INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: September 30, 2009

RE: Valley Asphalt Corporation Plant # 17 / 029-27896-05327

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER.dot12/03/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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New Source Construction and Federally Enforceable State Operating Permit OFFICE OF AIR QUALITY

Valley Asphalt Corporation Plant #17
Portable

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F029-27896-05327	
Issued by: Alfred G. Brenard for Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: September 30, 2009 Expiration Date: September 30, 2014

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a portable drum hot mix asphalt operation that uses slag in their aggregate mix.

Initial Source Address:	11048 Highway 56, Aurora, Indiana 47001
Mailing Address:	11641 Mosteller Road, Cincinnati, Ohio 45241
General Source Phone Number:	513-771-0820
SIC Code:	2951
County Location:	Dearborn
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This portable source consists of the following emission units and pollution control devices:

(a) One (1) portable asphalt drum mixer, identified as Plant #1, approved for construction in 2009,with a maximum capacity of 325 tons of asphalt per hour, processing slag in the aggregate mix, equipped with one (1) dryer/mixer burner, having a maximum heat input rated capacity of 93 MMBtu per hour, firing No. 2 distillate fuel oil as primary fuel, using re-refined waste oil as a back-up fuel, equipped with a baghouse for particulate control, and exhausting through Stack 01.

Under 40 CFR 60, Subpart I, this is considered an affected hot mix asphalt facility.

(b) Material handling and conveying operations, approved for construction in 2009, consisting of the following:

(1) Aggregate storage piles consisting of sand, gravel, limestone, recycled asphalt pavement, and slag, with a maximum storage capacity of 30,000 tons;

(2) One (1) dust bin silo;

(3) Five (5) 20 ton aggregate feed bins;

(4) Two (2) Recycled Asphalt Pavement (RAP) feed bins;

(c) Two (1) liquid asphalt cement storage tank, identified as EU-3 and EU-4, approved for construction in 2009, with a maximum storage capacity of 25,000 gallons each.

(d) One (1) No. 2 fuel oil or waste oil storage tank, identified as EU-5, approved for construction in 2009, with a maximum storage capacity of 20,000 gallons.

(e) One (1) No. 2 fuel oil or waste oil storage tank, identified as EU-6, approved for construction in 2009, with a maximum storage capacity of 10,000 gallons.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This portable source also includes the following insignificant activities:

(a) One (1) hot oil heater, identified as EU-2, approved for construction in 2009, with a maximum heat input capacity of 1.90 MMBtu per hour, firing No. 2 fuel oil, and exhausting through Stack SV2.

(b) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

A.4 FESOP Applicability [326 IAC 2-8-2]

This portable source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4][326 IAC 2-8]

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 and 326 IAC 2-8 when prior to the start of operation, the following requirements are met:

(a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.

(b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.

(c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

B.4 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

(a) This permit, F029-27896-05327, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.5 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.6 Enforceability [326 IAC 2-8-6] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.7 Severability [326 IAC 2-8-4(4)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.8 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.9 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.10 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.11 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.12 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.13 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or

potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.14 Emergency Provisions [326 IAC 2-8-12]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

(h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

B.15 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to F029-27896-05327 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

(b) All previous registrations and permits are superseded by this permit.

B.16 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.17 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.18 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.19 Permit Renewal [326 IAC 2-8-3(h)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.20 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.21 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-8-11.1 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).

(b) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).

(c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.22 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.23 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.24 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

(a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.25 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.26 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

(1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

(2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in any County except Lake or the areas specified in Condition C.3(a)(1) through (7).

(b) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in the

following areas listed in 326 IAC 5-1-1(c):

(1) Clark County (Jefferson Township - Cities of Jeffersonville, Clarksville, Oak Park);

(2) Dearborn County (Lawrenceburg Township - Cities of Lawrenceburg and Greendale);

(3) Dubois County (Bainbridge Township - the City of Jasper);

(4) Marion County (except the area of Washington Township east of Fall Creek and the area of Franklin Township south of Thompson Road and east of Five Points Road);

(5) St. Joseph County (the area north of Kern Road and east of Pine Road);

(6) Vanderburgh County (the area included in the City of Evansville and Pigeon Township); and

(7) Vigo County (Indiana State University campus, 0.5km radius around UTM Easting 464,519.00, Northing 4,369,208.00, Zone 16.

(c) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period, when the source is located in any County.

C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

C.6 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan as in Attachment A.

C.8 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

C.9 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at

least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements [326 IAC 2-8-4(3)]

C.10 Performance Testing [326 IAC 3-6]

(a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.11 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.12 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.13 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.14 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.15 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within 180 days from the date on which this source commences operation.

The ERP does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.16 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.17 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

(a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall maintain the following records:

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions taken.

C.18 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.19 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later.

C.20 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

Portable Source Requirement

C.21 Relocation of Portable Sources [326 IAC 2-14-4]

(a) This permit is approved for operation in all areas of Indiana except in Lake County and Porter County and severe nonattainment areas for ozone. This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2, 326 IAC 2-1.1-5 Nonattainment New Source Review and Emission Offset requirements in 326 IAC 2-3.

(b) A request to relocate shall be submitted to IDEM, OAQ at least thirty (30) days prior to the intended date of relocation. This submittal shall include the following:

(1) A list of governmental officials entitled to receive notice of application to relocate. IC 13-15-3-1

(2) A list of adjacent landowners that the Permittee will send written notice to not more than ten (10) days after submission of the request to relocate. IC 13-15-8

(3) The new location address of the portable source.

(4) Whether or not this portable source will be relocated to another source.

(5) If relocating to another source:

(A) Name, location address, and permit number of the source this portable source is relocating to.

(B) Whether or not the sources will be considered as one source. See Non Rule Policy (NRP) Air-005 and Air-006.

(6) If the sources will be considered as one source, whether or not the source to be relocated to has received the necessary approvals from IDEM to allow the relocation.

The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) A “Relocation Site Approval” letter shall be obtained prior to relocating.

(d) A valid operation permit consists of this document and any subsequent "Relocation Site Approval" letter specifying the current location of the portable plant.

Stratospheric Ozone Protection

C.22 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description [326 IAC 2-8-4(10)]:

(a) One (1) portable asphalt drum mixer, identified as Plant #1, approved for construction in 2009,with a maximum capacity of 325 tons of asphalt per hour, processing slag in the aggregate mix, equipped with one (1) dryer/mixer burner, having a maximum heat input rated capacity of 93 MMBtu per hour, firing No. 2 distillate fuel oil as primary fuel, using re-refined waste oil as a back-up fuel, equipped with a baghouse for particulate control, and exhausting through Stack 01.

Under 40 CFR 60, Subpart I, this is considered an affected hot mix asphalt facility.

(b) Material handling and conveying operations, approved for construction in 2009, consisting of the following:

(1) Aggregate storage piles consisting of sand, gravel, limestone, recycled asphalt pavement, and slag, with a maximum storage capacity of 30,000 tons;

(2) One (1) dust bin silo;

(3) Five (5) 20 ton aggregate feed bins;

(4) Two (2) Recycled Asphalt Pavement (RAP) feed bins;

The following is a list of the Insignificant Activities:

(a) One (1) hot oil heater, identified as EU-2, approved for construction in 2009, with a maximum heat input capacity of 1.90 MMBtu per hour, firing No. 2 fuel oil, and exhausting through Stack SV2.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the dryer/mixer shall not exceed 0.03 grain per dry standard cubic foot of exhaust air when the source is located in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties.

D.1.2 Particulate Matter (PM) [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

(a) The amount of asphalt processed shall not exceed one million (1,000,000) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The PM emissions from the aggregate dryer/mixer shall not exceed 0.384 pounds per ton of asphalt processed.

Compliance with these limitations, combined with the limited potential to emit from other emission units at this source, shall limit the source-wide total potential to emit PM to less than 250 tons per twelve (12) consecutive month period. Therefore compliance with this limit will render 326 IAC 2-2 (PSD) not applicable.

D.1.3 FESOP Limits [326 IAC 2-8-4][326 IAC 2-1.1-5][326 IAC 2-2][326 IAC 8-1-6]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

(a) The amount of asphalt processed shall not exceed one million (1,000,000) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) PM_{10} emissions from the dryer/mixer shall not exceed 0.163 pounds of PM_{10} per ton of asphalt produced.

(c) PM 2.5 emissions from the dryer/mixer shall not exceed 0.182 pounds of PM 2.5 per ton of asphalt produced.

(d) CO emissions from the dryer/mixer shall not exceed 0.130 pounds of CO per ton of asphalt produced.

(e) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.

Compliance with these limitations, combined with the limited potential to emit PM10, PM2.5, CO and VOC from all other emission units at this source, shall limit the source-wide total potential to emit PM10, PM2.5, CO, SO2 and VOC to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permit Program), 326 IAC 2-1.1-5 (Nonattainment New Source Review), and 326 IAC 2-2 (PSD) not applicable.

D.1.4 Fuel Limitations [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4 and in order to limit the SO2, NOx, and HCl emissions from all emission units at this source, the Permittee shall comply with the following:

(a) Sulfur Content and Waste Oil Specifications

(1) The sulfur content of the No. 2 fuel oil shall not exceed 0.5 percent by weight.

(2) The sulfur content of the waste oil shall not exceed 1.0 percent by weight

(3) The HCl emissions from the dryer/mixer shall not exceed 0.0132 pounds of HCl per gallon of waste oil burned.

(4) The waste oil combusted shall not contain more than 0.50% ash, 0.200 chlorine and 0.010 lead by weight.

(b) Slag Specifications and Limits

(1) The amount of slag used shall not exceed one hundred fifty thousand (150,000) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(2) SO_2 emissions from the slag used in the dryer/mixer shall not exceed seventy-four hundredths (0.74) pounds of SO_2 per ton of slag processed.

