalent control methods

3.2 Emissions Inventory

An emissions inventory for the HMA plant was calculated using DEQ worksheets. The emission inventory is based on emission factors from Section 11.1 of AP-42, the sources and emission controls descriptions summarized in Table 3.1, the fuel types summarized in Table 3.1, and the following operational limits: 225 T/hr, 5400 T/day and 270,000 T/yr maximum asphalt production.

The data available in AP-42 Section 11.1.1.3 does not discern differences in emissions between parallel-flow and counter-flow designs. As a result, recycled asphalt pavement (RAP) should be able to be processed at ratios up to 50% with little to no observed effect on emissions. This permit allows processing of design aggregate that is comprised of up to 50% RAP.

Table 3.2 CONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS POTENTIAL TO EMIT

Assumptions:
HMA: 225 T/hr, 5,400 T/day, 270,000 T/yr, 1,200 hrs/yr, 0.5%S fuel, AP-42 Table 11.1
Asphalt tank Heater: 2.0 MMBtu/hr, 4,608 hrs/yr, 0.5%S fuel, AP-42 Table 11.1

Emissions Unit	PM_{10}		SO_2		NOx		CO		VOC		LEAD
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr
Point Sources Affected by this Permitting Action											
Drum Dryer	5.18	3.11	13.05	7.83	12.38	7.43	29.25	17.55	7.20	4.32	3.38E-03
Asphalt Tank Heater	0.048	0.111	1.04	2.39	0.292	0.673	0.073	0.168	0.00812	0.0187	2.20E-05
Total, Point Sources	5.23	3.22	14.09	10.22	12.67	8.10	29.32	17.72	7.21	4.34	3.40E-03
Process Fugitive/Volume Sources Affected by this Permitting Action											
Load-out & silo filling	0.249	0.15	0.00	0.00	0.00	0.00	0.569	0.341	0.907	0.544	0.00
Total, Fugitives	0.25	0.15	0.00	0.00	0.00	0.00	0.57	0.34	0.91	0.54	0.00

Table 3.3 TAP AND HAP EMISSIONS SUMMARY

TAPs	HAPs	Emission Screening Level	Annual Average lb/hr
Acetaldehyde	Acetaldehyde	3.0E-03	4.01E-02
Benzene	Benzene	1.2E-01	1.20E-02
Formaldehyde	Formaldehyde	5.1E-04	7.34E-02
POM[a]	POM	2.0E-06	2.08E-05
Total PAH	Total PAH	2.0E-06	2.72E-02
Arsenic	Arsenic	4.3E-03	1.73E-05
Chromium VI	Chromium VI	5.6E-07	4.73E-04
Cadmium	Cadmium	3.7E-06	5.19E-04
Nickel	Nickel	2.7E-05	7.72E-03
Propionaldehyde[b]	Propionaldehyde	2.9E-02	2.93E-02
Quinone[b]	Quinone	2.7E-02	3.60E-02

a. Polycyclic Organic Matter. Sum of benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, enzo(a,h)anthracene, chrysene, indeno(1,2,3,-cd)pyrene.
b. The emission screening level and average are based on 24-hour rather than annually.

3.3 Ambient Air Quality Impact Analysis

Table 3.4 FULL IMPACT ANALYSIS RESULTS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Period	Facility Ambient Impact (µg/m3)	Background Concentration (µg/m^3)	Total Ambient Concentration (µg/m^3)	NAAQS (µg/m^3)	Percent of NAAQS
PM_{10}	24-hour	77	73	150	150	100.0%
NO_2	Annual	83	17	100	100	100.0%
SO_2	3-hr	1,266	34	1,300	1,300	100.0%
	24-hr	339	26	365	365	100.0%
	Annual	72	8	80	80	100.0%
CO	1-hour	36,400	3,600	40,000	40,000	100.0%
	8-hour	7,700	2,300	10,000	10,000	100.0%
Pb	Quarterly	1.47	0.03	1.5	1.5	100.0%

3.3.1 TAP Emissions Rates

Table 3.5 provides TAP emissions associated with operation of the proposed HMA. The table only includes those TAPs where total emissions exceeded emissions screening levels of Idaho Air Rules Section 585 and 586. Allowable impacts of carcinogenic TAPs may be 10 times the AACC if DEQ determines the facility uses T-RACT to control emissions. When T-RACT is used, DEQ has determined that compliance with a concentration of 10 times the AACCs is assured if emissions remain below 10 times the ELs. This approach is valid because conservative modeling was used to generate the emissions screening levels (ELs) of Idaho Air Rules Section 586, assuring that impacts are less than AACCs when emissions are less than ELs. Consequently, if emissions are below 10 times the ELs it is assured that impacts are below 10 times AACCs.

DEQ determined no additional control is T-RACT for non-particulate TAP emissions from the drum dryer, including acetaldehyde, benzene, formaldehyde, POM, and PAHs. Control by baghouse has previously been determined as meeting T-RACT for particulate TAP emissions.

Table 3.5 EMISSIONS RATES USED FOR TAPS IMPACT MODELING

TAPS	Emissions Rates (lb/hr)				
	DRYER	SILO	LOAD OUT	OILHEAT	Total
Acetaldehyde	0.0401	0.0	0.0	0.0	0.0401
Benzene	0.012	1.20E-04	6.67E-05	0.0	1.22E-02
Formaldehyde	0.0955	2.60E-03	1.13E-04	2.69E-05	9.82E-02
POM[a]	1.69E-05	2.08E-05	1.42E-05	7.68E-07	5.27E-05
Total PAH	0.0272	8.92E-4	6.23E-04	1.77E-04	2.89E-02
Arsenic	1.73E-05	0.0	0.0	1.01E-05	2.74E-05
Cadmium	1.26E-05	0.0	0.0	3.06E-06	1.57E-05
Chromium VI	1.39E-05	0.0	0.0	1.90E-06	1.58E-05
Nickel	1.94E-03	0.0	0.0	6.49E-04	2.59E-03
Propionaldehyde[b]	0.0293	0.0	0.0	0.0	0.0293
Quinone[b]	0.0360	0.0	0.0	0.0	0.0360

a. Polycyclic Organic Matter. Sum of benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, enzo(a,h)anthracene, chrysene, indeno(1,2,3,-cd)pyrene.
b. The emission rates based on 24-hour rather than annually.

3.4 Origin of Existing Emissions Limits

This is the initial PTC for the facility.

4. REGULATORY REVIEW

4.1 Attainment Designation (40 CFR 81.313)

The facility is portable, but may be operated only in areas designated as attainment or unclassifiable for PM_{10}, $PM_{2.5}$, CO, NO_2, SO_X, and Ozone. Reference 40 CFR 81.313.

4.2 Permit to Construct (IDAPA 58.01.01.201)

The proposed project does not meet the permit to construct exemption criteria contained in Sections 220 through 223 of the Rules. A PTC is therefore required.

4.3 Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

The HMA plant is classified as a synthetic minor facility because without limits on the potential to emit, the emissions of PM_{10}, CO, NOx, and SO_2 could each exceed the Title V major source threshold of 100 tons per year.

Compliance with permit conditions requiring the use of a baghouse on the drum dryer stack, and limits on HMA production and fuel sulfur content are used to demonstrate that the facility emissions will remain below Title V major source thresholds.

4.5 PSD Classification (40 CFR 52.21)

The HMA plant is not a designated facility as defined in IDAPA 58.01.01.006. Fugitive emissions are therefore not included in the facility's potential to emit (PTE) and the threshold for triggering prevention of significant deterioration (PSD) requirements is 250 tons per year of any regulated new source review (NSR) pollutant. The HMA plant is classified as a synthetic minor facility because without limits on the potential to emit, the emissions of PM_{10}, CO, NOx, and SO_2 could each exceed the PSD major source threshold of 250 tons per year.

Compliance with permit conditions requiring the use of a baghouse on the drum dryer stack, and limits on HMA production and fuel sulfur content are used to demonstrate that the facility emissions will remain below PSD major source thresholds.

4.6 NSPS Applicability (40 CFR 60)

40 CFR 60 Subpart I ..... Standards of Performance for Hot Mix Asphalt Facilities

40 CFR 60.90, Applicability.

(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

The affected facility for this drum mix HMA plant includes the drum dryer and systems for loading, transferring, and storing aggregate and RAP.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

The proposed HMA plant was manufactured in May 2008, and is therefore subject to Subpart I.

40 CFR 60.91, Definitions.

This section includes a single definition: *hot mix asphalt facility.*

40 CFR 60.92, Standard for Particulate Matter.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

(1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).

(2) Exhibit 20 percent opacity, or greater.

Permit Condition 2.3 includes the requirements of this section.

40 CFR 60.93, Test Methods and Procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in §60.92 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).

(2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

Permit Condition 2.3 includes the requirements of this section.

40 CFR 60 Subpart Kb..... Standards of Performance for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for which construction, reconstruction, or modification commenced after July 23, 1984.

40 CFR 60.110b, Applicability and designation of affected facility

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

The maximum true vapor pressure of distillate fuel oils ranges between 2 and 20 millimeters of mercury (0.27 to 2.7 kPa).[1] The vapor pressure of used oils is typically lower than for distillate fuel oils. The fuel oil storage tanks at this HMA plant store liquids with a maximum true vapor pressure less than 3.5 kPa.

Fuel oil storage Tank 1 has a capacity of 20,000 gallons (about 75.7 m^3), and is not subject to Subpart Kb in accordance with 60.110b(b).

[1] OSHA Standard Analytical Methods, Petroleum Distillate Fractions, accessible at http://www.osha.gov/dts/sltc/methods/organic/org048/org048.html

Fuel oil storage Tank 2 has a capacity of 44,000 gallons (about 167 m^3), and is not subject to Subpart Kb in accordance with 60.110b(b).

(c) [Reserved]

(d) This subpart does not apply to the following:

(1) Vessels at coke oven by-product plants.

(2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.

(3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.

Propane tanks are designed to operate at high pressures ranging from 10 psig to 200 psig (about 69 kPa to 1,380 kPa). Fuel oil storage Tank 2 has a capacity of 44,000 gallons (about 167 m^3), and is not subject to Subpart Kb in accordance with 60.110b(b).

http://www.propane101.com/regulators.htm

4.7 NESHAP Applicability (40 CFR 61)

The facility is not subject to NESHAP.

4.8 MACT Applicability (40 CFR 63)

The facility is not subject to MACT standards.

4.9 CAM Applicability (40 CFR 64)

The facility is not applicable to CAM.

4.10 Permit Conditions Review

This section describes the permit conditions for this initial permit.

New Permit Condition 2.4
Emissions from any baghouse stack or from any stack, vent, or other functionally equivalent opening associated with the HMA plant shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required in IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Discussion
This permit condition limits opacity from point sources as required by IDAPA 58.01.01.625.

New Permit Condition 2.5

- In accordance with 40 CFR 60.92, no owner or operator shall discharge or cause the discharge into the atmosphere from any HMA facility any gases which:
  - contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf);
  - exhibit 20 percent opacity, or greater.

Discussion
These emission limits are required by NSPS subpart I. Refer to Section 4.5 for additional information.

New Permit Condition 2.6
The emissions from the HMA Dryer stack shall not exceed any corresponding emission rate limits listed in Table 2.2.

Table 2.2 HMA DRYER EMISSION LIMITS[1]

Source Description	PM_{10}[2]	
	lb/hr[3]	T/yr[4]
HMA Dryer stack	5.18	3.11

1) In absence of any other credible evidence, compliance is assured by complying with this permit's operating, monitoring and recordkeeping requirements.
2) Particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006.81.
3) Pounds per hour on a 24-hour basis, as determined by a test method prescribed by IDAPA 58.01.01.157 or DEQ-approved alternative.
4) Tons per any consecutive 12-calendar month period.

Discussion

PM_{10} emission limits are required to demonstrate compliance with NAAQS (lb/hr and T/yr) and to maintain synthetic minor classification (T/yr).

New Permit Condition 2.6

The permittee shall comply with the minimum setback distances listed in Table 2.3, and the daily and annual production rates shall not exceed the values shown in Table 2.3. The setback distance shall be defined as the minimum distance in any direction from the location of the hot mix asphalt plant stack to the property boundary.

The HMA plant shall process aggregate, asphalt cement, and recycled asphalt cement (RAP) as raw materials. RAP used as part of the aggregate shall not exceed 50 percent of the total HMA production in tons per calendar day.

Table 2.3 HMA PLANT PRODUCTION LIMITS AND SETBACK DISTANCES

HMA Production Limits		Setback Distance (ft)
Daily HMA production	5,400 T/day	130
Annual HMA production	270,000 T/yr[a]	

a. T/yr is defined as tons of material processed per consecutive 12-calendar month period

Discussion

Daily (T/day) and annual (T/yr) throughput requirements are required to demonstrate compliance with the 24-hr and annual PM_{10} NAAQS. Daily RAP throughput limits are required based on the assumptions used in the development of the emissions inventory.

A setback distance from the property boundary was used in the ambient air quality impact analysis to demonstrate preconstruction compliance with NAAQS and TAP standards. Because the equipment is portable and the location may be changed from its initial location, compliance with a minimum equipment setback distance limit is required.

New Permit Condition 2.7

The permittee shall comply with an annual operational limit of 4,608 hr/yr.

Discussion
This limit of operational hours was added because that was defined in the emissions inventory and used when applying generic modeling.

New Permit Condition 2.8
All reasonable precautions shall be taken to prevent particulate matter from becoming airborne in accordance with IDAPA 58.01.01.650-651 and IDAPA 58.01.01.808. In determining what is reasonable, consideration will be given to factors such as the proximity of dust-emitting operations to human habitations and/or activities and atmospheric conditions that might affect the movement of PM. Some of the reasonable precautions include, but are not limited to, the following:

- Good operating practices, including water spraying or other suitable measures, shall be employed to prevent dust generation and atmospheric entrainment during operations such as stockpiling, screen changing and general maintenance.
- Use, where practical, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of lands.
- Application, where practical, of asphalt, oil, water, or suitable chemicals to, or covering of, dirt roads, material stockpiles, and other surfaces which can create dust.
- Installation and use, where practical, of hoods, fans, and fabric filters or equivalent systems to enclose and vent the handling of dusty materials. Adequate containment methods should be employed during sandblasting or other operations.
- Covering, where practical, of open-bodied trucks transporting materials likely to give rise to airborne dusts.
- Paving of roadways and their maintenance in a clean condition, where practical.
- Prompt removal of earth or other stored material from streets, where practical.

Discussion
Reasonable control of fugitive emissions is required by IDAPA 58.01.01.650-651 and IDAPA 58.01.01.808.