(3) The slag shall have a sulfur content less than or equal to one and fifty hundredths percent (1.50%) by weight.

(c) Pursuant to 326 IAC 2-8-4, the SO_2 and NO_x emissions from the dryer/mixer burner, shall be limited as follows:

(1) The usage of slag shall not exceed 150,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(2) The usage of No. 2 fuel oil for the aggregate dryer burner shall not exceed 1,106,466 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(3) The usage of waste oil for the aggregate dryer burner shall not exceed 534,416 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(i) For the purpose of determining compliance with the SO_2 limit:

Every gallon of No. 2 fuel oil shall be equivalent to 0.48 gallons of waste oil. However, the No. 2 fuel usage shall in no case exceed 1,106,446 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

(ii) For the purpose of determining compliance with the NO_x limit:

Every gallon of No. 2 fuel oil shall be equivalent to 1.05 gallons of waste oil. However, the No. 2 fuel usage shall in no case exceed 1,106,466 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) HCl emissions dryer/mixer burner, and hot oil heater shall not exceed 9.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the limited potential to emit SO_2, NOx and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO_2 and NO_x to less than 100 tons per 12 consecutive month period, each, HCl to less than 10 tons per 12 consecutive month period, and any combination of HAPs to less than 25 tons per 12 consecutive period, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)) not applicable.

D.1.5 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1][326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), the Permittee shall comply with the following:

(a) The sulfur dioxide (SO_2) emissions from the dryer/mixer burner shall not exceed 0.5 pounds per MMBtu when using distillate oil.

(b) The sulfur dioxide (SO_2) emissions from the dryer/mixer burner shall not exceed 1.60 pounds per MMBtu heat input when using residual oil.

(c) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.1.6 Volatile Organic Compounds (VOCS) [326 IAC 8-5-2]

Pursuant to 326 IAC 8-5-2 (Miscellaneous Operations: asphalt paving), the owner or operator shall not cause or allow the use of asphalt emulsion containing more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:

(a) penetrating prime coating

(b) stockpile storage

(c) application during the months of November, December, January, February and March.

D.1.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Determination Requirements

D.1.8 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11][326 IAC 12][326 IAC 6.5-1-2]

(a) In order to demonstrate compliance with Conditions D.1.3(b) and D.1.3(c) the Permittee shall perform PM_{10} and $PM_{2.5}$, testing on the dryer/mixer stack within one hundred and eighty (180) days of publication of the new or revised condensable PM test method(s) referenced in the U.S. EPA' s Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers ($PM_{2.5}$), signed on May 8th, 2008, or within 180 days after initial startup whichever is later. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM_{10} and $PM_{2.5}$ includes filterable and condensable PM.

(b) Within sixty (60) days after achieving maximum capacity, but not later than one hundred and eighty (180) days after startup, in order to demonstrate compliance with Condition D.1.2(b), the Permittee shall perform PM testing of the dryer/mixer utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

(c) Within sixty (60) days after achieving maximum capacity, but not later than one hundred and eighty (180) days after startup, the Permittee shall perform SO_2 testing for the dryer/mixer, in order to demonstrate compliance with Condition D.1.4(b)(2) and D.1.4(b)(3), utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

D.1.9 Particulate Control

(a) In order to comply with Conditions D.1.1, D1.2, and D.1.3, the baghouses for PM and PM10 control shall be in operation and control emissions from the aggregate dryer and drum mixer at all times that the aggregate dryer and drum mixer are in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.10 Sulfur Dioxide (SO2) Emissions and Sulfur Content

(a) Compliance with the slag limitations established in Conditions D.1.3(b)(1)(2)and (3) shall be determined utilizing one of the following options. Pursuant to 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements), compliance shall be demonstrated on a thirty (30) day calendar-month average.

(1) Providing vendor analysis of all slag delivered, if accompanied by a vendor certification; or

(2) Analyzing a sample of each slag delivery, if no vendor analyses or certifications are available, to determine the sulfur content of the slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

Compliance may also be determined by conducting a stack test for sulfur dioxide emissions using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

(b) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate compliance with sulfur dioxide emissions and sulfur content limitations by:

(1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or

(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(c) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the dryer/mixer, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

D.1.11 Visible Emissions Notations

(a) Visible emission notations of the aggregate dryers/mixer stack exhaust shall be performed once per day during normal daylight operations, when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part

of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.1.12 Baghouse Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with the dryer/mixer, at least daily when the process is in operation, when venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.13 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.14 Record Keeping Requirements

(a) To document compliance with Conditions D.1.1, D.1.2. D.1.3 and D.1.10 the Permittee shall keep records of the amount of asphalt processed through the drum mixer and dry/burner on a monthly basis. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.

(b) To document compliance with Condition D.1.4(b) the Permittee shall maintain records of the amount of slag used per month. For the annual slag usage limit, the compliance determination period is the most recent twelve (12) consecutive month period.

(c) To document compliance with conditions D.1.4(b)(1), D.1.4(b)(2) and D.1.4(b)(3), the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken daily and shall be complete and sufficient to establish compliance with the SO_2 emission limits established in Conditions D.1.4(2) and D.1.4(3). For the sulfur content limit, the compliance determination period is each calendar month.

(1) Calendar dates covered in the compliance determination period;

(2) Actual slag usage, sulfur content and equivalent sulfur dioxide emission rates for all slag used at the source on a thirty (30) day calendar-month average;

(3) A certification, signed by the owner or operator, that the records of the slag supplier certifications represent all of the slag used during the period; and

If the slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

(4) Slag supplier certifications;

(5) The name of the slag supplier; and

(6) A statement from the slag supplier that certifies the sulfur content of the slag.

(d) To document compliance with Conditions D.1.3, D.1.4 and D.1.5, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken daily and shall be complete and sufficient to establish compliance with the SO2, HCI and NOx emission limits established in Condition D.1.3, D.1.4 and D.1.5. For the annual fuel limits, the compliance determination period is the most recent twelve (12) consecutive month period. For the HCI and sulfur content limits, the compliance determination period is each calendar month.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide and nitrogen oxide emission rates for each fuel used at the source per month;

(3) A certification, signed by the owner or operator that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

If the fuel supplier certification is used to demonstrate compliance the following, as a minimum shall be maintained:

(4) Fuel supplier certifications;

(5) The name of the fuel supplier; and

(6) A statement from the fuel supplier that certifies the sulfur content of the No. 2 fuel oil, the waste oil and the chlorine content of the waste oil.

(e) To document compliance with Conditions D.1.4(c) and D.1.10 when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner and hot oil heating system, the Permittee shall maintain records of actual fuel usage, and equivalent nitrogen oxides and sulfur dioxide emission rates for each fuel used at the source per month.

(f) To document compliance with Condition D.1.11, the Permittee shall maintain daily records of the visible emission notations from the dryer/mixer stack (S1) exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the plant did not operate that day).

(g) To document compliance with Condition D.1.12, the Permittee shall maintain records once per day of the pressure drop across the baghouse controlling the dryer/mixer. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g., the dryer/mixer did not operate that day).

(h) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.15 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.1, D.1.2(a), D.1.2(b), D.1.3(b), D.1.3(c), D.1.4, and D.1.10 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(c) Two (1) liquid asphalt cement storage tank, identified as EU-3 and 4, approved for construction in 2009, with a maximum storage capacity of 25,000 gallons each.

(d) One (1) No. 2 fuel oil or waste oil storage tank, identified as EU-5, approved for construction in 2009, with a maximum storage capacity of 20,000 gallons.

(e) One (1) No. 2 fuel oil or waste oil storage tank, identified as EU-6, approved for construction in 2009, with a maximum storage capacity of 10,000 gallons.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Volatile Organic Liquid Storage Vessels [326 IAC 8-9]

Pursuant to 326 IAC 8-9-6 (Volatile Organic Liquid Storage Vessels), the Permittee shall record and submit to IDEM, OAQ a report containing the following information for EU-3 and EU-4 when the source is located in Clark or Floyd Counties:

(a) The vessel identification number.

(b) The vessel dimensions.

(c) The vessel capacity.

The Permittee shall keep all records as described in (a) through (c) for the life of the vessel.

Section E.1 40 CFR 60, Subpart I - Standards of Performance for Hot Mix Asphalt Facilities

Emissions Unit Description [326 IAC 2-8-4(10)]:

(a) One (1) portable asphalt drum mixer, identified as Plant #1, approved for construction in 2009,with a maximum capacity of 325 tons of asphalt per hour, processing slag in the aggregate mix, equipped with one (1) dryer/mixer burner, having a maximum heat input rated capacity of 93 MMBtu per hour, firing No. 2 distillate fuel oil as primary fuel, using re-refined waste oil as a back-up fuel, equipped with a baghouse for particulate control, and exhausting through Stack 01.

Under 40 CFR 60, Subpart I, this is considered an affected hot mix asphalt facility.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

E.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart I.

(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.2 New Source Performance Standards (NSPS) for (Hot Mix Asphalt Facilities) [40 CFR Part 60, Subpart I] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart I (included as Attachment B of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart I:

40 CFR 60.90
40 CFR 60.91
40 CFR 60.92
40 CFR 60.93

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Valley Asphalt Corporation Plant #17
Initial Source Address: 11048 Highway 56, Aurora, Indiana 47001
Mailing Address: 11641 Mosteller Road, Cincinnati, Ohio 45241
FESOP Permit No.: F029-27896-05327

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)_____

☐ Report (specify)_____

☐ Notification (specify)_____

☐ Affidavit (specify)_____

☐ Other (specify)_____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT

Source Name: Valley Asphalt Corporation Plant #17
Initial Source Address: 11048 Highway 56, Aurora, Indiana 47001
Mailing Address: 11641 Mosteller Road, Cincinnati, Ohio 45241
FESOP Permit No.: F029-27896-05327

This form consists of 2 pages **Page 1 of 2**

□ This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:_____

Title / Position:_____

Date:_____

Phone: _____

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: Valley Asphalt Corporation Plant #17
Initial Source Address: 11048 Highway 56, Aurora, Indiana 47001
Mailing Address: 11641 Mosteller Road, Cincinnati, Ohio 45241
FESOP Permit No.: F029-27896-05327
Facility: Drum dryer/mixer
Parameter: Hot Mix Asphalt Production
Limit: The asphalt production rate shall not exceed 1,00,000 tons of asphalt per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR:_____

Month	Column 1: Asphalt Production (tons)	Column 2: Asphalt Production (tons)	Column 1 + Column 2: Asphalt Production (tons)
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: Valley Asphalt Corporation
Initial Source Address: 11048 Highway 56, Aurora, Indiana 47001
Mailing Address: 11641 Mosteller Road, Cincinnati, OH 45241
FESOP No.: F029-27896-05327
Facility: Two (2) aggregate dryer burners
Parameter: Fuel usage
Limit: The usage of No. 2 fuel oil with a sulfur content of 0.50% shall not exceed 1,106,466 gallons of No. 2 fuel oil per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR:_____

Month	Column 1: No. 2 fuel oil usage (gallons)	Column 2: No. 2 fuel oil usage (gallons)	Column 1 + Column 2: No. 2 fuel oil usage (gallons)
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: Valley Asphalt Corporation Plant #17
Initial Source Address: 11048 Highway 56, Aurora, Indiana 47001
Mailing Address: 11641 Mosteller Road, Cincinnati, Ohio 45241
FESOP Permit No.: F029-27896-05327
Facility: Entire Asphalt Plant
Parameter: Slag Usage
Limit: This source shall use slag containing aggregate mixes with less than or equal to 1.5% sulfur by weight and shall not exceed 150,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:_____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month (tons)	Previous 11 Months (tons)	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this month.
☐ Deviation/s occurred in this month.
Deviation has been reported on _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: Valley Asphalt Corporation Plant #17
Initial Source Address: 11048 Highway 56, Aurora, Indiana 47001
Mailing Address: 11641 Mosteller Road, Cincinnati, Ohio 45241
FESOP Permit No.: F029-27896-05327
Facility: Drum dryer/mixer
Parameters: Used or waste oil usage limit to limit Sulfur Dioxide (SO_2) Emissions
Limit: The usage of used or waste oil with a sulfur content of 1.00 % and used or waste oil equivalents in the 93 MMBtu per hour burner for the aggregate dryer shall be limited to 534,416 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:_____

Month	Column 1	Column 2	Column 1 + Column 2
	Used or waste oil and equivalent usage this month (gallons)	Used or waste oil and equivalent usage previous 11 months (gallons)	12 month total used or waste oil and equivalent usage (gallons)
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Valley Asphalt Corporation Plant #17
Initial Source Address: 11048 Highway 56, Aurora, Indiana 47001
Mailing Address: 11641 Mosteller Road, Cincinnati, Ohio 45241
FESOP Permit No.: F029-27896-05327

Months: _____ **to** _____ **Year:** _____

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

□ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

□ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by:_____

Title / Position:_____

Date:_____

Phone: _____

Attach a signed certification to complete this report.

Mail to: Permit Administration & Support Section
Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Valley Asphalt Corporation Plant #17
11048 Highway 56
Aurora, Indiana 47001

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of _____ for _____.
(Title) (Company Name)

3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____.
(Company Name)

4. I hereby certify that Valley Asphalt Corporation Plant #17, 11048 Highway 56, Aurora, Indiana 47001 , completed construction of the hot mix asphalt operation on _____in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on May 7, 2009 and as permitted pursuant to New Source Construction Permit and Federally Enforceable State Operating Permit No. F029-27896-05327, Plant ID No. 029-05327 issued on _____.

5. **Permittee, please cross out the following statement if it does not apply:** Additional (operations/facilities) were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature_____
Date_____

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana

on this _____ day of _____, 20 _____. My Commission expires: _____.

Signature_____
Name_____ (typed or printed)

ATTACHMENT A

ASPHALT PLANT SITE FUGITIVE DUST CONTROL PLAN

(a) The frequency of application of water and/or chemical dust suppressants shall be on an "As Needed Basis", which will be sufficient to prevent fugitive dust from crossing the property lines.

(b) Identification of fugitive emission processes and proposed fugitive dust control methods:

(1) Partially paved roads and parking areas are controlled by flushing with water;

(2) Unpaved roads and yard areas are controlled by treatment with water;

(3) Aggregate storage piles are controlled by treatment with water;

(4) Aggregate dryer/mixing drum controls dust with a 99.9% control efficiency;

(c) Unpaved/Paved Road Vehicle Mix: (approximately 85% vehicular traffic will be dump-trucks having a 20 ton payload capacity);

(d) Type and Quantity of Material Stored: Aggregate will consist of sand, gravel, and crushed stone and will be handled at the maximum rate of 505 tons/hr;

(e) Equipment: Front-end loaders are used to maintain roads, yards, and storage piles;

(f) Dust Suppressant Material: Water is primary dust suppressant. Water has an estimated 90% control efficiency. Calcium chloride or other approved chemical dust inhibitor may be added to water on an as needed basis to further reduce emissions of fugitive dust. Such chemical dust suppressants are mixed and applied as recommended by the product manufacturer;

(g) Equipment Maintenance Plan: The front-end loaders are serviced/maintained regularly and the baghouse will be checked daily and on an annual basis.

Indiana Department of Environmental Management
Office of Air Quality

Attachment B

Title 40: Protection of Environment

Subpart I—Standards of Performance for Hot Mix Asphalt Facilities

§ 60.90 Applicability and designation of affected facility.

(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.

(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.

[42 FR 37936, July 25, 1977, as amended at 51 FR 12325, Apr. 10, 1986]

§ 60.91 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Hot mix asphalt facility* means any facility, as described in §60.90, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.

[51 FR 12325, Apr. 10, 1986]

§ 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.

[39 FR 9314, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]

§ 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.

[54 FR 6667, Feb. 14, 1989]

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a New Source Construction and Federally Enforceable State Operating Permit (FESOP)

Source Description and Location

Source Name:	**Valley Asphalt Corporation Plant #17 (portable)**
Initial Source Location:	**11048 Highway 56, Aurora, Indiana 47001**
County:	**Dearborn**
SIC Code:	**2951**
Operation Permit No.:	**F 029-27896-05327**
Permit Reviewer:	**Janet Mobley**

On May 7, 2009, the Office of Air Quality (OAQ) received an application from Valley Asphalt Corporation Plant #17 related to the construction and operation of a new portable drum hot mix asphalt plant that uses slag in their aggregate mix.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in Dearborn County and in Center Township.

Pollutant	Designation
SO_2	Cannot be classified.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Nonattainment Subpart 1 effective June 15, 2004, for the 8-hour ozone standard for the Cincinnati-Hamilton OH-KY-IN area, including Lawrenceburg Township of Dearborn County. The remainder of Dearborn County is unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.

[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.
Basic nonattainment designation effective federally April 5, 2005, for the Lawrenceburg Twp for PM2.5.
The remainder of Dearborn County is unclassifiable or attainment effective April 5, 2005, for PM2.5.

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Dearborn County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

If the portable source moves to Lawrenceburg Township of Dearborn County it has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions are reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(b) PM2.5
Dearborn County has been classified as attainment for PM2.5 except Lawrenceburg Township. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

If the portable source moves to Lawrenceburg Township in Dearborn County, U.S. EPA, in the Federal Register Notice 70 FR 943 dated January 5, 2005, has designated Dearborn County Lawrenceburg Township as nonattainment for PM2.5. On March 7, 2005 the Indiana Attorney General's Office, on behalf of IDEM, filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's guidance to regulate PM10 emissions as a surrogate for PM2.5 emissions pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5.

(c) Other Criteria Pollutants
Dearborn County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Background and Description of New Source Construction

The Office of Air Quality (OAQ) has reviewed an application, submitted by Valley Asphalt Corporation Plant #17 on May 7, 2009, relating to the construction of a portable drum hot mix asphalt operation.

The following is a list of the new emission unit(s) and pollution control device(s):

(a) One (1) portable asphalt drum mixer, identified as Plant #1, approved for construction in 2009, with a maximum capacity of 325 tons of asphalt per hour, processing slag in the aggregate mix, equipped with one (1) dryer/mixer burner, having a maximum heat input rated capacity of 93 MMBtu per hour, firing No. 2 distillate fuel oil as primary fuel, using re-refined waste oil as a back-up fuel, equipped with a baghouse for particulate control,

and exhausting through Stack 01.
Under 40 CFR 60, Subpart I, this is considered an affected hot mix asphalt facility.

(b) Material handling and conveying operations, approved for construction in 2009, consisting of the following:

(1) Aggregate storage piles consisting of sand, gravel, limestone, recycled asphalt pavement, and slag, with a maximum storage capacity of 30,000 tons;

(2) One (1) dust bin silo;

(3) Five (5) 20 ton aggregate feed bins;

(4) Two (2) Recycled Asphalt Pavement (RAP) feed bins;

(c) Two (1) liquid asphalt cement storage tanks, identified as EU-3 and EU-4, approved for construction in 2009, with a maximum storage capacity of 25,000 gallons each.

(d) One (1) No. 2 fuel oil or waste oil storage tank, identified as EU-5, approved for construction in 2009, with a maximum storage capacity of 20,000 gallons.