New Permit Conditions 2.9
The HMA Dryer shall combust only natural gas, propane, ASTM Grade 1 and Grade 2 distillate fuel oil meeting the specifications of Permit Condition **Error! Reference source not found.**, or reprocessed fuel oil (RFO) meeting the specifications of Permit Conditions **Error! Reference source not found.** and **Error! Reference source not found.**. The asphalt tank heater shall combust only Grade 2 distillate fuel oil also meeting specifications of Permit Condition 2.11.

Discussion
Fuel type requirements for the dryer, asphalt tank heater, and the generators are required based on the assumptions used in the development of the emissions inventory provided in the application.

New Permit Condition 2.10
The permittee shall comply with the applicable requirements of 40 CFR 279, Subpart B – Used Oil Specifications.

- In accordance with 40 CFR 279.11, with the exception of total halogens which are limited to 1,000 ppm, used oil burned for energy recovery shall not exceed any of the allowable levels of the constituents and property listed in Table 2.4. In addition, used oil shall not contain quantifiable levels (2 ppm) of polychlorinated biphenyls (PCB).

Table 2.4 USED OIL SPECIFICATIONS[1]

Constituent/property	Allowable level
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flash point	100 deg. F minimum
Total halogens	1,000 ppm maximum
PCBs[2]	< 2 ppm

1) The specification does not apply to mixtures of used oil and hazardous waste that continue to be regulated as hazardous waste (see 40 CFR 279.10(b)).
2) Applicable standards for the burning of used oil containing PCB are imposed by 40 CFR 761.20(e)

Discussion
These specifications are required by 40 CFR 279, Subpart B.

New Permit Condition 2.11
- No person shall sell, distribute, use, or make available for use any distillate fuel oil containing more than the following percentages of sulfur in accordance with IDAPA 58.01.01.725-728:
  - ASTM Grade 1 fuel oil - 0.3% by weight.
  - ASTM Grade 2 fuel oil - 0.5% by weight.
- The permittee shall not use any RFO containing more than 0.5% sulfur by weight.

Discussion
The ASTM fuel sulfur content requirements are required by IDAPA 58.01.01.728. The additional fuel sulfur requirements for RFO fuel are based on the assumptions used in the development of the emissions inventory provided in the application.

New Permit Condition 2.12
The permittee shall not allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids into the atmosphere in such quantities as to cause air pollution in accordance with IDAPA 58.01.01.776.01.

Discussion
This permit condition limits odors from the facility as required by IDAPA 58.01.01.776.01.

New Permit Condition 2.13
The permittee shall install and operate the HMA dryer baghouse to control PM and PM_{10} from the HMA plant and to demonstrate compliance with the emission limits in Permit Condition 2.3 and 2.5.

Discussion
The requirement to install and operate baghouse/cartridge filter system control devices is required to demonstrate compliance with the 24-hr and annual PM_{10} NAAQS, and to limit emissions below the major source threshold for PM_{10} (refer to Section 4.3).

New Permit Condition 2.14
Within 60 days of initial startup of the HMA plant, the permittee shall have developed a Baghouse System Procedures document for the inspection and operation of the HMA dryer baghouse. The Baghouse System Procedures document shall be a permittee developed document independent of the manufacturer supplied operating manual but may include summaries of procedures in the manufacturer supplied operating manual.

At a minimum the following items shall be included in the Baghouse/Filter System Procedures

document;

- Procedures for inspecting and maintaining the HMA dryer baghouse in accordance with Permit Condition 2.16 and to comply with General Provision 2.
- Schedule and procedures for corrective action that will be taken if visible emissions are present from the HMA dryer baghouse at any time, including procedures to determine whether bags or cartridges are ruptured, and procedures to determine if bags or cartridges are not appropriately secured in place.
- The manufacturer's recommended values that shall be maintained for pressure drop across the HMA dryer baghouse, in inches of water.
- The manufacturer name and model, the maximum capacity (yd^3/hr and T/hr), the fuel consumption (gal/hr), the PM_{10} control efficiency, and the stack parameters for any equivalent equipment used in place of the equipment listed in Table 1.1.

The Baghouse System Procedures document shall remain onsite at all times and shall be made available to DEQ representatives upon request.

The operation and monitoring requirements specified in the Baghouse/Filter System Procedures document are incorporated by reference to this permit and are enforceable permit conditions.

Discussion
A Baghouse System Procedures document is required to maintain the baghouse control efficiency rating used in the development of the emissions inventory, in order to demonstrate compliance with the 24-hr and annual PM_{10} NAAQS.

New Permit Condition 2.15
Each month the permittee shall conduct a site-wide inspection of potential sources of visible emissions; including any stack, vent, or other functionally equivalent opening; during daylight hours and under normal operating conditions, to demonstrate compliance with Permit Condition 2.4. The inspection shall consist of a see/no see evaluation for each potential source. If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in accordance with IDAPA 58.01.01.130-136.

The permittee shall maintain records of the results of each visible emissions inspection and each opacity test when conducted. The records shall include, at a minimum, the date and results of each inspection and test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken. All records shall be maintained on-site for a period of 5 years and shall be made available to DEQ representatives upon request.

Discussion
Monitoring for visible emissions from point sources is required to demonstrate compliance with IDAPA 58.01.01.625 (Permit Condition 2.3).

New Permit Condition 2.16
Each day the permittee shall conduct a site-wide inspection of potential sources of fugitive emissions, during daylight hours and under normal operating conditions to ensure that the methods used to reasonably control fugitive emissions are effective, to demonstrate compliance with Permit Condition

2.8. If fugitive emissions are not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee shall maintain records of the results of each fugitive emissions inspection. The records shall include, at a minimum, the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time fugitive emissions were present (if observed), any corrective action taken in response to the fugitive emissions, and the date the corrective action was taken.

Discussion
Monitoring for visible emissions from fugitive sources is required to demonstrate compliance with IDAPA 58.01.01.650-651 and IDAPA 58.01.01.808 (Permit Condition 2.8).

New Permit Condition 2.17
The permittee shall monitor and record the daily production on a daily basis and the annual production on a monthly basis to demonstrate compliance with Permit Condition 2.6. Annual production shall be determined by summing each monthly production total over the previous consecutive 12-calendar month period. The recycled asphalt pavement usage shall be monitored and recorded on a daily basis, in tons per calendar day, to demonstrate compliance with Permit Condition 2.6.

Discussion
Monitoring and recordkeeping are required to demonstrate compliance with throughput limits (Permit Condition 2.6).

New Permit Condition 2.18
The permittee shall physically measure and record the minimum setback distance to demonstrate compliance with the setback limits in Permit Condition 2.6:

- Before initial startup of any emissions source listed in Table 1.1;
- Each time any emissions source listed in Table 1.1 is relocated in accordance with IDAPA 58.01.01.500; and
- Any time any emissions source listed in Table 1.1 is changed in such a way that the minimum setback distance is reduced compared to previous operations at that location.

Information recorded shall include, but not be limited to, a brief description of the nearest distance to any area where the general public has access, and the minimum setback distance in meters or feet to an accuracy of plus or minus 1.8 meters (6 feet).

Discussion
Monitoring and recordkeeping of the setback distance is required to demonstrate compliance with Permit Condition 2.6.

New Permit Condition 2.19
The permittee shall demonstrate compliance with the used oil fuel specifications in Permit Condition 2.10 by obtaining a used oil fuel certification from the used oil fuel supplier on an as-received basis for each shipment or by having the fuel analyzed by a qualified laboratory. The certification shall include the following information:

- The name and address of the used oil supplier;
- The measured concentration, expressed as ppm, of each constituent listed in Table 2.4;
- The flash point of the used oil expressed as degrees Fahrenheit;
- The analytical method or methods used to determine the concentration of each constituent and property (flash point) listed in Table 2.4;

- The date and location of each sample; and
- The date of each certification analysis.

Discussion
Monitoring and recordkeeping of used oil fuel specifications is required to demonstrate compliance with Permit Condition 2.10.

New Permit Condition 2.20
The permittee shall maintain documentation of supplier verification of fuel oil and used oil sulfur content on an as-received basis to demonstrate compliance with Permit Condition 2.11.

Discussion
Monitoring and recordkeeping of fuel oil sulfur content is required to demonstrate compliance with Permit Condition 2.11.

New Permit Condition 2.21
The permittee shall maintain records of all odor complaints received to demonstrate compliance with Permit Condition 2.12. The permittee shall take appropriate corrective action as expeditiously as practicable. The records shall include, at a minimum, the date each complaint was received and a description of the following: the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Discussion
Monitoring and recordkeeping of odor complaints is required to demonstrate compliance with IDAPA 58.01.01.776.01 (Permit Condition 2.12).

New Permit Condition 2.22
The permittee shall maintain records of the results of each baghouse system inspection in accordance with General Provision 7. The records shall include a description of whether visible emissions were present and if visible emissions were present a description of the corrective action that was taken to demonstrate compliance with Permit Conditions 2.13 and 2.14.

Discussion
Maintenance monitoring and maintenance is necessary to demonstrate compliance with Permit Conditions 2.13 and 2.14.

New Permit Condition 2.23
Performance testing on the HMA Dryer Baghouse stack shall be performed within 60 days after achieving the maximum permitted production rate in Permit Condition 2.6, but not later than 180 days after initial startup of the HMA plant, in accordance with 40 CFR 60.8.

The initial performance test shall measure the PM emission rate in grains per dry standard cubic feet and the opacity to demonstrate compliance with the emission limits in Permit Condition 2.5.

The performance test shall be conducted under worst-case normal operating conditions and in accordance with 40 CFR 60.93, 60.8, and 60.11; Permit Conditions 2.5, 2.26, and 2.27; and General Provision 6 of this permit. The permittee is encouraged to submit a performance testing protocol for approval 30 days prior to conducting the performance tests.

Each performance test shall consist of three separate runs using the applicable test method in accordance with 40 CFR 60.8(f).

Discussion
Performance testing is required to demonstrate compliance with Permit Condition 2.4, and NSPS subpart I. Refer to Section 4.5 for additional information.

New Permit Condition 2.24
Performance testing on the HMA Dryer Baghouse stack shall be performed no less than once every five (5) years following the date of the initial performance test required by Permit Condition 2.23, and continued on that five (5) year schedule thereafter.

The performance test shall measure the PM_{10} emission rate in pounds per hour and the opacity to demonstrate compliance with Permit Conditions 2.3 and 2.4.

The performance test shall be conducted under worst-case normal operating conditions and in accordance with IDAPA 58.01.01.157; Permit Conditions 2.3, 2.4, 2.26, and 2.28; and General Provision 6 of this permit. The permittee is encouraged to submit a performance testing protocol for approval 30 days prior to conducting the performance tests.

Discussion
Performance testing is required to demonstrate compliance with Permit Conditions 2.3 and 2.4.

New Permit Condition 2.25
The permittee shall monitor and record the following during each performance test:

- The HMA production rate, in tons per hour, once every 15 minutes;
- The recycled asphalt pavement usage in tons per hour, once every 15 minutes;
- The type of fuel combusted in the HMA Dryer; and
- The visible emissions observed during the performance test.

Discussion
Monitoring and recordkeeping of performance test parameters is required to demonstrate compliance with Permit Conditions 2.24 and 2.25; and General Provision 6.

New Permit Condition 2.26
The permittee shall comply with the applicable requirements of 40 CFR 60, Subpart I – Standards of Performance for Hot Mix Asphalt Facilities and Subpart A – General Provisions.

- In accordance with 40 CFR 60.93(b) and 60.11(b), the permittee shall determine compliance with the particulate matter standards in Permit Condition 2.5 as follows:

- EPA Reference Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).
- EPA Reference Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

- In accordance with 40 CFR 60.93(a), in conducting performance tests, the permittee shall use as reference methods and procedures the test methods in 40 CFR 60 Appendix A.

Discussion
Test method and procedure requirements are required by NSPS subpart I. Refer to Section 4.5 for additional information.

New Permit Condition 2.27
The permittee shall use EPA Method 5 and 202 or such comparable and equivalent methods approved in accordance with Subsection 157.02.d to determine compliance with the particulate matter standard in Permit Condition 2.3 in accordance with IDAPA 58.01.01.700.04.

The permittee shall use EPA Method 9 to determine compliance with the opacity matter standard in Permit Condition 2.4 in accordance with IDAPA 58.01.01.625.04.

Discussion
Test method and procedure requirements are required in accordance with IDAPA 58.01.01.700 and IDAPA 58.01.01.625.

New Permit Condition 2.28
Performance test reports shall include records of the monitoring required by Permit Condition 2.26, and documentation that the performance test was conducted in accordance with Permit Conditions 2.24 and/or 2.25. Performance test reports shall be submitted by the permittee to the following address:

Air Quality Permit Compliance
Boise Regional Office
Department of Environmental Quality
1445 N. Orchard St
Boise, ID 83706

Phone: (208) 373-0550
Fax: (208) 373-0287

Discussion
Performance test reporting is required to demonstrate compliance with General Provision 6.

New Permit Condition 2.29
At least 10 days prior to relocation of any equipment listed in Table 1.1, the permittee shall submit a scaled plot plan and a complete Portable Equipment Relocation Form (PERF) in accordance with IDAPA 58.01.01.500, to the following address or fax number:

PERF Processing Unit
DEQ– Air Quality
1410 N. Hilton
Boise, ID 83706-1255

Phone: (208) 373-0502
Fax: (208) 373-0340

The scaled plot plan shall show the location of any emissions source listed in Table 1.1, and distances to

any area outside of a building where the general public has access, including property boundaries.

Electronic copies of the PERF may be obtained from the DEQ website;

http://www.deq.idaho.gov/air/permits_forms/forms/ptc_relocation.pdf
http://www.deq.idaho.gov/air/permits_forms/forms/ptc_relocation.doc

Discussion

Relocation notification is required to demonstrate compliance with IDAPA 58.01.01.500.

New Permit Condition 2.30

The permittee shall comply with the applicable requirements of 40 CFR 60, Subpart A – General Provisions.

Table 2.5 SUBPART A – GENERAL PROVISIONS

Section	Section Title	Summary of Section Requirements
60.4	Address	• All notifications and reports shall be submitted to: Department of Environmental Quality Twin Falls Regional Office 1363 Fillmore St. Twin Falls, ID 83301
60.7(a),(b),(c), (d) and (f)	Notification and Record Keeping	• Notification shall be furnished of commencement of construction postmarked no later than 30 days of such date. • Notification shall be furnished of initial startup postmarked within 15 days of such date. • Notification shall be furnished of any physical or operational change that may increase emissions postmarked 60 days before the change is made. • Records shall be maintained of the occurrence and duration of any startup, shutdown or malfunction; any malfunction of the air pollution control equipment; or any periods during which a CMS or monitoring device is inoperative. • Records shall be maintained, in a permanent form suitable for inspection, of all measurements, performance testing measurements, calibration checks, adjustments and maintenance performed, and other required information. Records shall be maintained for a period of two years following the date of such measurements, maintenance, reports, and records.
60.8	Performance Tests	• At least 30 days prior notice of any performance test shall be provided to afford the opportunity to have an observer to be present. • Within 60 days of achieving the maximum production rate, but not later 180 days after initial startup, performance test(s) shall be conducted and a written report of the results of such test(s) furnished. • Performance testing facilities shall be provided as follows: Sampling ports adequate for test methods applicable to such facility. Safe sampling platform(s). Safe access to sampling platform(s). Utilities for sampling and testing equipment. • Performance tests shall be conducted and data reduced in accordance with 40 CFR 60.8(b), (c), and (f).
60.11(a), (d), (f), and (g)	Compliance with Standards and Maintenance Requirements	• When performance tests are required, compliance with standards is determined by methods and procedures established by 40 CFR 60.8. • At all times, including periods of startup, shutdown, and malfunction, the owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. • For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.
60.12	Circumvention	• No permittee shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard.
60.14	Modification	• A physical or operational change which results in an increase in the emission rate to the atmosphere or any pollutant to which a standard applies shall be considered a modification, and upon modification an existing facility shall become an affected facility in accordance with the requirements and exemptions in 40 CFR 60.14. • Within 180 days of the completion of any physical or operational change, compliance with all applicable standards must be achieved.
60.15	Reconstruction	An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate in accordance with the requirements of 40 CFR 60.15.

Discussion
A summary of applicable General Provisions required by NSPS Subpart A is included. Refer to Section 4.5 and Subpart A for additional information.

New Permit Condition 2.31
The permittee shall not relocate and operate any equipment listed in Table 1.1 in any $PM_{2.5}$ or PM_{10} nonattainment area.

Contact DEQ for current nonattainment area status and more specific details about the nonattainment area boundaries. The geographical locations of nonattainment areas in Idaho may be found online at: http://www.deq.idaho.gov/air/data_reports/monitoring/overview.cfm#AttvNon.

Discussion
A demonstration of compliance with nonattainment area requirements was not provided in the application, and operation in nonattainment areas was not requested.

New Permit Condition 2.32
The emission sources listed in Table 1.1 may not co-locate with any other emissions sources, except for one (1) permitted rock crushing facility. The emission sources listed in Table 1.1 shall not operate concurrently with the permitted rock crushing facility. Emissions sources are considered co-locating if they are located and operate within 1,000 feet (305 meters) of each other.

Discussion
Co-location as defined by this permit is collocation with any emission source not listed in Table 1.1, which was not considered in the ambient air impact analysis included in the application, and for which compliance with the applicable NAAQS has not been demonstrated.

New Permit Condition 2.33
Unless expressly provided otherwise, any reference in this permit to any document identified in IDAPA 58.01.01.107.03 shall constitute the full incorporation into this permit of that document for the purposes of the reference, including any notes and appendices therein. Documents include, but are not limited to:

- Standards of Performance for New Stationary Sources (NSPS), 40 CFR Part 60

For permit conditions referencing or cited in accordance with any document incorporated by reference (including permit conditions identified as NSPS or NESHAP), should there be any conflict between the requirements of the permit condition and the requirements of the document, the requirements of the document shall govern, including any amendments to that regulation.

Discussion
The condition states that if there is any confusion in the verbiage of the permit and NSPS regulation, the EPA rules shall govern.

5. PERMIT FEES

Table 5.1 lists the processing fee associated with this permitting action. The facility is subject to a processing fee of $7,500 because its permitted emissions are 45.06 T/yr. Refer to the chronology for fee receipt dates.

Table 5.1 PROCESSING FEE TABLE

Emissions Inventory			
Pollutant	**Annual Emissions Increase (T/yr)**	**Annual Emissions Reduction (T/yr)**	**Annual Emissions Change (T/yr)**
NO_X	8.1	0	8.1
SO_2	10.22	0	10.22
CO	17.72	0	17.72
PM_{10}	3.22	0	3.22
VOC	4.34	0	4.34
HAPS	1.46	0	1.46
Total:	**45.06**	**0**	**45.06**
Fee Due	**$7,500.00**		

6. PUBLIC COMMENT

An opportunity for public comment period on the PTC application was provided from May 14 through May 28, 2008 in accordance with IDAPA 58.01.01.209.01.c. During this time, there were no comments on the application and there was no request for a public comment period on DEQ's proposed action.

Appendix A – AIRS Information

AIRS/AFS Facility-wide Classification Form

Facility Name: Gordon Paving Company Inc.

Facility Location: 1310 Addison Ave. West

Facility ID: 777-00430 **Date:** June 16, 2009

Project/Permit No.: P-2008.0058 **Completed By:** Eric Clark

☐ Check if there are no changes to the facilitywide classification resulting from this action. (compare to form with last permit)

☒ Yes, this facility is an SM80 source.

Identify the facility's area classification as A (attainment), N (nonattainment), or U (unclassified) for the following pollutants:

	SO2	PM10	VOC	
Area Classification:	U	U	U	DO NOT LEAVE ANY BLANK

Check one of the following:

☒ **SIP** [0] - Yes, this facility is subject to SIP requirements. (do not use if facility is Title V)

OR

☐ **Title V** [V] - Yes, this facility is subject to Title V requirements. (If yes, do not also use SIP listed above.)

For SIP or TV, identify the classification (A, SM, B, C, or ND) for the pollutants listed below. Leave box blank if pollutant is not applicable to facility.

	SO2	NOx	CO	PM10	PT (PM)	VOC	THAP
Classification:	**SM**	**B**	**SM**	**SM**	**SM**	**B**	**B**

☐ **PSD** [6] - Yes, this facility has a PSD permit.

If yes, identify the pollutant(s) listed below that apply to PSD. Leave box blank if pollutant does not apply to PSD.

	SO2	NOx	CO	PM10	PT (PM)	VOC	THAP
Classification:	☐	☐	☐	☐	☐	☐	☐

☐ **NSR - NAA** [7] - Yes, this facility is subject to NSR nonattainment area (IDAPA 58.01.01.204) requirements.

Note: As of 9/12/08, Idaho has no facility in this category.

If yes, identify the pollutant(s) listed below that apply to NSR-NAA. Leave box blank if pollutant does not apply to NSR - NAA.

	SO2	NOx	CO	PM10	PT (PM)	VOC	THAP
Classification:	☐	☐	☐	☐	☐	☐	☐

☐ **NESHAP** [8] - Yes, this facility is subject to NESHAP (Part 61) requirements. (THAP only)

If yes, what CFR Subpart(s) is applicable?

☒ **NSPS** [9] - Yes, this facility is subject to NSPS (Part 60) requirements.

If yes, what CFR Subpart(s) is applicable? A, I

If yes, identify the pollutant(s) regulated by the subpart(s) listed above. Leave box blank if pollutant does not apply to the NSPS.

	SO2	NOx	CO	PM10	PT (PM)	VOC	THAP
Classification:	☐	☐	☐	☐	☒	☐	☐

☐ **MACT** [M] - Yes, this facility is subject to MACT (Part 63) requirements. (THAP only)

If yes, what CFR Subpart(s) is applicable?

Appendix B – Emissions Inventory

CURRENT PTC APPLICATION ESTIMATES

DEQ Verification Worksheets: Hot Mix Asphalt (HMA) Drum Mix Facility Data			
Facility ID/AIRS No.	777-00430	Spreadsheet Date	5/21/2009 15:17
Permit No.	P-2008.0058	DEQ Version Date	5/13/2009
Facility Owner/Company Name:	GORDON PAVING COMPANY		
Address:	TWIN FALLS	Processing Fee	PTE (T/YR)
City, State, Zip:	PORTABLE	$7,500	43.59
Facility Contact:	ROBERT HANSEN		
Contact Number/ e-mail:	(208) 733-1800	gordonpavingrob@gmail.com	
		Include Silo Fill & Loadout Emissions?	Y
Use Short Term Source Factor on 586 ELs? Y/N	N	Use T-RACT on 586 AACC? Y/N	N
Hot Mix Plant AP-42 Section 11.1)	**Input (Bold Color) or Calculated Value (Black)**	**Fuel Type(s)**	**Fuel Type Toggle ("0" or "1")**
Drum Dryer Make/Model	ADM MM25	Distallate (#2) Fuel Oil	1
Rated heat input capacity, MMBtu/hr	75	Used Oil or RFO4 Oil	1
Drum Dryer Hourly HMA Production, Tons/hour	225	Natural Gas	1
Max Production Per day, Tons per day (24-hr/day)	5,400	LPG or Propane	1
Max Annual HMA Production, Tons/year	270,000	Default #2 fuel oil and used oil sulfur	0.5%
Min Hours of operation per year (annual/max hourly productio	1,200	Distillate Fuel Oil Max Sulfur Content	0.500%
		Used Oil/RFO4 Oil Max Sulfur Content	0.500%

Asphalt Tank Heater AP-42, Section 11.1 (oil or natural gas fuel), or Section 1.4 (natural gas fuel)			
Rated heat input capacity, MMBtu/hr	2.000	**Fuel Type(s)**	**Fuel Toggle**
Hours of operation per day	24	#2 Fuel Oil	1
Operation, days per year	192.00	Fuel oil sulfur content	0.500%
Max Hours of operation per year	4,608	Natural Gas	0

Tank Heater Fuel Consumption	#2 Fuel Oil	Natural Gas
Heat Input Rating, MMBtu/hr	2.000	2.000
Fuel Heating Value, Btu/gal (oil) or Btu/scf (gas)	137,030	1,020
Heating Value Correction for Natural Gas EFs, see Note	n/a	1.000
Theoretical Max Fuel Use Rate gal/hr [oil] or scf/hr [gas]	14.60	1,961
Max Operational Hours per Year	4,608	4,608
Note: AP-42 EFs for natural gas and diesel combustion are based on heat value of 1,020 Btu/scf and 137,030 Btu/ga		

Generator EI Conversion Factors

1 hp = 0.7456999 kW	0.7457	1 lb = (g)	453.59
Avg brake-specific fuel consumption (BSFC) = 7000 Btu/hp-hr	7000	Fuel Heating Value, Btu/gal	137,030
Note: AP-42 Tables 3.3-x,3.4-x: avg diesel heating value is based on 19,300 Btu/lb with density equal 7.1 lb/gal=> Btu/gal =			137,030

G1 Electrical Generator < 600 hp (447 kW) AP-42 Section 3.3 (diesel fueled)			
Generator Make/Model	make/model	**Fuel Type(s)**	**Generator Toggle**
Generator Rated Capacity (kW)	0	#2 Fuel Oil (Diesel)	0
Generator Rated Capacity (hp)	0	Max Sulfur weight percent (w/o)	0.050%
EPA Certification:	0	Max Operational Hours/Day	0
Not EPA-certified: Enter "0" (zero)		Max Operational Hours/Year	0
Certified Tier I, Tier 2, or Tier 3: Enter 1, 2, or 3		Calculated Max Fuel Use Rate, gal/hr	0.00
Certified "BLUE SKY" engine: Enter 4		Calculated MMBtu/hr	0.00

G2 Electrical Generator > 600 hp (447 kW) AP-42 Section 3.4 (diesel fueled)			
Generator Make/Model	make/model	**Fuel Type(s)**	**Generator Toggle**
Generator Rated Capacity (kW)	560	#2 Fuel Oil (Diesel)	0
Generator Rated Capacity (hp)	751	Max Sulfur weight percent (w/o)	0.050%
EPA Certification:	0	Max Operational Hours per Day	0
Not EPA-certified: Enter "0" (zero)		Max Operational Hours per Year	0
Certified Tier I, Tier 2, or Tier 3: Enter 1, 2, or 3		Calculated Max Fuel Use Rate, gal/hr	38.36
Certified "BLUE SKY" engine: Enter 5		Calculated MMBtu/hr	5.26

Figure B.1 - General information of the Hot Mix Asphalt plant

Facility: GORDON PAVING COMPANY
5/21/2009 15:17 **Permit/Facility ID:** P-2008.0058 777-00430

EMISSION INVENTORY
POUNDS PER HOUR

Max Controlled Emissions of Any Pollutant from Drum Mix HMA Plant Fabric Filter, Tank Heater, Generator, Silo Fill/Load-out

A. Drum Mix Plant: **225** Tons/hour 1,200 Hours/year **270,000** Tons/year **5,400** Tons/day
Maximum emission for each pollutant from any fuel-burning options selected on "Facility Data" worksheet. Fuels Selected = #2 Fuel Oil Used Oil Natural Gas LPG/Propane
B. Tank Heater: **2.0000** MMBtu/hr **4,608** Hours/year **24** hrs/day
Maximum emission for each pollutant for heater burning any fuel selected on "Facility Data" worksheet. Fuels Selected = #2 Fuel Oil
C1. Generator G1: **0.00** gal/hour **0** Hours/year Generator < 600hp #2 Fuel Oil **0** hrs/day
C2. Generator G2: **0.00** gal/hour **0** Hours/year Generator > 600hp #2 Fuel Oil **0** hrs/day