(e) One (1) No. 2 fuel oil or waste oil storage tank, identified as EU-6, approved for construction in 2009, with a maximum storage capacity of 10,000 gallons.

The following is a list of the insignificant activities:

(a) One (1) hot oil heater, identified as EU-2, approved for construction in 2009, with a maximum heat input capacity of 1.90 MMBtu per hour, firing No. 2 fuel oil, and exhausting through Stack SV2.

(b) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – FESOP

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	40016.55
PM10[(1)]	9301.08
PM2.5	2156.70
SO_2	874.35
NO_x	79.48
VOC	52.60

CO	187.77

(1) Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

HAPs	Potential To Emit (tons/year)
Hydrogen Chloride	38.41
Xylenes	0.15
Formaldehye	4.41
TOTAL HAPs	41.12

(a) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) of PM10, PM2.5, SO_2, NO_X, VOC and CO is greater than one hundred (100) tons per year. The source would have been subject to the provisions of 326 IAC 2-7. However, the source will be issued a New Source Construction Permit (326 IAC 2-5.1-3) and a Federally Enforceable State Operating Permit (FESOP) (326 IAC 2-8), because the source will limit emissions to less than the Title V major source threshold levels.

(b) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) of any single HAP is greater than ten (10) tons per year and the PTE of a combination of HAPs is greater than twenty-five (25) tons per year. Therefore, the source would have been subject to the provisions of 326 IAC 2-7. However, the source will be issued a New Source Construction Permit (326 IAC 2-5.1-3) and a FESOP (326 IAC 2-8), because the source will limit emissions of HAPs to less than the Title V major source threshold levels.

(c) Portable Source

(1) Initial Location
This is a portable source and its initial location is 11048 Highway 56, Aurora, Indiana 47001

(2) PSD and Emission Offset Requirements
This portable source is allowed to operate in all areas of Indiana except Lake County and Porter County and in areas that are designated as extreme, severe, or serious non-attainment for any National Ambient Air Quality Standard. This determination is based on the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-1.1-5 Nonattainment New Source Review and 326 IAC 2-3 (Emission Offset). Prior to locating to a severe nonattainment area, the Permittee must submit a request and obtain a permit revision.

PTE of the Entire Source After Issuance of the FESOP

The table below summarizes the potential to emit of the entire source after issuance of this FESOP, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this FESOP, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Potential to Emit of the Entire Source After Issuance of the FESOP (tons/year) Limited/Controlled Potential Emissions										
	Criteria Pollutants							Hazardous Air Pollutants		
Process Description	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Worst Case HAP	
Ducted Emissions										
Fuel Combustion (worst case)	8.55	6.81	6.81	39.28	11.06	0.27	2.77	3.78	9.90	(hydrogen chloride)
Dryer/Mixer (Process)	191.80	81.39	90.83	29.00	27.50	16.00	65.00	5.33	1.55	(formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	55.50	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.12	0.20	0.20	4.22	1.19	0.01	0.30	0.00	0.004	
Worst Case Emissions	191.91	81.59	91.03	99.00	28.69	16.01	65.30	5.33	9.90	(hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.26	0.26	0.26	0	0	2.47	0.85	0.05	0.01	(formaldehyde)
Material Storage Piles	2.23	0.78	0.78	0	0	0	0	0	0	
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0	
Paved and Unpaved Roads (worst case)	35.49	9.05	0.90	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	0	0	0	0	(xylenes)
Gasoline Dispensing	0	0	0	0	0	0	0	0	0	(xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl.	0	negl.	negl.	
Total Fugitive Emissions	57.09	17.41	7.97	0	0	2.47	0.85	0.14	0.00	(xylenes)
Totals PTE of Entire Source	249	99	99	99	28.69	18.48	66.15	5.48	9.90	
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10	
PSD Major Source Thresholds	250	250	na	250	250	250	250	NA	NA	
Emission Offset/Nonattainment NSR Major Source Thresholds	NA	NA	100	NA	NA	**NA**	NA	NA	NA	(hydrogen chloride)

negl = negligible
* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.
** Fugitive emissions from each of the volitile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible.

(a) FESOP Status

This new portable source is not major under Title V (326 IAC 2-7), because the potential to emit criteria pollutants from the entire source will be limited to less than the Title V major source threshold levels. In addition, this *new* source is not a major source of HAPs, as defined in 40 CFR 63.41, because the potential to emit HAPs is limited to less than ten (10) tons per year for a single HAP and twenty-five (25) tons per year of total HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act and is subject to the provisions of 326 IAC 2-8 (FESOP).

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the source shall comply with the following:

(1) Pursuant to 326 IAC 2-8-4, the PM10, PM2.5, CO and VOC emissions from the dryer/mixer burner shall be limited as follows:

(A) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(B) PM10 emissions from the dryer/mixer shall not exceed 0.163 pounds of PM10 per ton of asphalt produced.

(C) PM2.5 emissions from the dryer/mixer shall not exceed 0.182 pounds of PM2.5 per ton of asphalt produced.

(D) CO emissions from the dryer/mixer shall not exceed 0.130 pounds of CO per ton of asphalt produced.

(E) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.

(2) Pursuant to 326 IAC 2-8-4, the SO2, NOx, and HCl emissions from the dryer/mixer burner, hot oil heater, and slag processing shall be limited as follows:

(a) Sulfur Content and Waste Oil Specifications

(1) The sulfur content of the No. 2 fuel oil shall not exceed 0.5 percent by weight.

(2) The sulfur content of the waste oil shall not exceed 1.0 percent by weight

(3) The HCl emissions from the dryer/mixer shall not exceed 0.0132 pounds of HCl per gallon of waste oil burned.

(4) The waste oil combusted shall not contain more than 0.50% ash, 0.200 chlorine and 0.010 lead by weight.

(b) Slag Specifications and Limits

(1) The amount of slag used shall not exceed one hundred fifty thousand (150,000) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(2) SO_2 emissions from the slag used in the dryer/mixer shall not exceed seventy-four hundredths (0.74) pounds of SO_2 per ton of slag processed.

(3) The slag shall have a sulfur content less than or equal to one and fifty hundredths percent (1.50%) by weight.

(c) Pursuant to 326 IAC 2-8-4, the SO_2 and NO_x emissions from the dryer/mixer burner, shall be limited as follows:

(1) The usage of slag shall not exceed 150,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(2) The usage of No. 2 fuel oil for the aggregate dryer burner shall not exceed 1,106,466 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(3) The usage of waste oil for the aggregate dryer burner shall not exceed

534,416 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(i) For the purpose of determining compliance with the SO_2 limit:

Every gallon of No. 2 fuel oil shall be equivalent to 0.48 gallons of waste oil. However, the No. 2 fuel usage shall in no case exceed 1,106,446 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

(ii) For the purpose of determining compliance with the NO_x limit:

Every gallon of No. 2 fuel oil shall be equivalent to 1.05 gallons of waste oil. However, the No. 2 fuel usage shall in no case exceed 1,106,466 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) HCl emissions dryer/mixer burner, and hot oil heater shall not exceed 9.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the limited potential to emit SO_2, NOx and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO_2 and NO_x to less than 100 tons per 12 consecutive month period, each, HCl to less than 10 tons per 12 consecutive month period, and any combination of HAPs to less than 25 tons per 12 consecutive period, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)) not applicable.

(b) PSD Minor Source

This new source is not a major source, under PSD (326 IAC 2-2), because the potential to emit PM is limited to less than 250 tons per year and the potential to emit all other attainment regulated pollutants are less 250 tons per year, and this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the source shall comply with the following:

(1) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(2) PM emissions from the dryer/mixer shall not exceed 0.384 pounds of PM per ton of asphalt produced.

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit PM to less than 250 tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 (PSD) not applicable.

(c) Nonattainment New Source Review

This existing source is not a major source, under 326 IAC 2-1.1-5 (Nonattainment New Source Review), because the potential to emit particulate matter with a diameter less than ten 2.5 micrometers (PM2.5), is limited to less than 100 tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements do not apply.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

(a) This portable drum hot-mix asphalt plant, is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.90, Subpart I) (326 IAC 12) because it meets the definition of a hot-mix asphalt facility pursuant to the rule and it was constructed after June 11, 1973.

The dryer/mixer is subject to the following portions of 40 CFR 60, Subpart I:

(1) 40 CFR 60.90
(2) 40 CFR 60.91
(3) 40 CFR 60.92
(4) 40 CFR 60.93

The provisions of 40 CFR 60 Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the source except when otherwise specified in 40 CFR 60 Subpart I.

(b) The requirements of the New Source Performance Standard for Asphalt Processing and Asphalt Roofing Manufacture, 40 CFR 60, Subpart UU (326 IAC 12), are not included in the permit, since pursuant to 40 CFR 60.471, the hot mix asphalt plant is not an asphalt processing plant because it does not blow asphalt or an asphalt roofing plant because it does not produce asphalt roofing products.

(c) The requirements of the New Source Performance Standard for Calciners and Dryers in Mineral Industries, 40 CFR 60, Subpart UUU (326 IAC 12), are not included in the permit, since a portable drum hot-mix asphalt plant is not a mineral processing plant, meaning that it does not process or produce any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.

(d) The requirements of the New Source Performance Standard for Nonmetallic Mineral Processing Plants (40 CFR 60, Subpart OOO) (326 IAC 12), are not included in the permit, because this source is subject to the requirements of 40 CFR 60, Subpart I.