Pollutant	**A** Drum Mix Max Emission Rate for Pollutant (lb/hr)	**B** Asphalt Tank Heater Max Emission Rate for Pollutant (lb/hr)	**C** Generator G1 + G2 Max Emission Rate for Pollutant (lb/hr)	**D** Load-out & Silo Filling Emission Rate for Pollutant (lb/hr)	**E TOTAL** of Max Emission Rates from A, B, C & D (lb/hr)
PM (total)	7.43	4.82E-02	0.00E+00	2.49E-01	7.72
PM-10 (total)	5.18	4.82E-02	0.00E+00	2.49E-01	5.47
P.M.-2.5	0.00	0.00E+00	0.00E+00	0.00E+00	0.00
CO	28.25	7.30E-02	0.00E+00	5.69E-01	29.89
NOx	12.38	2.92E-01	0.00E+00		12.67
SO_2	13.05	1.04E+00	0.00E+00		14.09
VOC	7.20	8.12E-03	0.00E+00	9.07E-01	8.12
Lead	3.38E-03	2.20E-05	0.00E+00		3.40E-03
HCl*	4.73E-02	0.00E+00	0.00E+00		4.73E-02
Dioxins*					
2,3,7,8-TCDD	6.47E-12				**6.47E-12**
Total TCDD	2.87E-11				**2.87E-11**
1,2,3,7,8-PeCDD	9.55E-12				**9.55E-12**
Total PeCDD	6.78E-10				**6.78E-10**
1,2,3,4,7,8-HxCDD	1.29E-11	5.30E-12			**1.82E-11**
1,2,3,6,7,8-HxCDD	4.01E-11				**4.01E-11**
1,2,3,7,8,9-HxCDD	3.02E-11	5.83E-12			**3.60E-11**
Total HxCDD	3.70E-10				**3.70E-10**
1,2,3,4,6,7,8-Hp-CDD	1.48E-10	1.15E-10			**2.63E-10**
Total HpCDD	5.86E-10	1.54E-10			**7.39E-10**
Octa CDD	7.71E-10	1.23E-09			**2.00E-09**
Total PCDD^	2.43E-09	1.54E-09			**3.97E-09**
Furans*					
2,3,7,8-TCDF	2.99E-11				**2.99E-11**
Total TCDF	1.14E-10	2.53E-11			**1.39E-10**
1,2,3,7,8-PeCDF	1.33E-10				**1.33E-10**
2,3,4,7,8-PeCDF	2.59E-11				**2.59E-11**
Total PeCDF	2.59E-09	3.69E-12			**2.59E-09**
1,2,3,4,7,8-HxCDF	1.23E-10				**1.23E-10**
1,2,3,6,7,8-HxCDF	3.70E-11				**3.70E-11**
2,3,4,6,7,8-HxCDF	5.86E-11				**5.86E-11**
1,2,3,7,8,9-HxCDF	2.59E-10				**2.59E-10**
Total HxCDF	4.01E-10	1.54E-11			**4.16E-10**
1,2,3,4,6,7,8-HpCDF	2.00E-10				**2.00E-10**
1,2,3,4,7,8,9-HpCDF	8.32E-11				**8.32E-11**
Total HpCDF	3.08E-10	7.45E-11			**3.83E-10**
Octa CDF	1.48E-10	9.21E-11			**2.40E-10**
Total PCDF^	1.23E-09	2.38E-10			**1.47E-09**
Total PCDD/PCDF^	3.70E-09	1.77E-09	0.00E+00		**5.46E-09**
Non-PAH HAPs					
Acetaldehyde*	4.01E-02		0.00E+00		**4.01E-02**
Acrolein*	5.85E-03		0.00E+00		5.85E-03
Benzene*	1.20E-02	0.00E+00	0.00E+00	1.87E-04	**1.22E-02**
1,3-Butadiene*			0.00E+00		**0.00E+00**
Ethylbenzene*	5.40E-02			3.66E-03	5.77E-02
Formaldehyde*	9.55E-02	2.69E-05	0.00E+00	2.70E-03	**9.83E-02**
Hexane*	2.07E-01	0.00E+00		4.15E-03	2.11E-01
Isooctane	9.00E-03			2.53E-05	9.03E-03
Methyl Ethyl Ketone*	4.50E-03			1.53E-03	6.03E-03
Pentane*		0.00E+00			0.00E+00
Propionaldehyde*	2.93E-02				2.93E-02
Quinone*	3.60E-02				3.60E-02
Methyl chloroform*	1.08E-02				1.08E-02
Toluene*	6.53E-01	0.00E+00	0.00E+00	3.67E-03	6.56E-01
Xylene*	4.50E-02		0.00E+00	1.84E-02	6.34E-02
POM (7-PAH Group)*	1.69E-05	7.68E-07	0.00E+00	3.50E-05	**5.26E-05**
TOTAL PAH HAPs	2.73E-02	1.77E-04	0.00E+00	1.52E-03	**2.90E-02**

Pollutant	**A** Drum Mix Max Emission Rate for Pollutant (lb/hr)	**B** Asphalt Tank Heater Max Emission Rate for Pollutant (lb/hr)	**C** Generator G1 + G2 Max Emission Rate for Pollutant (lb/hr)	**D** Load-out & Silo Filling Emission Rate for Pollutant (lb/hr)	**E TOTAL** of Max Emission Rates from A, B, C & D (lb/hr)
PAH HAPs					
2-Methylnaphthalene	5.24E-03	0.00E+00		6.62E-04	**5.90E-03**
3-Methylchloranthrene*	0.00E+00	0.00E+00			**0.00E+00**
Acenaphthene	4.32E-05	4.07E-06	0.00E+00	6.41E-05	**1.11E-04**
Acenaphthylene	6.78E-04	1.54E-06	0.00E+00	4.04E-06	**6.84E-04**
Anthracene	9.55E-05	1.38E-06	0.00E+00	1.75E-05	**1.14E-04**
Benzo(a)anthracene*	6.47E-06	0.00E+00	0.00E+00	6.39E-08	**1.29E-05**
Benzo(a)pyrene*	3.02E-07	0.00E+00	0.00E+00	2.42E-07	**5.44E-07**
Benzo(b)fluoranthene*	3.08E-06	7.68E-07	0.00E+00	7.99E-07	**4.65E-06**
Benzo(e)pyrene	3.39E-06	0.00E+00		1.56E-06	**4.95E-06**
Benzo(g,h,i)perylene	1.23E-06	0.00E+00	0.00E+00	2.00E-07	**1.43E-06**
Benzo(k)fluoranthene*	1.28E-06	0.00E+00	0.00E+00	2.31E-07	**1.49E-06**
Chrysene*	5.55E-06	0.00E+00	0.00E+00	2.73E-05	**3.28E-05**
Dibenzo(a,h)anthracene*	0.00E+00	0.00E+00	0.00E+00	3.69E-08	**3.69E-08**
Dichlorobenzene	0.00E+00	0.00E+00			**0.00E+00**
Fluoranthene	1.89E-05	3.38E-07	0.00E+00	1.70E-05	**3.61E-05**
Fluorene	3.39E-04	2.46E-07	0.00E+00	1.60E-04	**4.99E-04**
Indeno(1,2,3-cd)pyrene*	2.18E-07	0.00E+00	0.00E+00	4.94E-08	**2.65E-07**
Naphthalene*	2.00E-02	1.31E-04	0.00E+00	2.74E-04	**2.04E-02**
Perylene	2.71E-07	0.00E+00		4.66E-06	**4.93E-06**
Phenanthrene	7.09E-04	3.76E-05	0.00E+00	2.26E-04	**9.72E-04**
Pyrene	9.25E-05	2.46E-07	0.00E+00	5.02E-05	**1.43E-04**
Non-HAP Organic Compounds					
Acetone*	1.87E-01	0.00E+00		1.95E-03	1.89E-01
Benzaldehyde	2.48E-02	0.00E+00			2.48E-02
Butane	1.51E-01	0.00E+00			1.51E-01
Butyraldehyde	3.60E-02	0.00E+00			3.60E-02
Crotonaldehyde*	1.94E-02	0.00E+00			1.94E-02
Ethylene	1.58E+00	0.00E+00		3.68E-02	1.61E+00
Heptane	2.12E+00	0.00E+00			2.12E+00
Hexanal	2.48E-02	0.00E+00			2.48E-02
Isovaleraldehyde	7.20E-03	0.00E+00			7.20E-03
2-Methyl-1-pentene	9.00E-01	0.00E+00			9.00E-01
2-Methyl-2-butene	1.31E-01	0.00E+00			1.31E-01
3-Methylpentane	4.28E-02	0.00E+00			4.28E-02
1-Pentene	4.95E-01	0.00E+00			4.95E-01
n-Pentane	4.73E-02	0.00E+00			4.73E-02
Valeraldehyde*	1.51E-02	0.00E+00			1.51E-02
Metals					
Antimony*	4.05E-05	7.66E-05			1.17E-04
Arsenic*	7.56E-05	1.01E-05			**8.57E-05**
Barium*	1.31E-03	3.75E-05			1.34E-03
Beryllium*	0.00E+00	2.13E-07			**2.13E-07**
Cadmium*	5.54E-05	3.06E-06			**5.84E-05**
Chromium*	1.24E-03	1.23E-05			1.25E-03
Cobalt*	5.85E-06	8.79E-05			9.37E-05
Copper*	6.98E-04	2.57E-05			7.23E-04
Hexavalent Chromium*	6.08E-05	1.90E-06			**6.27E-05**
Manganese*	1.73E-03	4.38E-05			1.78E-03
Mercury*	5.85E-04	1.65E-06			5.87E-04
Molybdenum*	0.00E+00	1.15E-05			1.15E-05
Nickel*	8.51E-03	6.49E-04			**9.16E-03**
Phosphorus*	6.30E-03	1.38E-04			6.44E-03
Silver*	1.08E-04	0.00E+00			1.08E-04
Selenium*	7.88E-05	9.97E-06			8.87E-05
Thallium*	9.23E-07	0.00E+00			9.23E-07
Vanadium*	0.00E+00	4.64E-04			4.64E-04
Zinc*	1.37E-02	4.25E-04			1.41E-02

e) IDAPA Toxic Air Pollutant

Criteria Pollutant lb/hr emissions are maximum 1-hr averages
TAPs lb/hr rates are 24-hr averages except for those in bold text. Lb/hr rates for bold TAPs (carcinogens) are annual averages.
Pollutants shown in blue text are emitted only when burning Used Oil, but not when burning #2 Fuel Oil or Natural Gas

Facility:	GORDON PAVING COMPANY			EMISSION INVENTORY
5/21/2009 15:17	Permit/Facility ID:	P-2008.0058	777-00430	POUNDS PER HOUR Page 2 of 2

Max Controlled Emissions of Any Pollutant from Drum Mix HMA Plant Fabric Filter, Tank Heater, Generator, Silo Fill/Load-out

A. Drum Mix Plant: 225 Tons/hour 1,200 Hours/year 270,000 Tons/year HMA throughput 6,400 hrs/day
Maximum emission for each pollutant from any fuel-burning option selected. Fuels Selected = #2 Fuel Oil Used Oil Natural Gas LPG/Propane

B. Tank Heater: 2.0000 MMBtu/hr 4,608 Hours/year 24 hrs/day
Maximum emission for each pollutant from any fuel-burning option selected. Fuels Selected = #2 Fuel Oil

C1. Generator G1: 0.00 gal/hour 0 Hours/year #2 Fuel Oil Generator < 600hp 0 hrs/day

C2. Generator G2: 0.00 gal/hour 0 Hours/year #2 Fuel Oil Generator > 600hp 0 hrs/day

Pollutant	A Drum Mix Max Emission Rate for Pollutant (lb/hr)	B Asphalt Tank Heater Max Emission Rate for Pollutant (lb/hr)	C Generator Max Emission Rate for Pollutant (lb/hr)	D Load-out & Silo Filling Emission Rate for Pollutant (lb/hr)	E TOTAL of Max Emission Rates from A, B, C & D (lb/hr)
non-PAH HAPs					
Bromomethane*				2.24E-04	2.24E-04
2-Butanone (see Methyl Ethyl Ketone)					
Carbon disulfide*				5.60E-04	5.60E-04
Chloroethane (Ethyl chloride*)				1.12E-04	1.12E-04
Chloromethane (Methyl chloride*)				7.71E-04	7.71E-04
Cumene				1.03E-03	1.03E-03
n-Hexane					
Methylene chloride (Dichloromethane*)				7.40E-06	7.40E-06
MTBE					
Styrene*				2.16E-04	2.16E-04
Tetrachloroethene (Tetrachloroethylene*)				7.21E-05	7.21E-05
1,1,1-Trichloroethane (Methyl chloroform*)					
Trichloroethene (Trichloroethylene*)					
Trichlorofluoromethane				1.22E-05	1.22E-05
m-/p-Xylene*				9.32E-03	9.32E-03
o-Xylene*				9.05E-03	9.05E-03
Phenol*,#				9.05E-04	9.05E-04
Non-HAP Organic Compounds					
Methane				7.74E-01	7.74E-01

c) IDAPA Toxic Air Pollutant

Figure B.2 - Emissions inventory for each component of the HMA in lb/hr.

Facility: GORDON PAVING COMPANY

5/21/2009 15:17 Permit/Facility ID: P-2008.0058 777-00430

EMISSION INVENTORY

TONS PER YEAR

Max Controlled Emissions of Any Pollutant from Drum Mix HMA Plant Fabric Filter, Tank Heater, Generator, Silo Fill/Load-out

A. Drum Mix Plant: **225** Tons/hour 1,200 Hours/year **270,000** Tons/year HMA throughput **5,400** hrs/day

Maximum emission for each pollutant from any fuel-burning options selected on "Facility Data" worksheet. Fuels Selected = #2 Fuel Oil Used Oil Natural Gas LPG/Propane

B. Tank Heater: **2.0000** MMBtu/hr **4,608** Hours/year **24** hrs/day

Maximum emission for each pollutant for heater burning any fuel selected on "Facility Data" worksheet. Fuels Selected = #2 Fuel Oil

C1. Generator G1: **0.00** gal/hour **0** Hours/year Generator <600hp #2 Fuel Oil **0** hrs/day

C2. Generator G2: **0.00** gal/hour **0** Hours/year Generator > 600hp #2 Fuel Oil **0** hrs/day

Pollutant	A Drum Mix Max Emission Rate for Pollutant (T/yr)	B Asphalt Tank Heater Max Emission Rate for Pollutant (T/yr)	C Generator G1 + G2 Max Emission Rate for Pollutant (T/yr)	D Load-out & Silo Filling Emission Rate for Pollutant (T/yr)	E POINT SOURCE TOTAL of Max Emission Rates from A, B, & C (T/yr) Exclude Fugitives (D)
PM (total)	4.46	1.11E-01	0.00E+00	1.50E-01	4.57
PM-10 (total)	3.11	1.11E-01	0.00E+00	1.50E-01	3.22
PM-2.5					
CO	17.55	1.68E-01	0.00E+00	3.41E-01	17.72
NOx	7.43	6.73E-01	0.00E+00		8.10
SO_2	7.83	2.39E+00	0.00E+00		10.22
VOC	4.32	1.87E-02	0.00E+00	5.44E-01	4.34
Lead	2.03E-03	5.06E-05	0.00E+00		2.08E-03
HCl[a]	2.84E-02	0.00E+00	0.00E+00		2.84E-02
Dioxins[a]					
2,3,7,8-TCDD	2.84E-11				2.84E-11
Total TCDD	1.26E-10				1.26E-10
1,2,3,7,8-PeCDD	4.19E-11				4.19E-11
Total PeCDD	2.97E-09				2.97E-09
1,2,3,4,7,8-HxCDD	5.67E-11	2.32E-11			7.99E-11
1,2,3,6,7,8-HxCDD	1.76E-10				1.76E-10
1,2,3,7,8,9-HxCDD	1.32E-10	2.58E-11			1.58E-10
Total HxCDD	1.62E-09				1.62E-09
1,2,3,4,6,7,8-Hp-CDD	6.48E-10	5.04E-10			1.15E-09
Total HpCDD	2.57E-09	6.73E-10			3.24E-09
Octa CDD	3.38E-09	5.38E-09			8.76E-09
Total PCDD[a]	1.07E-08	6.73E-09			1.74E-08
Furans[a]					
2,3,7,8-TCDF	1.31E-10				1.31E-10
Total TCDF	5.00E-10	1.11E-10			6.10E-10
1,2,3,7,8-PeCDF	5.81E-10				5.81E-10
2,3,4,7,8-PeCDF	1.13E-10				1.13E-10
Total PeCDF	1.13E-08	1.61E-11			1.14E-08
1,2,3,4,7,8-HxCDF	5.40E-10				5.40E-10
1,2,3,6,7,8-HxCDF	1.62E-10				1.62E-10
2,3,4,6,7,8-HxCDF	2.57E-10				2.57E-10
1,2,3,7,8,9-HxCDF	1.13E-09				1.13E-09
Total HxCDF	1.78E-09	6.73E-11			1.82E-09
1,2,3,4,6,7,8-HpCDF	8.78E-10				8.78E-10
1,2,3,4,7,8,9-HpCDF	3.65E-10				3.65E-10
Total HpCDF	1.35E-09	3.26E-10			1.68E-09
Octa CDF	6.48E-10	4.04E-10			1.05E-09
Total PCDF[a]	5.40E-09	1.04E-09			6.44E-09
Total PCDD/PCDF[a]	1.62E-08	7.73E-09			2.39E-08
Non-PAH HAPs					
Acetaldehyde[a]	1.76E-01		0.00E+00		1.76E-01
Acrolein[a]	3.51E-03		0.00E+00		3.51E-03
Benzene[a]	5.27E-02	0.00E+00	0.00E+00	8.18E-04	5.27E-02
1,3-Butadiene[a]	0.00E+00		0.00E+00		0.00E+00
Ethylbenzene[a]	3.24E-02			2.20E-03	3.24E-02
Formaldehyde[a]	4.19E-01	1.18E-04	0.00E+00	1.18E-02	4.19E-01
Hexane[a]	1.24E-01	0.00E+00		2.49E-03	1.24E-01
Isooctane	5.40E-03			1.52E-05	5.40E-03
Methyl Ethyl Ketone[a]	2.70E-03			9.17E-04	2.70E-03
Pentane[a]	0.00E+00	0.00E+00			0.00E+00
Propionaldehyde[a]	1.76E-02				1.76E-02
Quinone[a]	2.16E-02				2.16E-02
Methyl chloroform[a]	6.48E-03				6.48E-03
Toluene[a]	3.92E-01	0.00E+00	0.00E+00	2.20E-03	3.92E-01
Xylene[a]	2.70E-02	0.00E+00	0.00E+00	1.10E-02	2.70E-02
TOTAL Federal HAPs (T/yr)=					**1.46E+00**

Pollutant	A Drum Mix Max Emission Rate for Pollutant (T/yr)	B Asphalt Tank Heater Max Emission Rate for Pollutant (T/yr)	C Generator G1 + G2 Max Emission Rate for Pollutant (T/yr)	D Load-out & Silo Filling Emission Rate for Pollutant (T/yr)	E POINT SOURCE TOTAL of Max Emission Rates from A, B, & C (T/yr) Exclude Fugitives (D)
PAH HAPs					
2-Methylnaphthalene	2.30E-02	0.00E+00		2.90E-03	2.30E-02
3-Methylchloranthrene[a]	0.00E+00	0.00E+00			0.00E+00
Acenaphthene	1.89E-04	1.78E-05	0.00E+00	2.81E-04	2.07E-04
Acenaphthylene	2.97E-03	6.73E-06	0.00E+00	1.77E-05	2.98E-03
Anthracene	4.19E-04	6.05E-06	0.00E+00	7.68E-05	4.25E-04
Benzo(a)anthracene[a]	2.84E-05	0.00E+00	0.00E+00	2.79E-05	2.84E-05
Benzo(a)pyrene[a]	1.32E-06	0.00E+00	0.00E+00	1.06E-06	1.32E-06
Benzo(b)fluoranthene[a]	1.35E-05	3.36E-06	0.00E+00	3.50E-06	1.69E-05
Benzo(e)pyrene	1.49E-05	0.00E+00		6.85E-06	1.49E-05
Benzo(g,h,i)perylene	5.40E-06	0.00E+00	0.00E+00	8.75E-07	5.40E-06
Benzo(k)fluoranthene[a]	5.54E-06	0.00E+00	0.00E+00	1.01E-06	5.54E-06
Chrysene[a]	2.43E-05	0.00E+00	0.00E+00	1.19E-04	2.43E-05
Dibenzo(a,h)anthracene[a]	0.00E+00	0.00E+00	0.00E+00	1.70E-07	0.00E+00
Dichlorobenzene	0.00E+00	0.00E+00			0.00E+00
Fluoranthene	8.24E-05	1.48E-06	0.00E+00	7.44E-05	8.38E-05
Fluorene	1.49E-03	1.08E-06	0.00E+00	7.01E-04	1.49E-03
Indeno(1,2,3-cd)pyrene[a]	9.45E-07	0.00E+00	0.00E+00	2.16E-07	9.45E-07
Naphthalene[a]	8.78E-02	5.72E-04	0.00E+00	1.20E-03	8.83E-02
Perylene	1.19E-06	0.00E+00		2.04E-05	1.19E-06
Phenanthrene	3.11E-03	1.65E-04	0.00E+00	9.90E-04	3.27E-03
Pyrene	4.05E-04	1.08E-06	0.00E+00	2.20E-04	4.06E-04
Non-HAP Organic Compounds					
Acetone[a]	1.12E-01	0.00E+00		1.17E-03	1.12E-01
Benzaldehyde	1.49E-02	0.00E+00			1.49E-02
Butane	9.05E-02	0.00E+00			9.05E-02
Butyraldehyde	2.16E-02	0.00E+00			2.16E-02
Crotonaldehyde[a]	1.16E-02	0.00E+00			1.16E-02
Ethylene	9.45E-01	0.00E+00		2.21E-02	9.45E-01
Heptane	1.27E+00	0.00E+00			1.27E+00
Hexanal	1.49E-02	0.00E+00			1.49E-02
Isovaleraldehyde	4.32E-03	0.00E+00			4.32E-03
2-Methyl-1-pentene	5.40E-01	0.00E+00			5.40E-01
2-Methyl-2-butene	7.83E-02	0.00E+00			7.83E-02
3-Methylpentane	2.57E-02	0.00E+00			2.57E-02
1-Pentene	2.97E-01	0.00E+00			2.97E-01
n-Pentene[a]	2.84E-02	0.00E+00			2.84E-02
Valeraldehyde[a]	9.05E-03	0.00E+00			9.05E-03
Metals					
Antimony[a]	2.43E-05	1.77E-04			2.01E-04
Arsenic[a]	7.56E-05	4.44E-05			1.20E-04
Barium[a]	7.83E-04	8.64E-05			8.69E-04
Beryllium[a]	0.00E+00	9.35E-07			9.35E-07
Cadmium[a]	5.54E-05	1.34E-05			6.87E-05
Chromium[a]	7.43E-04	2.84E-05			7.71E-04
Cobalt[a]	3.51E-05	2.02E-04			2.06E-04
Copper[a]	4.19E-04	5.92E-05			4.78E-04
Hexavalent Chromium[a]	6.08E-05	8.34E-06			6.91E-05
Manganese[a]	1.04E-03	1.01E-04			1.14E-03
Mercury[a]	3.51E-04	3.80E-06			3.55E-04
Molybdenum[a]	0.00E+00	2.65E-05			2.65E-05
Nickel[a]	8.51E-03	2.84E-03			1.13E-02
Phosphorus[a]	3.78E-03	3.18E-04			4.10E-03
Silver[a]	6.48E-05	0.00E+00			6.48E-05
Selenium[a]	4.73E-05	2.30E-05			7.02E-05
Thallium[a]	5.54E-07				5.54E-07
Vanadium[a]	0.00E+00	1.07E-03			1.07E-03
Zinc[a]	8.24E-03	9.79E-04			9.21E-03

Facility:	GORDON PAVING COMPANY			EMISSION INVENTORY
5/21/2009 15:17	Permit/Facility ID:	P-2008.0058	777-00430	TONS PER YEAR

Max Controlled Emissions of Any Pollutant from Drum Mix HMA Plant Fabric Filter, Tank Heater, Generator, Silo Fill/Load-out

A. Drum Mix Plant: 225 Tons/hour 1,200 Hours/year 270,000 Tons/year 5,400 Tons/day
Maximum emission for each pollutant from any fuel-burning option selected Fuels Selected = #2 Fuel Oil Used Oil Natural Gas LPG/Propane
B. Tank Heater: 2.0000 MMBtu/hr 4,600 Hours/year 24 hrs/day
Maximum emission for each pollutant from any fuel-burning option selected. Fuels Selected = #2 Fuel Oil
C1. Generator G1: 0.00 gal/hour 0 Hours/year No Generator #2 Fuel Oil Generator <600hp 0 hrs/day
C2. Generator G2: 0.00 gal/hour 0 Hours/year #2 Fuel Oil Generator > 600hp 0 hrs/day

Pollutant	A Drum Mix Max Emission Rate for Pollutant (T/yr)	B Asphalt Tank Heater Max Emission Rate for Pollutant (T/yr)	C Generator Max Emission Rate for Pollutant (T/yr)	D Load-out, Silo Filling, & Tank Storage Emission Rate for Pollutant (T/yr)	E POINT SOURCE TOTAL of Max Emission Rates from A, B, & C (T/yr) Exclude Fugitives (D)
non-PAH HAPs[e]					
Bromomethane[e]				1.35E-04	0.00E+00
2-Butanone (see Methyl Ethyl Ketone)					0.00E+00
Carbon disulfide[e]				3.36E-04	0.00E+00
Chloroethane (Ethyl chloride[e])				6.70E-05	0.00E+00
Chloromethane (Methyl chloride[e])				4.63E-04	0.00E+00
Cumene				6.18E-04	0.00E+00
n-Hexane				0.00E+00	0.00E+00
Methylene chloride (Dichloromethane[e])				4.44E-06	0.00E+00
MTBE					0.00E+00
Styrene[e]				1.30E-04	0.00E+00
Tetrachloroethene (Tetrachloroethylene[e])				4.32E-05	0.00E+00
1,1,1-Trichloroethane (Methyl chloroform[e])				0.00E+00	0.00E+00
Trichloroethene (Trichloroethylene[e])				0.00E+00	0.00E+00
Trichlorofluoromethane				7.30E-06	0.00E+00
m-/p-Xylene[e]				5.59E-03	0.00E+00
o-Xylene[e]				5.43E-03	0.00E+00
Phenol[e,f]				5.43E-04	0.00E+00
Non-HAP Organic Compounds					
Methane				4.64E-01	0.00E+00

e) IDAPA Toxic Air Pollutant

Figure B.3 - Emissions inventory for each component of the HMA in T/yr.

Facility: GORDON PAVING COMPANY

5/26/2009 9:38 **Permit/Facility ID:** P-2008.0058 777-00430

TAPs MODELING

POUNDS PER HOUR - POINT AND PSEUDO-STACK SOURCES

Maximum Controlled Emissions of Any Pollutant from Drum Mix HMA Plant with Fabric Filter, Tank Heater, Generator, Silo Fill/Load-out

A. Drum Mix Plant: **225** Tons/hour 1,200 Hours/year **270,000** Tons/year **5,400** Tons/day
Maximum emission for each pollutant from any fuel-burning options selected on "Facility Data" worksheet. Fuels Selected = #2 Fuel Oil Used Oil Natural Gas LPG/Propane

B. Tank Heater: **2.0000** MMBtu Rated **4,608** Hours/year **24** hrs/day
Maximum emission for each pollutant for heater burning any fuel selected on "Facility Data" worksheet. Fuels Selected = #2 Fuel Oil

C1. Generator: **0.00** gal/hour **0** Hours/year Generator < 600hp #2 Fuel Oil **0** hrs/day

C2. Generator: **0.00** gal/hour **0** Hours/year Generator > 600hp **No Generator** #2 Fuel Oil **0** hrs/day

Pollutant	A Drum Mix Max Emission Rate for Pollutant (lb/hr)	B Asphalt Tank Heater Max Emission Rate for Pollutant (lb/hr)	C1 G1<600 hp Generator Max Emission Rate for Pollutant (lb/hr)	C2 G2>600hp Generator Max Emission Rate for Pollutant (lb/hr)	D1 Silo Filling Emission Rate for Pollutant (lb/hr)	D2 Load-out Emission Rate for Pollutant (lb/hr)
PM (total)						
PM-10 (total)						
P.M.-2.5						
CO						
NOx						
SO_2						
VOC						
Lead						
HCl [e]	4.73E-02	0.00E+00				
Dioxins[a]						
2,3,7,8-TCDD	6.47E-12					
Total TCDD	2.87E-11					
1,2,3,7,8-PeCDD	9.55E-12					
Total PeCDD	6.78E-10					
1,2,3,4,7,8-HxCDD	1.29E-11	5.30E-12				
1,2,3,6,7,8-HxCDD	4.01E-11					
1,2,3,7,8,9-HxCDD	3.02E-11	5.83E-12				
Total HxCDD	3.70E-10					
1,2,3,4,6,7,8-Hp-CDD	1.48E-10	1.15E-10				
Total HpCDD	5.86E-10	1.54E-10				
Octa CDD	7.71E-10	1.23E-09				
Total PCDD[b]	2.43E-09	1.54E-09				
Furans[a]						
2,3,7,8-TCDF	2.99E-11					
Total TCDF	1.14E-10	2.53E-11				
1,2,3,7,8-PeCDF	1.33E-10					
2,3,4,7,8-PeCDF	2.59E-11					
Total PeCDF	2.59E-09	3.69E-12				
1,2,3,4,7,8-HxCDF	1.23E-10					
1,2,3,6,7,8-HxCDF	3.70E-11					
2,3,4,6,7,8-HxCDF	5.86E-11					
1,2,3,7,8,9-HxCDF	2.59E-10					
Total HxCDF	4.01E-10	1.54E-11				
1,2,3,4,6,7,8-HpCDF	2.00E-10					
1,2,3,4,7,8,9-HpCDF	8.32E-11					
Total HpCDF	3.08E-10	7.45E-11				
Octa CDF	1.48E-10	9.21E-11				
Total PCDF[b]	1.23E-09	2.38E-10				
Total PCDD/PCDF[b]	3.70E-09	1.77E-09				
Non-PAH HAPs						
Acetaldehyde*	4.01E-02		0.00E+00	0.00E+00		
Acrolein*	5.85E-03		0.00E+00	0.00E+00		
Benzene*	1.20E-02	0.00E+00	0.00E+00	0.00E+00	1.20E-04	6.67E-05
1,3-Butadiene*			0.00E+00			
Ethylbenzene*	5.40E-02				1.04E-03	2.62E-03
Formaldehyde*	9.55E-02	2.69E-05	0.00E+00	0.00E+00	2.59E-03	1.13E-04
Hexane*	2.07E-01	0.00E+00			2.74E-03	1.40E-03
Isooctane	9.00E-03				8.50E-06	1.68E-05
Methyl Ethyl Ketone*	4.50E-03				1.07E-03	4.59E-04
Pentane*		0.00E+00				
Propionaldehyde*	2.93E-02					
Quinone*	3.60E-02					
Methyl chloroform*	1.08E-02					
Toluene*	6.53E-01	0.00E+00	0.00E+00	0.00E+00	1.70E-03	1.97E-03
Xylene*	4.50E-02		0.00E+00	0.00E+00	7.05E-03	1.13E-02
PAH, Total	2.73E-02	1.77E-04		0.00E+00	8.93E-04	6.24E-04
POM (7-PAH Group)	1.69E-05	7.68E-07		0.00E+00	2.08E-05	1.42E-05