(e) The requirements of the New Source Performance Standard (NSPS) for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (40 CFR Part 60, Subpart Kb) (326 IAC 12) are not included in the permit for the storage tanks (EU-5 and EU-6). The construction of the storage tanks will commence after July 23, 1984 and the liquid asphalt storage tanks (EU-3 and EU-4) has a capacity greater than 75 cubic meters (19,813 gallons) and less than 151 cubic meters (39,890 gallons). However, these tank will not store liquids with a maximum true vapor pressure greater than 15.0 kPa. The liquid asphalt storage tanks (EU-3 and EU-4) do not each have a capacity greater than 151 cubic meters (39,890 gallons). However, these tanks will not store liquids with a maximum true vapor pressure greater than 3.5 kPa. Finally, the No. 2 fuel oil or waste oil storage tank (EU-6) has a maximum capacity greater than 75 cubic meters (19,813 gallons) and the No. 2 fuel oil or waste oil storage tank EU-7 has a maximum capacity less than 75 cubic meters (19,813 gallons).

(f) There are no other New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart LLLLL (326 IAC 20-(number)), are not included in the permit, since the stationary drum hot-mix asphalt plant is not a major source of HAPs, is not located at and is not part of a major source of HAP emissions, and does not engage in the preparation of asphalt flux or asphalt roofing materials.

(h) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

CAM (Compliance Assurance Monitoring)

(i) Pursuant to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) is not included in the permit because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

(a) 326 IAC 2-8-4 (FESOP)
FESOP applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.

(b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
PSD applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.

(c) 326 IAC 2-3 (Emission Offset and (for PM2.5 nonattainment counties) 326 IAC 2-1.1-5 (Nonattainment New Source Review) Emission Offset (and Nonattainment New Source Review) applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.

(d) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The unlimited potential to emit of HAPs from the new units is greater than ten (10) tons per year for any single HAP and/or greater than twenty-five (25) tons per year of a combination of HAPs. However, the source shall limit the potential to emit of HAPs from the new units to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the source is not subject to the requirements of 326 IAC 2-4.1. See PTE of the Entire Source After Issuance of the FESOP Section above.

(e) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

(f) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in any

County except Lake or the areas specified in (2)(a) through (g).

(2) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in the following areas listed in 326 IAC 5-1-1(c):

(a) Clark County (Jefferson Township - Cities of Jeffersonville, Clarksville, Oak Park),

(b) Dearborn County (Lawrenceburg Township - Cities of Lawrenceburg and Greendale)

(c) Dubois County (Bainbridge Township - the City of Jasper)

(d) Marion County (except the area of Washington Township east of Fall Creek and the area of Franklin Township south of Thompson Road and east of Five Points Road)

(e) St. Joseph County (the area north of Kern Road and east of Pine Road)

(f) Vanderburgh County (the area included in the City of Evansville and Pigeon Township)

(g) Vigo County (Indiana State University campus, 0.5km radius around UTM Easting 464,519.00, Northing 4,369,208.00, Zone 16.

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

(g) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
The source is subject to the requirements of 326 IAC 6-4, because the Asphalt Load-Out and On-Site Yard, Hot Oil and Asphalt Heaters, Material Screening, and Conveying, Material Processing and Handling, Material Storage Piles, and Paved Roads each have the potential to emit fugitive particulate emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

(h) The source is subject to the requirements of 326 IAC 6-5, because the Asphalt Load-Out and On-Site Yard, Hot Oil and Asphalt Heaters, Material Screening, and Conveying, Material Processing and Handling, Material Storage Piles, and Paved Roads have combined potential fugitive particulate emissions greater than 25 tons per year. Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan, submitted on November 24, 2008, which is included as Attachment A to the permit.

Asphalt Plant

(a) 326 IAC 6-2 (Emission Limitations for Sources of Indirect Heating)
The dryer/mixer is not subject to the requirements of 326 IAC 6-2 because it is not a source of indirect heating.

(b) 326 IAC 6.5-1-2(a) (Nonattainment Area PM Limitations)
This new portable asphalt plant has the potential to emit PM before controls greater than 100 tons per year and is located in Dearborn County and may be relocated to Clark, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties. Pursuant to 6.5-1-2(a), PM

emissions from the dryer/mixer shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)) when the source is located in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties.

In order to comply with the requirements of 326 IAC 6.5-1-2, particulate from the dryer/mixer shall be controlled by the baghouse at all times that the dryer/mixer is in operation.

(c) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Particulate emissions from this asphalt plant are subject to a more stringent particulate requirement in 40 CFR 60, Subpart I, and the particulate emissions are limited by 326 IAC 6.5 when operating in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties. Therefore, the asphalt plant is exempt from the requirements of 326 IAC 6-3 when operating in any county.

(h) 326 IAC 7-1.1-2 (Sulfur Dioxide Emissions Limitations)
The dryer/mixer burner is subject to 326 IAC 7-1.1 because it has potential SO_2 emissions of greater than 25 tons per year. Pursuant to 326 IAC 7-1.1-2, sulfur dioxide emissions from the dryer/mixer burner shall be limited to five-tenths (0.5) pounds per million Btu for distillate oil combustion (including No. 2 fuel oil).

(i) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The unlimited VOC potential emissions from the dryer/mixer are greater than twenty-five (25) tons per year. However, the source shall limit the VOC potential emissions from the dryer/mixer to less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 do not apply.

In order to render the requirements of 326 IAC 8-1-6 not applicable, the dryer/mixer shall be limited as follows:

(1) The asphalt production rate shall not exceed 1,000,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(2) VOC emissions from the dryer/mixer shall not exceed 0.032 pounds of VOC per ton of asphalt produced.

Compliance with these limits shall limit the potential to emit VOC from the dryer/mixer to less than twenty-five (25) tons per 12 consecutive month period and shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

(j) 326 IAC 8-5-2 (Miscellaneous operations: asphalt paving)
Any paving application made after January 1, 1980, is subject to the requirements of 326 IAC 8-5-2. Pursuant to this rule, no person shall cause or allow the use of cutback asphalt or asphalt emulsion containing more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:

(a) penetrating prime coating

(b) stockpile storage

(c) application during the months of November, December, January, February and March.

The owner or operator will still not process emulsified or cutback asphalt at this source unless proper approval has been obtained from IDEM, OAQ. Therefore, this source can comply with this rule.

(k) 326 IAC 10-1 (Nitrogen Oxides Control in Clark and Floyd Counties)

This new portable asphalt plant may relocate to Clark or Floyd Counties. However, potential to emit NOx from this source is less than 100 tons per year. Therefore, the dryer/mixer is not subject to the requirements of 326 IAC 10-1.

(l) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category)
This source does not operate a Portland cement kiln or a blast furnace gas boiler with a heat input greater than two hundred fifty million (250,000,000) British thermal units per hour. The one (1) 93 million Btu dryer/mixer burner is not subject to this rule, therefore the requirements of 326 IAC 10-3 are not included in the permit for this source.

(m) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.

(n) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

Storage Tanks

(a) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each new storage tank is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each new storage tank is less than twenty-five (25) tons per year.

(b) 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)
The two (2) storage tanks, identified as EU-5 and EU-6 are not subject to the requirements of 326 IAC 8-4-3 because they are not petroleum liquid storage vessels with capacities greater than thirty-nine thousand (39,000) gallons.

(c) 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)
This portable source can relocate to Clark or Floyd Counties and the two (2) storage tanks, identified as EU-5 and EU-6, each have a capacity of less than thirty-nine thousand (39,000) gallons. Pursuant to 326 IAC 8-9-1(b), the storage tanks (EU-5 and EU-6) are subject to reporting and recordkeeping provisions of section 6(a) and 6(b) of this rule and are exempt from all other provisions of this rule when the source is located in Clark or Floyd Counties.

Pursuant to 326 IAC 8-9-6(b), the Permittee shall maintain a record and submit to IDEM, OAQ a report containing the following information for the storage tanks (EU-3 and EU-4) when the source is located in Clark or Floyd Counties.

(1) the tank identification number;

(2) the tank dimensions; and

(3) the tank capacity.

Pursuant to 326 IAC 8-9-6(a), these records shall be maintained for the life of the tank.

Compliance Determination, Monitoring and Testing Requirements

(a) The compliance determination and monitoring requirements applicable to this source are as follows:

Emission Unit/Control	Operating Parameters	Frequency
Dryer/Mixer Baghouse	Visible Emissions Notations	Once per day
Dryer/Mixer Baghouse	Pressure Drop	Once per day

These monitoring conditions are necessary because the baghouse must operate properly to ensure compliance with 40 CFR 60 Subpart I and 326 IAC 2-8 (FESOP) and the limits that render 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70 Permit Program) not applicable.

(b) The testing requirements applicable to this source are as follows:

Testing Requirements				
Emission Unit	**Control Device**	**Pollutant**	**Timeframe for Testing**	**Frequency of Testing**
Dryer/Mixer	Baghouse	PM	180 days after initial startup	Once every five (5) years
Dryer/Mixer	Baghouse	PM10 and PM2.5	180 days after publication of the new or revised test method or after initial startup, whichever is later.	Once every five (5) years
Dryer/Mixer	Stack	SO2	180 days after initial startup	Once every five (5) years

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on May 7, 2009, and additional information submitted on May 28, 2009 and July 30, 2009.

The construction and operation of this source shall be subject to the conditions of the attached proposed New Source Construction FESOP No. 029-27896-05237. The staff recommends to the Commissioner that this New Source Construction FESOP be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Janet Mobley at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5373) or toll free at 1-800-451-6027 extension 4-5373.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A.1: Emissions Calculations
Unlimited Emission Summary

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

Asphalt Plant Maximum Capacity

Maximum Hourly Asphalt Production =	325	ton/hr							
Maximum Annual Asphalt Production =	2,847,000	ton/yr							
Maximum Annual Slag Usage =	1,195,740	ton/yr	1.5	% sulfur					
Maximum Dryer Fuel Input Rate =	93.0	MMBtu/hr							
Natural Gas Usage =	0	MMCF/yr							
No. 2 Fuel Oil Usage =	5,819,143	gal/yr, and	0.50	% sulfur					
No. 4 Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur					
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur					
Propane Usage =	0	gal/yr, and	0.20	gr/100 ft3 sulfur					
Butane Usage =	0	gal/yr, and	0.22	gr/100 ft3 sulfur					
Used/Waste Oil Usage =	5,819,143	gal/yr, and	1.00	% sulfur	0.50	% ash	0.200	% chlorine,	0.010 % lead
Diesel Engine Oil Usage =	0	gal/yr, and							

Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production
Unlimited CO Dryer/Mixer Emission Factor =	0.13	lb/ton of asphalt production
Unlimited Slag SO2 Dryer/Mixer Emission Factor =	0.74	lb/ton of slag processed

Unlimited/Uncontrolled Emissions

	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants							Hazardous Air Pollutants		
Process Description	**PM**	**PM10**	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**	**Total HAPs**	**Worst Case HAP**	
Ducted Emissions										
Dryer Fuel Combustion (worst case)	93.11	74.19	74.19	427.71	58.19	2.91	14.55	40.97	38.41	(hydrogen chloride)
Dryer/Mixer (Process)	39858.00	9252.75	2135.25	82.56	78.29	45.55	185.06	15.17	4.41	(formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	442.42	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.12	0.20	0.20	4.22	1.19	0.01	0.30	0.004	0.004	(hexane)
Worst Case Emissions*	**39858.12**	**9252.95**	**2135.45**	**874.35**	**79.48**	**45.56**	**185.35**	**40.97**	**38.41**	(hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out and On-Site Yard	0.74	0.74	0.74	0	0	7.04	2.42	0.15	0.03	(formaldehyde)
Material Storage Piles	2.23	0.78	0.78	0	0	0	0	0	0	
Material Processing and Handling	9.20	4.35	0.66	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	45.17	16.50	16.50	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	101.09	25.76	2.58	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	0.00	0	0.00	0.00	(xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0.00	0.00	(xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	negl	0	
Total Fugitive Emissions	**158.43**	**48.14**	**21.26**	**0**	**0.00**	**7.04**	**2.42**	**0.15**	**0.00**	(xylenes)
Totals Unlimited/Uncontrolled PTE	**40016.55**	**9301.08**	**2156.70**	**874.35**	**79.48**	**52.60**	**187.77**	**41.12**	**38.41**	(xylenes)

negl = negligible
Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.
*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion
Fuel component percentages provided by the source.

This source uses slag

Appendix A.1: Emissions Calculations
Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr
Unlimited Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

Maximum Capacity

Maximum Hourly Asphalt Production =	325	ton/hr								
Maximum Annual Asphalt Production =	2,847,000	ton/yr								
Maximum Fuel Input Rate =	93	MMBtu/hr								
Natural Gas Usage =	0	MMCF/yr								
No. 2 Fuel Oil Usage =	5,819,143	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0.50	% sulfur						
Propane Usage =	0	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Usage =	0	gal/yr, and	0.22	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	5,819,143	gal/yr, and	1.00	% sulfur	0.50	% ash	0.200	% chlorine,	0.010	% lead
Diesel Engine Oil Usage =	0	gal/yr, and								

Unlimited/Uncontrolled Emissions

	Emission Factor (units)								Unlimited/Uncontrolled Potential to Emit (tons/yr								
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/ Waste Oil (lb/kgal)	Diesel Engine (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)	Diesel Engine (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	7.0	7.815	0.5	0.6	32.0	43.4	0.00	5.82	0.00	0.00	0.000	0.000	93.11	0.00	**93.11**
PM10/PM2.5	7.6	3.3	8.3	9.315	0.5	0.6	25.5	43.4	0.00	9.60	0.00	0.00	0.000	0.000	74.19	0.00	**74.19**
SO2	0.6	71.0	75.0	78.5	0.020	0.020	147.0	40.6	0.00	206.58	0.00	0.00	0.000	0.000	427.71	0.00	**427.71**
NOx	100	20.0	47.0	55.0	13.0	15.0	19.0	617.4	0.00	58.19	0.00	0.00	0.00	0.00	55.28	0.00	**58.19**
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	49.0	0.00	0.58	0.00	0.00	0.00	0.00	2.91	0.00	**2.91**
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	133.0	0	14.55	0.00	0.00	0.00	0.00	14.55	0.00	**14.55**
Hazardous Air Pollutant																	
HCl							13.2								38.41		**38.41**
Antimony			5.25E-03	5.25E-03			negl				0.00E+00	0.00E+00			negl		**0.0E+00**
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01		0.0E+00	1.63E-03	0.00E+00	0.00E+00			3.20E-01		**3.2E-01**
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl		0.0E+00	1.22E-03	0.00E+00	0.00E+00			negl		**1.2E-03**
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03		0.0E+00	1.22E-03	0.00E+00	0.00E+00			2.71E-02		**2.7E-02**
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02		0.0E+00	1.22E-03	0.00E+00	0.00E+00			5.82E-02		**5.8E-02**
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04		0.0E+00		0.00E+00	0.00E+00			6.11E-04		**6.1E-04**
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55		0.0E+00	3.67E-03	0.00E+00	0.00E+00			1.6E+00		**1.60**
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02		0.0E+00	2.44E-03	0.00E+00	0.00E+00			1.98E-01		**0.20**
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04					0.0E+00	1.22E-03	0.00E+00	0.00E+00					**1.2E-03**
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02		0.0E+00	1.22E-03	0.00E+00	0.00E+00			3.20E-02		**0.032**
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl		0.0E+00	6.11E-03	0.00E+00	0.00E+00			negl		**6.1E-03**
1,1,1-Trichloroethane			2.36E-04	2.36E-04							0.00E+00	0.00E+00					**0.0E+00**
1,3-Butadiene								5.47E-03								0.00E+00	**0.0E+00**
Acetaldehyde								1.07E-01								0.00E+00	**0.0E+00**
Acrolein								1.30E-02								0.00E+00	**0.0E+00**
Benzene	2.1E-03		2.14E-04	2.14E-04				1.31E-01	0.0E+00		0.00E+00	0.00E+00				0.00E+00	**0.0E+00**
Bis(2-ethylhexyl)phthalate							2.2E-03								6.40E-03		**6.4E-03**
Dichlorobenzene	1.2E-03						8.0E-07		0.0E+00						2.33E-06		**2.3E-06**
Ethylbenzene			6.36E-05	6.36E-05							0.00E+00	0.00E+00					**0.0E+00**
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				1.65E-01	0.0E+00	1.77E-01	0.00E+00	0.00E+00				0.00E+00	**0.177**
Hexane	1.8E+00								0.00								**0.000**
Phenol							2.4E-03								6.98E-03		**7.0E-03**
Toluene	3.4E-03		6.20E-03	6.20E-03				5.73E-02	0.0E+00		0.00E+00	0.00E+00				0.00E+00	**0.0E+00**
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	2.35E-02	negl		0.00E+00	0.00E+00			1.14E-01	0.00E+00	**1.1E-01**
Polycyclic Organic Matter		3.30E-03								9.60E-03							**9.6E-03**
Xylene			1.09E-04	1.09E-04				3.99E-02			0.00E+00	0.00E+00				0.00E+00	**0.0E+00**
								Total HAPs	**0.00**	**0.21**	**0.00**	**0.00**	**0**	**0**	**40.77**	**0.00**	**40.97**

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0905 MMBtu]
Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0974 MMBtu]
Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
Sources of AP-42 Emission Factors for fuel combustion:
Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
No. 2, No.4, and No.6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5
Diesel Engine Oil: AP-42 Chapter 3.3 (dated 10/96), Tables 3.3-1 and 3.3-2

*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (< 2.5 um)
SO2 = Sulfur Dioxide
NOx = Nitrous Oxides
VOC - Volatile Organic Compounds
CO = Carbon Monoxide
HAP = Hazardous Air Pollutant
HCl = Hydrogen Chloride
PAH = Polyaromatic Hydrocarbon

Appendix A.1: Emissions Calculations
Dryer/Mixer
Unlimited Process Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production = 325 ton/hr
Maximum Annual Asphalt Production = 2,847,000 ton/yr

	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	**Worse Case PTE**
PM*	28	28	28	39858	39858	39858	**39858**
PM10*	6.5	6.5	6.5	9252.75	9252.75	9252.75	**9252.75**
PM2.5*	1.5	1.5	1.5	2135.25	2135.25	2135.25	**2135**
SO2**	0.0034	0.011	0.058	4.8	15.7	82.6	**82.6**
NOx**	0.026	0.055	0.055	37.0	78.3	78.3	**78.3**
VOC**	0.032	0.032	0.032	45.6	45.6	45.6	**45.6**
CO***	0.13	0.13	0.13	185.1	185.1	185.1	**185.1**
Hazardous Air Pollutant							
HCl			2.10E-04			2.99E-01	**0.30**
Antimony	1.80E-07	1.80E-07	1.80E-07	2.56E-04	2.56E-04	2.56E-04	**2.56E-04**
Arsenic	5.60E-07	5.60E-07	5.60E-07	7.97E-04	7.97E-04	7.97E-04	**7.97E-04**
Beryllium	negl	negl	negl	negl	negl	negl	**0.00E+00**
Cadmium	4.10E-07	4.10E-07	4.10E-07	5.84E-04	5.84E-04	5.84E-04	**5.84E-04**
Chromium	5.50E-06	5.50E-06	5.50E-06	7.83E-03	7.83E-03	7.83E-03	**7.83E-03**
Cobalt	2.60E-08	2.60E-08	2.60E-08	3.70E-05	3.70E-05	3.70E-05	**3.70E-05**
Lead	6.20E-07	1.50E-05	1.50E-05	8.83E-04	2.14E-02	2.14E-02	**2.14E-02**
Manganese	7.70E-06	7.70E-06	7.70E-06	1.10E-02	1.10E-02	1.10E-02	**1.10E-02**
Mercury	2.40E-07	2.60E-06	2.60E-06	3.42E-04	3.70E-03	3.70E-03	**3.70E-03**
Nickel	6.30E-05	6.30E-05	6.30E-05	0.09	0.09	0.09	**0.09**
Selenium	3.50E-07	3.50E-07	3.50E-07	4.98E-04	4.98E-04	4.98E-04	**4.98E-04**
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.06	0.06	0.06	**0.06**
Acetaldehyde			1.30E-03			1.85	**1.85**
Acrolein			2.60E-05			3.70E-02	**3.70E-02**
Benzene	3.90E-04	3.90E-04	3.90E-04	0.56	0.56	0.56	**0.56**
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.34	0.34	0.34	**0.34**
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	4.41	4.41	4.41	**4.41**
Hexane	9.20E-04	9.20E-04	9.20E-04	1.31	1.31	1.31	**1.31**
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.07	0.07	0.07	**0.07**
MEK			2.00E-05			0.03	**0.03**
Propionaldehyde			1.30E-04			0.19	**0.19**
Quinone			1.60E-04			0.23	**0.23**
Toluene	1.50E-04	2.90E-03	2.90E-03	0.21	4.13	4.13	**4.13**
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.27	1.25	1.25	**1.25**
Xylene	2.00E-04	2.00E-04	2.00E-04	0.28	0.28	0.28	**0.28**
						Total HAPs	**15.17**
						Worst Single HAP	**4.41** **(formaldehyde)**