Pollutant	A Drum Mix Max Emission Rate for Pollutant (lb/hr)	B Asphalt Tank Heater Max Emission Rate for Pollutant (lb/hr)	C1 G1<600 hp Generator Max Emission Rate for Pollutant (lb/hr)	C2 G2>600hp Generator Max Emission Rate for Pollutant (lb/hr)	D Silo Filling Emission Rate for Pollutant (lb/hr)	D2 Load-out Emission Rate for Pollutant (lb/hr)
PAH HAPs						
2-Methylnaphthalene	5.24E-03	0.00E+00			4.12E-04	2.50E-04
3-Methylchloranthrene*	0.00E+00	0.00E+00				
Acenaphthene	4.32E-05	4.07E-06	0.00E+00	0.00E+00	3.68E-05	2.73E-05
Acenaphthylene	6.78E-04	1.54E-06	0.00E+00	0.00E+00	1.10E-06	2.94E-06
Anthracene	9.55E-05	1.38E-06	0.00E+00	0.00E+00	1.02E-05	7.36E-06
Benzo(a)anthracene*	6.47E-06	0.00E+00	0.00E+00	0.00E+00	4.38E-06	2.00E-06
Benzo(a)pyrene*	3.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-07
Benzo(b)fluoranthene*	3.08E-06	7.68E-07	0.00E+00	0.00E+00	0.00E+00	7.99E-07
Benzo(e)pyrene	3.39E-06	0.00E+00		0.00E+00	7.43E-07	8.20E-07
Benzo(g,h,i)perylene	1.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-07
Benzo(k)fluoranthene*	1.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.31E-07
Chrysene*	5.55E-06	0.00E+00	0.00E+00	0.00E+00	1.64E-05	1.08E-05
Dibenzo(a,h)anthracene*	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.89E-08
Dichlorobenzene	0.00E+00	0.00E+00		0.00E+00		
Fluoranthene	1.88E-05	3.38E-07	0.00E+00	0.00E+00	1.17E-05	5.25E-06
Fluorene	3.39E-04	2.46E-07	0.00E+00	0.00E+00	7.90E-05	8.09E-05
Indeno(1,2,3-cd)pyrene*	2.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.94E-08
Naphthalene*	2.00E-02	1.31E-04	0.00E+00	0.00E+00	1.42E-04	1.31E-04
Perylene	2.71E-07	0.00E+00			2.35E-08	2.31E-06
Phenanthrene	7.09E-04	3.76E-05	0.00E+00	0.00E+00	1.41E-04	8.51E-05
Pyrene	9.25E-05	2.46E-07	0.00E+00	0.00E+00	3.44E-05	1.58E-05
Non-HAP Organic Compounds						
Acetone*	1.87E-01	0.00E+00			1.51E-03	4.38E-04
Benzaldehyde	2.48E-02	0.00E+00				
Butane	1.51E-01	0.00E+00				
Butyraldehyde	3.60E-02	0.00E+00				
Crotonaldehyde*	1.94E-02	0.00E+00				
Ethylene	1.58E+00	0.00E+00			3.02E-02	6.64E-03
Heptane	2.12E+00	0.00E+00				
Hexanal	2.48E-02	0.00E+00				
Isovaleraldehyde	7.20E-03	0.00E+00				
2-Methyl-1-pentene	9.00E-01	0.00E+00				
2-Methyl-2-butene	1.31E-01	0.00E+00				
3-Methylpentane	4.28E-02	0.00E+00				
1-Pentene	4.95E-01	0.00E+00				
n-Pentane	4.73E-02	0.00E+00				
Valeraldehyde*	1.51E-02	0.00E+00				
Metals						
Antimony*	4.05E-05	7.66E-05				
Arsenic*	7.56E-05	1.01E-05				
Barium*	1.31E-03	3.75E-05				
Beryllium*	0.00E+00	2.13E-07				
Cadmium*	5.54E-05	3.06E-06				
Chromium*	1.24E-03	1.23E-05				
Cobalt*	5.85E-06	8.79E-05				
Copper*	6.98E-04	2.57E-05				
Hexavalent Chromium*	6.08E-05	1.90E-06				
Manganese*	1.73E-03	4.38E-05				
Mercury*	5.85E-04	1.65E-06				
Molybdenum*	0.00E+00	1.15E-05				
Nickel*	8.51E-03	6.49E-04				
Phosphorus*	6.30E-03	1.38E-04				
Silver*	1.08E-04	0.00E+00				
Selenium*	7.88E-05	9.97E-06				
Thallium*	9.23E-07	0.00E+00				
Vanadium*	0.00E+00	4.64E-04				
Zinc*	1.37E-02	4.25E-04				

e) IDAPA Toxic Air Pollutant

Criteria Pollutant lb/hr emissions are maximum 1-hr averages

TAPs lb/hr rates are 24-hr averages except for those in bold text. Lb/hr rates for bold TAPs (carcinogens) are annual averages.

Pollutants shown in blue text are emitted only when burning Used Oil, but not when burning #2 Fuel Oil or Natural Gas

Figure B.4 – TAPs emissions inventory (lb/hr) as determined by DEQ modeling.

Appendix C – Ambient Air Quality Impact Analysis

MEMORANDUM

DATE: May 22, 2009

TO: Eric Clark, Air Quality Engineer, Air Quality Division

FROM: Cheryl Robinson, P.E., Air Quality Engineer/Modeling Analyst, Air Quality Division

PROJECT NUMBER: P-2008.0138

SUBJECT: **Modeling Review for Gordon Paving Company, Twin Falls, Facility ID. 777-00430**
Project: Initial PTC for a Portable Hot Mix Asphalt Plant

1.0 Summary

Gordon Paving Company, Inc. (Gordon Paving) submitted a Permit to Construct (PTC) application for a new portable hot mix asphalt plant (HMA) to be operated in Idaho. Air quality analyses involving atmospheric dispersion modeling of emissions associated with the proposed project were performed to demonstrate the new facility would not cause or significantly contribute to a violation of any ambient air quality standard (IDAPA 58.01.01.203.02 [Idaho Air Rules Section 203.02]). Enviro-Mont Environmental Consulting & Services (Enviro-Mont), Gordon Paving's consultant, provided information to DEQ to perform the ambient air quality analyses in support of the application.

A technical review of the submitted information to support air quality analyses was conducted by DEQ. DEQ staff performed the air impact analyses. The submitted information, in combination with DEQ's air quality analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data; 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that predicted pollutant concentrations from emissions associated with the proposed facility were below significant contribution levels (SCLs) or other applicable regulatory thresholds; or b) that predicted pollutant concentrations from emissions associated with the facility, when appropriately combined with background concentrations, were below applicable air quality standards at all locations outside of the required setback distance (closest distance from pollutant emission points to the property boundary). Table 1 presents key assumptions and results that should be considered in the development of the permit.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES

Criteria/Assumption/Result	Explanation/Consideration
Production Limits	
A daily HMA production limit is not required.	Modeled emissions for short term NAAQS were based on 24-hour per day operations at 225 tons/hr (5,400 tons per day).
Annual HMA production must be limited to 270,000 tons per year.	Preconstruction compliance with state toxic air pollutant (TAP) rules was demonstrated using controlled carcinogenic TAP emissions, so per IDAPA 58.01.01.210.08, an emission limit must be imposed. The annual production limit inherently limits the annual TAPs emissions, so a pollutant-specific pound per hour or pound per year limit is not needed. Approval of limited crusher operations was based on this annual limit. If existing controls are not determined to be T-RACT, the annual HMA production (and corresponding emissions of carcinogenic toxics) would be the key factor in determining the setback distance.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES	
Criteria/Assumption/Result	**Explanation/Consideration**
Emission Controls	
Drum dryer baghouse must be installed and operated.	Modeled emission rates for PM_{10} and toxic air pollutants emitted as particulates were based on baghouse controls.
Fugitives – Material Handling Drop Points. Implementation of best management practices to control these emissions must be required.	Modeled emission rates presumed a minimum of 75% control compared to uncontrolled emissions.
Fugitives – Conveyors & Screens. Rigorous implementation of best management practices to control these emissions must be required.	Compliance with the 24-hour PM_{10} NAAQS cannot be demonstrated unless these emissions are well controlled.
Minimum Setback Distance	
If T-RACT is proposed and approved, a minimum 130 meter (426 feet) setback must be maintained between any emissions point and the ambient air boundary.	This setback distance was needed to demonstrate compliance with the 24-hour PM_{10} NAAQS. If existing controls are determined to be T-RACT, setback distances needed to comply with carcinogenic TAP increments are less than 100 meters.
If T-RACT is not proposed or approved, additional analyses must be performed to determine the minimum setback distance.	If T-RACT is not proposed or approved, setback distances needed to comply with carcinogenic TAP increments will be greater than 150 meters.
Co-Location	
Except as noted below, the HMA plant may not operate at a site where co-contributing emissions sources such as other HMAs, rock crushing plants, or concrete batch plants are operating.	Emissions sources are considered co-contributing if they occur within 1000 feet (305 meters) of each other. Co-contributing sources were not considered in the analyses. PM_{10} background values used were "typical" background levels in rural/agricultural areas.
The HMA plant may operate near a crusher as long as the crusher and the HMA plant are not operated on the same day, and the crusher annual throughput at this location is limited to a maximum of 270,000 tons.	Information provided by Gordon Paving in May 2009 indicated that a crusher may be operated near this HMA plant during the off-season to provide a stockpile of material for the HMA plant. With the annual HMA production limited to 270,000 tons per year, a minimum setback of 130 meters, and limiting the crusher operations as noted, DEQ determined that it was unlikely that the additional crusher emissions would cause an exceedance of the annual PM_{10} NAAQS.
Operation in Attainment Areas Only	
The HMA plant may not locate and operate in any non-attainment area.	All analyses performed assumed the facility will be located in areas designated as attainment or unclassifiable for all criteria pollutants.

2.0 Background Information

2.1 Applicable Air Quality Impact Limits and Modeling Requirements

This section identifies applicable ambient air quality limits and analyses used to demonstrate compliance.

2.1.1 Area Classification

The Gordon Paving HMA will be a portable facility initially located near Twin Falls, Idaho. The HMA plant will be permitted to locate only in areas designated as attainment or unclassifiable for all criteria pollutants.

2.1.2 Significant and Cumulative NAAQS Impact Analyses

If estimated maximum pollutant impacts to ambient air from the emissions sources associated with the proposed new facility exceed the significant contribution levels (SCLs) of Idaho Air Rules Section 006.102, then a cumulative NAAQS impact analysis is necessary to demonstrate compliance with National Ambient Air Quality Standards (NAAQS) and Idaho Air Rules Section 203.02. A cumulative NAAQS impact analysis for attainment area pollutants involves adding ambient impacts from facility-wide emissions, and emissions from any nearby

co-contributing sources, to DEQ-approved background concentration values that are appropriate for the criteria pollutant/averaging-time at the facility location and the area of significant impact. The resulting maximum pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 2. Table 2 also lists SCLs and specifies the modeled value that must be used for comparison to the NAAQS.

TABLE 2. APPLICABLE REGULATORY LIMITS

POLLUTANT	Averaging Period	Significant Contribution Levels[a] ($\mu g/m^3$)[b]	Regulatory Limit[c] ($\mu g/m^3$)	Modeled Value Used[d]
PM_{10}[e]	Annual[f]	1.0	50[g]	Maximum 1st highest[h]
	24-hour	5.0	150[i]	Maximum 6th highest[j]
$PM_{2.5}$[k]	Annual	Not established	15	Use PM_{10} as surrogate
	24-hour	Not established	35	Use PM_{10} as surrogate
Carbon monoxide (CO)	8-hour	500	10,000[l]	Maximum 2nd highest[h]
	1-hour	2,000	40,000[l]	Maximum 2nd highest[h]
Sulfur Dioxides (SO_x)	Annual	1.0	80[g]	Maximum 1st highest[h]
	24-hour	5	365[l]	Maximum 2nd highest[h]
	3-hour	25	1,300[l]	Maximum 2nd highest[h]
Nitrogen Dioxide (NO_2)	Annual	1.0	100[g]	Maximum 1st highest[h]
Lead (Pb)	Quarterly	NA	1.5[i]	Maximum 1st highest[h]

[a] Idaho Air Rules Section 006.102
[b] Micrograms per cubic meter
[c] Idaho Air Rules Section 577 for criteria pollutants
[d] The maximum 1st highest modeled value is always used for significant impact analysis
[e] Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers
[f] The annual PM_{10} standard was revoked in 2006. The standard is still listed because compliance with the annual $PM_{2.5}$ standard is demonstrated by a PM_{10} analysis that demonstrates compliance with the revoked PM_{10} standard.
[g] Never expected to be exceeded in any calendar year
[h] Concentration at any modeled receptor
[i] Never expected to be exceeded more than once in any calendar year
[j] Concentration at any modeled receptor when using five years of meteorological data
[k] Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
[l] Not to be exceeded more than once per year

New source review requirements for assuring compliance with $PM_{2.5}$ standards have not yet been completed and promulgated into regulation. EPA has asserted through a policy memorandum that compliance with $PM_{2.5}$ standards will be assured through an air quality analysis for the corresponding PM_{10} standard. Although the PM_{10} annual standard was revoked in 2006, compliance with the revoked PM_{10} annual standard must be demonstrated as a surrogate to the annual $PM_{2.5}$ standard.

2.1.3 Toxic Air Pollutant Analyses

Emissions of toxic substances are generally addressed by Idaho Air Rules Section 161:

> *Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.*

Permit requirements for toxic air pollutants (TAPs) from new or modified sources are specifically addressed by Idaho Air Rules Section 203.03 and require the applicant to demonstrate to the satisfaction of DEQ the following:

Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.

Per Section 210, if the emissions increase associated with a new source or modification exceeds screening emission levels (ELs) of Idaho Air Rules Section 585 or 586, then the ambient impact of the emissions increase must be estimated. If ambient impacts are less than applicable Acceptable Ambient Concentrations (AACs) for non-carcinogens of Idaho Air Rules Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACCs) of Idaho Air Rules Section 586, then compliance with TAP requirements has been demonstrated. If DEQ determines T-RACT is used to control emissions of carcinogenic TAPs, then modeled concentrations of 10 times the AACC are considered acceptable.