Methodology
Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-4, 11.1-7, 11.1-8, 11.1-10, and 11.1-12
Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

* PM, PM10, and PM2.5 AP-42 emission factors based on drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. According to AP-42 fuel type does not significantly effect PM, PM10, and PM2.5 emissions.

** SO2, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.

*** CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

Abbreviations
VOC - Volatile Organic Compounds
HCl = Hydrogen Chloride
SO2 = Sulfur Dioxide
HAP = Hazardous Air Pollutant
PAH = Polyaromatic Hydrocarbon

Appendix A.1: Emissions Calculations
Dryer/Mixer Slag Processing
Unlimited Emissions

Company Name: **Valley Asphalt Corporation Plant #17**
Source Address: **11048 Highway 56, Aurora, Indiana 47001**
Permit Number: **029-27896-05327**
Reviewer: **Janet Mobley**

If slag not used enter value of 0, do not delete unlimited-dryer-mixer-slag worksheet.

The following calculations determine the unlimited emissions from the processing of slag in the aggregate drying/mixing

Maximum Annual Slag Usage* = 1,195,740 ton/yr 1.5 % sulfur

	Emission Factor (lb/ton)**	Unlimited Potential to Emit (tons/yr)
Criteria Pollutant	Slag Processing	Slag Processing
SO2	0.74	442.4

Methodology

* The maximum annual slag usage was provided by the source.

** Testing results for Slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from slag containing 1.10% sulfur content. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

Unlimited Potential to Emit SO2 from Slag (tons/yr) = [(Maximum Annual Slag Usage (ton/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]

Abbreviations

SO2 = Sulfur Dioxide

Appendix A.1: Emissions Calculations
Hot Oil Heater
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr
Unlimited Emissions

Company Name: **Valley Asphalt Corporation Plant #17**
Source Location: **11048 Highway 56, Aurora, Indiana 47001**
Permit Number: **029-27896-05327**
Reviewer: **Janet Mobley**

Maximum Hot Oil Heater Fuel Input Rate =	1.90	MMBtu/hr		
Natural Gas Usage =	0	MMCF/yr		
No. 2 Fuel Oil Usage =	118,886	gal/yr, and	0.50	% sulfur

Unlimited/Uncontrolled Emissions

	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	0.000	0.119	**0.12**
PM10/PM2.5	7.6	3.3	0.000	0.196	**0.20**
SO2	0.6	71.0	0.000	4.220	**4.22**
NOx	100	20.0	0.000	1.189	**1.19**
VOC	5.5	0.20	0.000	0.012	**0.01**
CO	84	5.0	0.000	0.297	**0.30**
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	0.0E+00	3.33E-05	**3.3E-05**
Beryllium	1.2E-05	4.2E-04	0.0E+00	2.50E-05	**2.5E-05**
Cadmium	1.1E-03	4.2E-04	0.0E+00	2.50E-05	**2.5E-05**
Chromium	1.4E-03	4.2E-04	0.0E+00	2.50E-05	**2.5E-05**
Cobalt	8.4E-05		0.0E+00		**0.0E+00**
Lead	5.0E-04	1.3E-03	0.0E+00	7.49E-05	**7.5E-05**
Manganese	3.8E-04	8.4E-04	0.0E+00	4.99E-05	**5.0E-05**
Mercury	2.6E-04	4.2E-04	0.0E+00	2.50E-05	**2.5E-05**
Nickel	2.1E-03	4.2E-04	0.0E+00	2.50E-05	**2.5E-05**
Selenium	2.4E-05	2.1E-03	0.0E+00	1.25E-04	**1.2E-04**
Benzene	2.1E-03		0.0E+00		**0.0E+00**
Dichlorobenzene	1.2E-03		0.0E+00		**0.0E+00**
Ethylbenzene					**0.0E+00**
Formaldehyde	7.5E-02	6.10E-02	0.0E+00	3.63E-03	**3.6E-03**
Hexane	1.8E+00		0.00		**0.0E+00**
Phenol					**0.0E+00**
Toluene	3.4E-03		0.0E+00		**0.0E+00**
Total PAH Haps	negl		negl		**0.0E+00**
Polycyclic Organic Matter		3.30E-03		1.96E-04	**2.0E-04**
		Total HAPs =	**0.0E+00**	**4.2E-03**	**0.004**

Methodology
Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
Sources of AP-42 Emission Factors for fuel combustion:
Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
SO2 = Sulfur Dioxide
NOx = Nitrous Oxides
VOC - Volatile Organic Compounds
CO = Carbon Monoxide
HAP = Hazardous Air Pollutant
HCl = Hydrogen Chloride
PAH = Polyaromatic Hydrocarbon

Appendix A.1: Emissions Calculations
Asphalt Load-Out and Yard Emissions
Unlimited Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

The following calculations determine the unlimited/uncontrolled fugitive emissions from hot asphalt mix load-out and on-site yard for a drum mix hot mix asphalt plant

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	2,847,000	tons/yr

	Emission Factor (lb/ton asphalt)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
Pollutant	**Load-Out**	**On-Site Yard**	**Load-Out**	**On-Site Yard**	**Total**
Total PM*	5.2E-04	NA	0.74	NA	**0.74**
Organic PM	3.4E-04	NA	0.49	NA	**0.49**
TOC	0.004	0.001	5.92	1.566	**7.5**
CO	0.001	3.5E-04	1.92	0.501	**2.42**
PM/HAPs			**0.035**	**0**	**0.035**
VOC/HAPs			**0.087**	**0.023**	**0.111**
non-VOC/HAPs			**4.6E-04**	**1.2E-04**	**5.8E-04**
non-VOC/non-HAPs			**0.43**	**0.11**	**0.54**
Total VOCs			**5.57**	**1.5**	**7.0**
Total HAPs			**0.12**	**0.023**	**0.15**
Worst Single HAP					**0.031 (formaldehyde)**

NA = Not Applicable (no AP-42 Emission Factor)

Methodology
The asphalt temperature and volatility factor were provided by the source.
Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16
Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14)::
Total PM/PM10/PM2.5 Ef = 0.000181 + 0.00141(-V)e^((0.0251)(T+460)-20.43)
Organic PM Ef = 0.00141(-V)e^((0.0251)(T+460)-20.43)
TOC Ef = 0.0172(-V)e^((0.0251)(T+460)-20.43)
CO Ef = 0.00558(-V)e^((0.0251)(T+460)-20.43)
On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32
*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

Abbreviations
TOC = Total Organic Compounds
CO = Carbon Monoxide
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound

Appendix A.1: Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)
Unlimited Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile	Unlimited/Uncontrolled Potential to Emit (tons/yr)		
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Load-out	Onsite Yard	Total
PAH HAPs								
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	1.3E-03	NA	1.3E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	1.4E-04	NA	1.4E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	3.4E-04	NA	3.4E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	9.2E-05	NA	9.2E-05
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	3.7E-05	NA	3.7E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	1.1E-05	NA	1.1E-05
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	9.2E-06	NA	9.2E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	1.1E-05	NA	1.1E-05
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	3.8E-05	NA	3.8E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	5.0E-04	NA	5.0E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	1.8E-06	NA	1.8E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	2.4E-04	NA	2.4E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	3.7E-03	NA	3.7E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	2.3E-06	NA	2.3E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	1.2E-02	NA	0.012
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	6.1E-03	NA	6.1E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	1.1E-04	NA	1.1E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	3.9E-03	NA	3.9E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	7.3E-04	NA	7.3E-04
Total PAH HAPs						**0.029**	**NA**	**0.029**
Other semi-volatile HAPs								
Phenol		PM/HAP	---	Organic PM	1.18%	5.7E-03	0	5.7E-03

NA = Not Applicable (no AP-42 Emission Factor)

Methodology
Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [Organic PM (tons/yr)]
Specieation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations
PM = Particulate Matter
HAP = Hazardous Air Pollutant
POM = Polycyclic Organic Matter

Appendix A.1: Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)
Unlimited Emissions