2.2 Background Concentrations

Background concentrations are used in the cumulative NAAQS impact analyses to account for impacts from sources not explicitly modeled. Table 3 lists appropriate background concentrations for the most-probable locations of the HMA.

Background concentrations were revised for all areas of Idaho by DEQ in March 2003[2]. Background concentrations in areas where no monitoring data are available were based on monitoring data from areas with similar population density, meteorology, and emissions sources. Background concentrations were based on DEQ default values for rural/agricultural areas.

Table 3. BACKGROUND CONCENTRATIONS

POLLUTANT	Averaging Period	Background Concentration ($\mu g/m^3$)[a]
PM_{10}[b]	24-hour	73
	Annual	26
Carbon monoxide (CO)	1-hour	3,600
	8-hour	2,300
Sulfur dioxide (SO_2)	3-hour	34
	24-hour	26
	Annual	8
Nitrogen dioxide (NO_2)	Annual	17
Lead (Pb)	Quarterly	0.03

a. Micrograms per cubic meter

b. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers

3.0 Modeling Impact Assessment

3.1 Modeling Methodology

This section describes the modeling methods used by the applicant to demonstrate compliance with applicable air quality standards.

[2] Hardy, Rick and Schilling, Kevin. *Background Concentrations for Use in New Source Review Dispersion Modeling.* Memorandum to Mary Anderson, March 14, 2003.

3.1.1 Overview of Analyses

DEQ staff performed the air quality analyses in support of the submitted permit application. Table 4 provides a brief description of parameters used in the modeling analyses.

Table 4. MODELING PARAMETERS		
Parameter	**Description/Values**	**Documentation/Addition Description[a]**
General facility location	Portable	Initially located near Twin Falls. No operation in any non-attainment area.
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 07026
Meteorological data	Multiple Data Sets	See Section 3.1.4
Terrain	Flat	The analyses assumed relatively flat terrain for the immediate area
Building downwash	Not Considered	Not considered because of porous nature of equipment and portable nature of the plant
Receptor Grid	Grid 1	5-meter spacing along the property boundary out 60 meters
	Grid 2	10-meter spacing out to 200 meters

3.1.2 Modeling Protocol and Methodology

A modeling protocol was submitted to DEQ prior to the application, providing data needed for DEQ to perform refined analyses, and DEQ provided conditional approval of the protocol to Envio-Mont. Modeling was generally conducted using data described in the protocol and methods described in the *State of Idaho Air Quality Modeling Guideline*.

Because of the portable nature of the HMA plant, DEQ performed non-site-specific modeling to establish setback distances between emissions source locations and the property boundary for the requested production rates and operating levels for support equipment.

3.1.3 Model Selection

Idaho Air Rules Section 202.02 requires that estimates of ambient concentrations be based on air quality models specified in 40 CFR 51, Appendix W (Guideline on Air Quality Models). The refined, steady state, multiple source, Gaussian dispersion model AERMOD was promulgated as the replacement model for ISCST3 in December 2005. EPA provided a one-year transition period during which either ISCST3 or AERMOD could be used at the discretion of the permitting agency. AERMOD must be used for all air impact analyses, performed in support of air quality permitting, conducted after November 2006.

AERMOD retains the single straight line trajectory of ISCST3, but includes more advanced algorithms to assess turbulent mixing processes in the planetary boundary layer for both convective and stable stratified layers.

AERMOD offers the following improvements over ISCST3:

- Improved dispersion in the convective boundary layer and the stable boundary layer.
- Improved plume rise and buoyancy calculations.
- Improved treatment of terrain affects on dispersion.
- New vertical profiles of wind, turbulence, and temperature.

AERMOD was used for the DEQ analyses for this project.

3.1.4 Meteorological Data

Because of the portable nature of this HMA facility, DEQ used six meteorological data sets from various locations in Idaho to assure compliance with applicable standards for the non-site-specific analyses. Table 5 lists the meteorological data sets used in the air impact analyses.

Table 5. METEOROLOGICAL DATA SETS USED IN MODELING ANALYSES		
Surface Data	**Upper Air Data**	**Years**
Boise	Boise	1988-1992

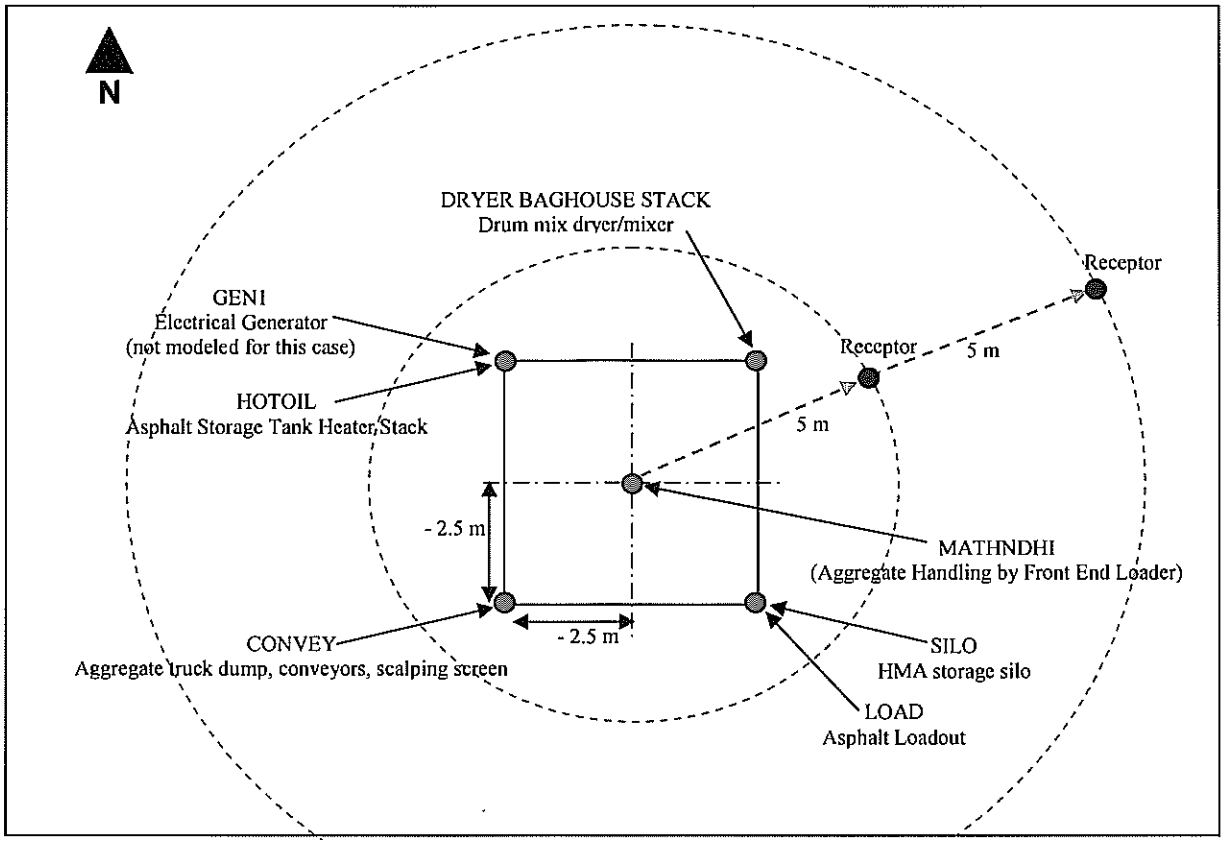

Figure 3-1. TYPICAL HOT MIX ASPHALT PLANT MODELING LAYOUT

3.1.8 Ambient Air Boundary

DEQ's non-site-specific analyses, using a generic facility layout, were used to generate minimum setback distances between emission units and the ambient air boundary (the nearest point outside a building where the general public has access). The issued permit must require that this distance be maintained at all locations when the HMA facility is being operated.

3.1.9 Receptor Network and Generation of Setback Distances

The receptor grid used in the submitted analyses is described in Table 4: a circular grid centered on the "generic' facility layout, with 5-meter spacing to 60 meters, with 10-meter spacing extending to 200 meters in all directions. The receptor grid met the minimum recommendations specified in the *State of Idaho Air Quality Modeling Guideline*.

The setback distance was determined as follows:

1) Determine trigger values for the modeling analyses. These are values, when combined with a background concentration, indicating an exceedance of an applicable standard. The model does not specifically include background values in the results, so the trigger values were calculated by subtracting the background value from the standard. The trigger values, background values, and National Ambient Air Quality Standard (NAAQS) for criteria pollutants are shown in Table 6.

   Trigger values for state-regulated toxic air pollutants with emissions exceeding the screening emission level (EL) increment listed in Section 585 or 586 of the Idaho Air Rules were set to the AAC or AACC

Table 5. METEOROLOGICAL DATA SETS USED IN MODELING ANALYSES		
Surface Data	**Upper Air Data**	**Years**
Pocatello	Boise	1988-1992
Idaho Falls	Boise	2000-2004
Minidoka	Boise	2000-2004
Lewiston	Spokane, Washington	1992-1995, 1997
Sandpoint	Spokane, Washington	2002-2006

Use of representative meteorological data is of greater concern when using AERMOD than when using ISCST3. This is because AERMOD uses site-specific surface characteristics to more accurately account for turbulence. To account for this uncertainty, the following measures were taken:

- Use the maximum 2nd high modeled concentration to evaluate compliance with the 24-hour PM_{10} standard, rather than the maximum 6th high modeled concentration typically used when modeling a five-year meteorological data set to demonstrate that the standard will not be exceeded more than once per year on average over a three-year period.
- Use the maximum 1st high modeled concentration to evaluate compliance for all pollutants and averaging times, except for 24-hour PM_{10}.

3.1.5 Terrain Effects

Terrain effects on dispersion were not considered in the non-site-specific analyses. Flat terrain was an appropriate assumption because most emissions sources associated with this HMA plant are near ground-level and the surrounding area is typically flat for dispersion modeling purposes. Emissions sources near ground-level typically have maximum pollutant impacts near the source, minimizing the potential affect of surrounding terrain on the magnitude of the maximum modeled impacts.

3.1.6 Facility Layout

DEQ's analyses used a generic facility layout. This was done because the specific layout will vary depending upon product needs and the specific characteristics of each site.

The generic plant layout is shown in Figure 3-1. Material handling fugitive emissions were positioned at the center of the plant (0.0 meters East, 0.0 meters North). Other emissions points were positioned within 5 meters of this point: the dryer stack at 2.5 meters East, 2.5 meters North; silo filling and asphalt loadout fugitive emissions combined at 2.5 meters East, -2.5 meters North; conveyor transfer, aggregate truck dumping, and other miscellaneous fugitive emissions at -2.5 meters East, -2.5 meters North; and the asphalt tank heater stack and generator stack combined at -2.5 meters East, 2.5 meters North;

3.1.7 Building Downwash

DEQ's analyses did not account for building downwash because of the following:

- The portable nature of the equipment prevents estimation of a reasonably accurate building configuration.
- Much of the equipment used is somewhat porous with regard to wind, thereby minimizing downwash effects.

increment for each TAP. There are currently no background values available for TAPs. These values are also shown in Table 6.

Table 6. SUMMARY OF TRIGGER VALUES, BACKGROUNDS, AND STANDARDS					
POLLUTANT	**Averaging Period**	**Trigger Value ($\mu g/m^3$)[a]**	**Background Concentration ($\mu g/m^3$)[a]**	**NAAQS ($\mu g/m^3$)[a]**	**Percent of NAAQS**
PM_{10}[b]	24-hour	77	73	150	100%
	Annual	24	26	50	100%
Carbon monoxide (CO)	1-hour	36,400	3,600	40,000	100%
	8-hour	7,700	2,300	10,000	100%
Sulfur dioxide (SO_2)	3-hour	1,266	34	1,300	100%
	24-hour	339	26	365	100%
	Annual	72	8	80	100%
Nitrogen dioxide (NO_2)	Annual	83	17	100	100%
Lead (Pb)	Quarterly	0.12	0.03	0.15	100%
Toxic Air Pollutants	**Averaging Period**	**Trigger Value[c] ($\mu g/m^3$)[a]**	**Background Concentration ($\mu g/m^3$)[a]**	**AAC/AACC[d] ($\mu g/m^3$)[a]**	**Percent of AAC/AACC**
Non-PAH TAPs					
Acetaldehyde	Annual	10 x 0.45	---	10 x 0.45	100%
Benzene	Annual	10 x 0.12	---	10 x 0.12	100%
Formaldehyde	Annual	10 x 0.077	---	10 x 0.077	100%
Propionaldehyde	24-hour	21.5	---	21.5	100%
Quinone	24-hour	20	---	20	100%
PAH TAPs:					
2-Methylnaphthalene	Annual	10 x 0.014	---	10 x 0.014	100%
Acenaphthene	Annual	10 x 0.014	---	10 x 0.014	100%
Acenaphthylene	Annual	10 x 0.014	---	10 x 0.014	100%
Anthracene	Annual	10 x 0.014	---	10 x 0.014	100%
Fluorene	Annual	10 x 0.014	---	10 x 0.014	100%
Naphthalene	Annual	10 x 0.014	---	10 x 0.014	100%
Phenanthrene	Annual	10 x 0.014	---	10 x 0.014	100%
Pyrene	Annual	10 x 0.014	---	10 x 0.014	100%
POM[e]	Annual	10 x 3.0E-4	---	10 x 3.0E-4	100%
Metals					
Arsenic	Annual	10 x 2.3E-4	---	10 x 2.3E-4	100%
Cadmium	Annual	10 x 5.6E-4	---	10 x 5.6E-4	100%
Chromium 6+	Annual	10 x 8.3E-5	---	10 x 8.3E-5	100%
Nickel	Annual	10 x 4.2E-3	---	10 x 4.2E-3	100%

[a] Micrograms per cubic meter

[b] Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

[c] T-RACT was presumed to apply for carcinogenic TAPs subject to an annual standard.

[d] Defined in Sections 585 and 586 of the Idaho Air Rules.

[e] Polycyclic Organic Matter (7-PAH Group). Sum of benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, and indeno(1,2,3,-cd)pyrene.

2) AERMOD analyses. Run modeling analyses for each meteorological data set, for short term NAAQS, long term NAAQS, and TAPs.

3) Plot receptors where ambient impact exceeds the trigger value. For each pollutant, averaging period, and meteorological data set, plot all receptors with concentrations equal or greater than the trigger value. This provided a plot of receptors where the standard could be exceeded for that pollutant and averaging period.

4) Define the controlling receptor. For each pollutant, averaging period, and meteorological data set, identify the receptor with an ambient impact concentration greater than the trigger value that is the furthest away from any emissions source. The controlling receptor is the next furthest downwind receptor from that point.

5) Define the setback distance. Determine the furthest distance from any emissions point and the controlling receptor. This is the setback distance.

3.2 Emission Rates

Emissions rates used in the modeling analyses were obtained from the DEQ air quality engineer writing the permit unless otherwise indicated. See the attached emission summaries. Emissions were based on:

- Production of 225 tons of HMA per hour for 24 hours per day (5,400 tons of HMA per day), with a maximum production of 270,000 tons of HMA per year. Emissions from the drum dryer were based on the worst-case emissions from any of the following fuels: 0.5% sulfur fuel oil or used oil, natural gas, and propane.
- Operation of a 2.0 MMBtu/hr asphalt tank heater, running on 0.5% sulfur #2 fuel oil for 24 hr/day and a maximum of 4,608 hr/yr.
- No generator emissions.

3.2.1 Criteria Pollutant Emissions Rates

Criteria pollutant emissions rates used in the modeling analyses for both long-term and short-term averaging periods are shown in Table 7.

Emissions from the handling of aggregate materials by frontend loader (emissions point MATHNDLO in the model) were calculated for transfers to a storage pile and transfers from the pile to the hopper. It was assumed implementation of moderate emissions control measures will reduce emissions by 75 percent compared to uncontrolled emissions. These emissions were varied with wind speed in the model as described in attachment A of this memorandum. Emissions from MATHNDLO listed in Table 7 are based on a 10 mile per hour wind speed.

Emissions from screening operations and conveyor transfers were combined into one source (emissions point CONVEY in the model). This point included RAP and aggregate screens, two transfers for aggregate weigh conveyor, two transfers for RAP weigh conveyor, and two transfers for a drag slat conveyor. Compliance with the PM_{10} 24-hour standard could not be demonstrated when uncontrolled emissions from screens and conveyors were modeled. Therefore, the emissions factors for controlled emissions from these sources were used to recalculate emissions for modeling. The issued permit should include rigorous implementation of best management practices to control emissions from these sources.

Table 7. EMISSIONS RATES USED FOR FULL NAAQS IMPACT MODELING

Emissions Point	Description	Emissions Rates (lb/hr)			
		PM_{10}[a]	Sulfur Dioxide	Carbon Monoxide	Oxides of Nitrogen
DRYER	Asphalt Dryer Stack	5.175 24-hr 0.710 ann.	13.05 3-hr, 24-hr 1.79 ann.	29.25 1-hr, 8-hr	1.70 ann.
SILO	Asphalt Silo Filling	0.1318 24-hr 0.0181 ann.		0.2655 1-hr, 8-hr	
LOAD	Asphalt Loadout	0.1174 24-hr 0.0161ann.		0.3040 1-hr, 8-hr	
OILHEAT	Asphalt Heater	0.0482 24-hr 0.0253 ann.	1.04 3-hr, 24-hr 0.545 ann.	0.073 1-hr, 8-hr	0.154 ann.
MATHNDLO	Material Handling – Loader – Moderate controls	0.3681[b] 24-hr 0.0504[b] ann.			

Table 7. EMISSIONS RATES USED FOR FULL NAAQS IMPACT MODELING					
Emissions Point	Description	Emissions Rates (lb/hr)			
		PM_{10}[a]	Sulfur Dioxide	Carbon Monoxide	Oxides of Nitrogen
CONVEY	Conveyors + Screens	0.198[c] 24-hr 0.0541[c] ann.			

[a] Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers.

[b] Emissions calculated for a 10 mph wind speed.

[c] Calculated using a factor for controlled emissions.

3.2.2 TAP Emissions Rates

TAP emissions associated with operation of the proposed HMA plant are shown in Table 8. The table includes only those TAPs where total emissions exceeded emissions screening levels of Idaho Air Rules Sections 585 and 586.

Table 8. EMISSIONS RATES USED FOR TAPS IMPACT MODELING					
TAP	Averaging Period	Emissions Rates (lb/hr)			
		DRYER	SILO	LOAD	OILHEAT
Non-PAH TAPs					
Acetaldehyde	Annual	0.0401	0.0	0.0	0.0
Benzene	Annual	0.012	1.20E-4	6.67E-5	0.0
Formaldehyde	Annual	0.0955	2.60E-3	1.13E-4	2.69E-5
Propionaldehyde	24-hour	0.0293	0.0	0.0	0.0
Quinone	24-hour	0.0360	0.0	0.0	0.0
PAH TAPs					
Total PAH[a]	Annual	0.0272	8.92E-4	6.23E-4	1.77E-4
POM[b]	Annual	1.69E-5	2.08E-5	1.42E-5	7.68E-7
Metals					
Arsenic	Annual	1.73E-5	0.0	0.0	1.01E-5
Cadmium	Annual	1.26E-5	0.0	0.0	3.06E-6
Chromium 6+	Annual	1.39E-5	0.0	0.0	1.90E-6
Nickel	Annual	1.94E-3	0.0	0.0	6.49E-4

[a] To simplify the modeling analyses, the combined emissions of PAH TAPs from each source were modeled.

[b] Polycyclic Organic Matter (7-PAH Group). Sum of benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, and indeno(1,2,3,-cd)pyrene.

3.3 Emission Release Parameters

Emissions release parameters for the analyses including stack height, stack diameter, exhaust temperature, and exhaust velocity are shown in Table 9. Asphalt silo filling and asphalt loadout were modeled as point sources, rather than volume sources, to account for thermal buoyancy of the emissions. Release parameters were based on the following:

- Release point of silo filling was established as the top of the storage silo and the release point of asphalt loadout operations was set to correspond to the top of a truck bed.
- Stack diameter of 3.0 meters was used to approximately correspond to a typical silo. Model-calculated stack tip downwash will account for downwash affects potentially caused by the silo.
- Stack gas temperature of 344K was calculated by assuming the gas temperature would be half that of the default asphalt temperature of 325°F.
- Flow velocity of 0.1 m/sec was used to establish a reasonably conservative total flow from the source of 1,500 actual cubic feet per minute, caused by convection.

Table 9. EMISSIONS RELEASE PARAMETERS					
Release Point /Location	**Source Type**	**Stack Height (m)a**	**Modeled Diameter (m)**	**Stack Gas Temp. (K)b**	**Stack Gas Flow Velocity (m/sec)c**
Point Sources					
DRYER	Point	6.8	1.0	422	27.6
OILHEAT	Point	2.7	0.3	591	6.2
SILO	Point	7.5	3	344	0.1
LOAD	Point	5	3	344	0.1
Volume Sources					
Release Point /Location	**Source Type**	**Release Height (m)**	**Initial Horizontal Dispersion Coefficient σ_{y0} (m)**	**Initial Vertical Dispersion Coefficient σ_{z0} (m)**	
MATHNDLO	Volume	2.5	4.65	1.2	
CONVEY	Volume	5.0	4.65	1.2	

[a] Meters

[b] Kelvin

[c] Meters per second

3.4 Results for Full NAAQS Impact Analyses

DEQ performed a refined cumulative NAAQS impact analyses to evaluate compliance with applicable standards and to establish emissions point setback distances from ambient air locations. Results of the cumulative NAAQS impact analyses are provided in Table 10. PM_{10} 24-hour modeled impacts are the most restrictive for establishing the setback distance, as shown in the table.

Table 10. RESULTS FOR FULL IMPACT ANALYSES				
Pollutant	**Averaging Period**	**Background Concentration ($\mu g/m^3$)[a]**	**NAAQS[b] ($\mu g/m^3$)**	**Setback Need to Meet NAAQS**
PM_{10}[c]	24-hour	73	150	130 m
	Annual	26	50	46 m
Carbon Monoxide (CO)	1-hour	3,600	40,000	<30 m
	8-hour	2,300	10,000	<30 m
Sulfur Dioxide (SOx)	3-hour	34	1,300	<30 m
	24-hour	26	365	<30 m
	Annual	8	80	<30 m
Nitrogen Dioxide (NO_2)	Annual	17	100	<30 m

[a] Micrograms per cubic meter.

[b] Defined in Idaho Air Rules Section 577

[c] Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers

3.5 Results for TAPs Analyses

DEQ performed a TAPs impact analyses to evaluate compliance with applicable increments and to establish emissions point setback distances from ambient air locations. Setback distances needed to maintain compliance with AACCs were over 150 meters. If DEQ determines that the use of a baghouse on the drum dryer represents T-RACT for particulates and that no additional controls represent T-RACT for volatile TAPs, allowable impacts are 10 times the value of the AACC (representing a carcinogenic risk of one-in-100,000). Results of the TAPs impact analyses (with T-RACT) are provided in Table 11.

Table 11. RESULTS FOR TAP IMPACT ANALYSES			
Pollutant	**Averaging Period**	**AAC/AACC[b] ($\mu g/m^3$)[a]**	**Setback Need to Meet Increment (with T-RACT)**

Non-PAH TAPs			
Acetaldehyde	Annual	10 x 0.45	<100 m
Benzene	Annual	10 x 0.12	<100 m
Formaldehyde	Annual	10 x 0.077	<100 m
Propionaldehyde	24-hour	21.5	<100 m
Quinone	24-hour	20	<100 m
PAH TAPs			
Total PAH	Annual	10 x 0.014	<100 m
POM[b]	Annual	10 x 3.0E-4	<100 m
Metals			
Arsenic	Annual	10 x 2.3E-4	<100 m
Cadmium	Annual	10 x 5.6E-4	<100 m
Chromium 6+	Annual	10 x 8.3E-5	<100 m
Nickel	Annual	10 x 4.2E-3	<100 m

[a.] Micrograms per cubic meter.

[b.] Defined in Idaho Air Rules Sections 585 and 586

4.0 Conclusions

The ambient air impact analyses demonstrated to DEQ's satisfaction that emissions from the facility will not cause or significantly contribute to a violation of any air quality standard.

ATTACHMENT A

AGGREGATE HANDLING EMISSIONS

Emissions Calculations

Base emissions on 225 ton/hr, 24 hour/day and 270,000 ton/yr

Material Handling based on AP42 Section 13.2.4

$$E = k(0.0032)\left[\frac{(U/5)^{1.3}}{(M/2)^{1.4}}\right] \quad \text{lb/ton} \qquad \text{A rating}$$

where:

k	=	0.35 for PM_{10}, 0.053 for $PM_{2.5}$
M	=	Material moisture content. 1.77% for aggregate per Section 11.2
U	=	Wind speed (miles per hour)

Emissions were varied in the model as a function of wind speed.
Six wind speed categories were used for modeling: 1.54 m/sec, 3.09 m/sec, 5.14 m/sec, 8.23 m/sec, and 10.8 m/sec (1 m/sec = 2.237 mph). These corresponded to wind speed categories used within ISCST3.

Cat. 1 : (0 + 1.54)/2 = 0.77 m/sec = 1.72 mph
Cat. 2 : (1.54 + 3.09)/2 = 2.32 m/sec = 5.18 mph
Cat. 3 : (3.09 + 5.14)/2 = 4.12 m/sec = 9.20 mph
Cat. 4 : (5.14 + 8.23)/2 = 6.69 m/sec = 14.95 mph
Cat. 5 : (8.23 + 10.8)/2 = 9.52 m/sec = 21.28 mph
Cat. 6 : (10.8 + 14)/2 = 12.4 m/sec = 27.74 mph

Aggregate Handling

Base PM_{10} factor: $E = 0.35(0.0032)\left[\frac{(10/5)^{1.3}}{(1.77/2)^{1.4}}\right] = 3.272E-3$ lb/ton

Adjustment Factors:

Cat 1 : $(1.72/5)^{1.3}$ (1.329 E-3) = 3.319 E-4 lb/ton PM_{10}
Factor = 3.319 E-4 / 3.272 E-3 = 0.1014

Cat 2 : $(5.18/5)^{1.3}$ (1.329 E-3) = 1.391 E-3 lb/ton PM_{10}
Factor = 1.391 E-3 / 3.272 E-3 = 0.4253

Cat 3 : $(9.20/5)^{1.3}$ (1.329 E-3) = 2.936 E-3 lb/ton PM_{10}
Factor = 2.936 E-3 / 3.272 E-3 = 0.8974

Cat 4 : $(14.95/5)^{1.3}$ (1.329 E-3) = 5.519 E-3 lb/ton PM_{10}
Factor = 5.519 E-3 / 3.272 E-3 = 1.687

Cat 5 : $(21.28 / 5)^{1.3}$ (1.329 E-3) = 8.734 E-3 lb/ton PM_{10}
Factor = 8.734 E-3 / 3.272 E-3 = 2.669

Cat 6 : $(27.74 / 5)^{1.3}$ (1.329 E-3) = 1.233 E-2 lb/ton PM_{10}
Factor = 1.233 E-2 / 3.272 E-3 = 3.768

Base uncontrolled PM_{10} emissions

$$\frac{3.272\text{ E-3 lb } PM_{10}}{\text{ton}} \left| \frac{225\text{ ton}}{\text{hr}} \right| \frac{2\text{ transfers}}{} = \frac{1.472\text{ lb } PM_{10}}{\text{hr}}$$

Assume aggressive fugitive dust controls reduce emissions by an additional 75%

Base controlled PM_{10} (24 hr/day operation)

$$\frac{1.472\text{ lb } PM_{10}}{\text{hr}} \left| \frac{(1-0.75)}{} \right. = \frac{0.3681\text{ lb } PM_{10}}{\text{hr}}$$

Annual PM_{10} Emissions

Base uncontrolled PM_{10} emissions

$$\frac{3.272\text{ E-3 lb } PM_{10}}{\text{ton}} \left| \frac{270{,}000\text{ ton}}{\text{yr}} \right| \frac{\text{yr}}{8760\text{ hr}} \left| \frac{2\text{ transfers}}{} \right. = \frac{0.2017\text{ lb } PM_{10}}{\text{hr}}$$

Assume aggressive fugitive dust controls reduce emissions by an additional 75%

Base annual controlled PM_{10}

$$\frac{0.2017\text{ lb } PM_{10}}{\text{hr}} \left| \frac{(1-0.75)}{} \right. = \frac{0.05042\text{ lb } PM_{10}}{\text{hr}}$$

Appendix D – Facility Comments

Comments made by Facility

1 – There was a question regarding the processing fee total. Was it necessary to pay the $7,500 based on emission totals or $500 per an email sent by DEQ in March 2009?

It was determined that when the email was sent to the facility it was under the assumption that Gordon Paving Company Inc. would fall under the "General Permit". However, there was a departmental decision stating the "General Permits" were not approved for use as of yet. Therefore, Gordon Paving Company Inc. was responsible for the full processing fee of $7,500.