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile	Unlimited/Uncontrolled Potential to Emit (tons/yr)		
					Load-out and Onsite Yard (% by weight of TOC)	Load-out	Onsite Yard	Total
VOC		VOC	---	TOC	94%	**5.57**	**1.47**	**7.04**
non-VOC/non-HAPS								
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	3.8E-01	1.0E-01	0.487
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	2.7E-03	7.2E-04	0.003
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	4.2E-02	1.1E-02	0.053
Total non-VOC/non-HAPS					7.30%	**0.432**	**0.114**	**0.55**
Volatile organic HAPs								
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	3.1E-03	8.1E-04	3.9E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	5.7E-04	1.5E-04	7.2E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	2.9E-03	7.7E-04	3.7E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	7.7E-04	2.0E-04	9.7E-04
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	1.2E-05	3.3E-06	1.6E-05
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	8.9E-04	2.3E-04	1.1E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	6.5E-03	1.7E-03	8.2E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	1.7E-02	4.4E-03	0.021
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	5.2E-03	1.4E-03	0.007
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	8.9E-03	2.3E-03	0.011
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	1.1E-04	2.8E-05	1.3E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0	0	0.0E+00
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	4.3E-04	1.1E-04	5.5E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	4.6E-04	1.2E-04	5.8E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	1.2E-02	3.3E-03	0.016
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	7.7E-05	2.0E-05	9.7E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	2.4E-02	6.4E-03	0.031
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	4.7E-03	1.3E-03	6.0E-03
Total volatile organic HAPs					1.50%	**0.089**	**0.023**	**0.112**

Methodology
Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [TOC (tons/yr)]
Specieation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations
TOC = Total Organic Compounds
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
MTBE = Methyl tert butyl ether

Appendix A.1: Emissions Calculations
Material Storage Piles
Unlimited Emissions

Company Name: **Valley Asphalt Corporation Plant #17**
Source Address: **11048 Highway 56, Aurora, Indiana 47001**
Permit Number: **029-27896-05327**
Reviewer: **Janet Mobley**

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

Ef = 1.7*(s/1.5)*(365-p)/235*(f/15)
where Ef = emission factor (lb/acre/day)
s = silt content (wt %)
p = 125 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.80	0.439	0.154
Limestone	1.6	1.85	1.30	0.439	0.154
RAP	0.5	0.58	1.40	0.148	0.052
Gravel	1.6	1.85	1.20	0.406	0.142
Slag	3.8	4.40	1.00	0.803	0.281
			Totals	**2.23**	**0.78**

Methodology
PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) * (Maximum Pile Size (acres)) * (ton/2000 lbs) * (8760 hours/yr)
PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) * 35%
*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)
**Maximum anticipated pile size (acres) provided by the source.

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PM2.5 = PM10
PTE = Potential to Emit

Appendix A.1: Emissions Calculations
Material Processing, Handling, Crushing, Screening, and Conveying
Unlimited Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)

To estimate potential fugitive dust emissions from processing and hangling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

Ef = k*(0.0032)*[(U/5)^1.3 / (M/2)^1.4]

where: Ef = Emission factor (lb/ton)

k (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U =	10.2	= worst case annual mean wind speed (Source: NOAA, 2006*)
M =	4.0	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
Ef (PM) =	2.27E-03	lb PM/ton of material handled
Ef (PM10) =	1.07E-03	lb PM10/ton of material handled
Ef (PM2.5) =	1.62E-04	lb PM2.5/ton of material handled

Maximum Annual Asphalt Production =	2,847,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	2,704,650	tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	3.07	1.45	0.22
Front-end loader dumping of materials into feeder bins	3.07	1.45	0.22
Conveyor dropping material into dryer/mixer or batch tower	3.07	1.45	0.22
Total (tons/yr)	**9.20**	**4.35**	**0.66**

Methodology

The percent asphalt cement/binder provided by the source.
Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additivies
*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 11.19.2)

To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 11.19.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	7.30	3.25
Screening	0.025	0.0087	33.81	11.77
Conveying	0.003	0.0011	4.06	1.49
Unlimited Potential to Emit (tons/yr) =			**45.17**	**16.50**

Methodology

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Unlimited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]
Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)
Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2
*Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).
**Assumes PM10 = PM2.5

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate matter (< 2.5 um)
PTE = Potential to Emit

Appendix A.1: Emissions Calculations
Unpaved Roads
Unlimited Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Maximum Annual Asphalt Production =	2,847,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	2,704,650	tons/yr
Maximum Asphalt Cement/Binder Throughput =	142,350	tons/yr
Maximum No. 2 Fuel Oil Usage =	5,819,143	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	1.2E+05	4.8E+06	300	0.057	6860.4
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	1.2E+05	2.1E+06	300	0.057	6860.4
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	4.0E+03	1.9E+05	300	0.057	224.7
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	4.0E+03	4.7E+04	300	0.057	224.7
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	6.1E+02	2.7E+04	300	0.057	34.9
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	6.1E+02	7.4E+03	300	0.057	34.9
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	6.4E+05	1.2E+07	300	0.057	36588.9
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	6.4E+05	9.7E+06	300	0.057	36588.9
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.2E+05	4.9E+06	300	0.057	6740.1
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.2E+05	2.0E+06	300	0.057	6740.1
	Total				**1.8E+06**	**3.6E+07**			**1.0E+05**

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.057	miles/trip

Unmitigated Emission Factor, Ef = k*[(s/12)^a]*[(W/3)^b] (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [(365 - P)/365]
Mitigated Emission Factor, Eext = E * [(365 - P)/365]
where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	6.09	1.55	0.16	lb/mile
Mitigated Emission Factor, Eext =	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	20.91	5.33	0.53	13.75	3.50	0.35	6.87	1.75	0.18
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	20.91	5.33	0.53	13.75	3.50	0.35	6.87	1.75	0.18
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.685	0.174	0.02	0.450	0.115	0.01	0.225	0.057	0.01
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.685	0.174	0.02	0.450	0.115	0.01	0.225	0.057	0.01
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.106	0.027	0.00	0.070	0.018	0.00	0.035	0.009	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.106	0.027	0.00	0.070	0.018	0.00	0.035	0.009	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	111.50	28.42	2.84	73.32	18.69	1.87	36.66	9.34	0.93
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	111.50	28.42	2.84	73.32	18.69	1.87	36.66	9.34	0.93
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	20.54	5.23	0.52	13.51	3.44	0.34	6.75	1.72	0.17
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	20.54	5.23	0.52	13.51	3.44	0.34	6.75	1.72	0.17
	Totals	**307.48**	**78.36**	**7.84**	**202.18**	**51.53**	**5.15**	**101.09**	**25.76**	**2.58**

Methodology
Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PM2.5 = PM10
PTE = Potential to Emit

Appendix A.1: Emissions Calculations
Paved Roads
Unlimited Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Maximum Annual Asphalt Production =	2,847,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	2,704,650	tons/yr
Maximum Asphalt Cement/Binder Throughput =	142,350	tons/yr
Maximum No. 2 Fuel Oil Usage =	5,819,143	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	1.2E+05	4.8E+06	300	0.057	6860.4
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	1.2E+05	2.1E+06	300	0.057	6860.4
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	4.0E+03	1.9E+05	300	0.057	224.7
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	4.0E+03	4.7E+04	300	0.057	224.7
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	6.1E+02	2.7E+04	300	0.057	34.9
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	6.1E+02	7.4E+03	300	0.057	34.9
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	6.4E+05	1.2E+07	300	0.057	36588.9
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	6.4E+05	9.7E+06	300	0.057	36588.9
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	1.2E+05	4.9E+06	300	0.057	6740.1
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	1.2E+05	2.0E+06	300	0.057	6740.1
	Total				**1.8E+06**	**3.6E+07**			**1.0E+05**

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.057	miles/trip

Unmitigated Emission Factor, Ef = [k * (sL/2)^0.65 * (W/3)^1.5 - C] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	0.00036	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	0.6	g/m^2 = Ubitiguous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)]
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]

where p =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365	days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	0.66	0.13	0.02	lb/mile
Mitigated Emission Factor, Eext =	0.60	0.12	0.02	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	2.26	0.44	0.06	2.06	0.40	0.06	1.03	0.20	0.03
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	2.26	0.44	0.06	2.06	0.40	0.06	1.03	0.20	0.03
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.074	0.014	2.1E-03	0.068	0.013	1.9E-03	0.034	6.6E-03	9.7E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.074	0.014	2.1E-03	0.068	0.013	1.9E-03	0.034	6.6E-03	9.7E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	1.1E-02	2.2E-03	3.3E-04	1.1E-02	2.0E-03	3.0E-04	5.3E-03	1.0E-03	1.5E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	1.1E-02	2.2E-03	3.3E-04	1.1E-02	2.0E-03	3.0E-04	5.3E-03	1.0E-03	1.5E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	12.03	2.34	0.35	11.00	2.14	0.32	5.50	1.07	0.16
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	12.03	2.34	0.35	11.00	2.14	0.32	5.50	1.07	0.16
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	2.22	0.43	0.06	2.03	0.39	0.06	1.01	0.20	0.03
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	2.22	0.43	0.06	2.03	0.39	0.06	1.01	0.20	0.03
	Totals	**33.18**	**6.46**	**0.95**	**30.34**	**5.90**	**0.87**	**15.17**	**2.95**	**0.44**

Methodology
Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PM2.5 = PM10
PTE = Potential to Emit

Appendix A.1: Emissions Calculations
Cold Mix Asphalt Production and Stockpiles
Unlimited Emissions

Company Name: **Valley Asphalt Corporation Plant #17**
Source Address: **11048 Highway 56, Aurora, Indiana 47001**
Permit Number: **029-27896-05327**
Reviewer: **Janet Mobley**

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Maximum Annual Asphalt Production =	2,847,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Asphalt Cement/Binder Throughput =	0	tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Usage (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	0.0	0.0
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	0.0	0.0
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	0.0	0.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	0.0	0.0
Other asphalt with solvent binder	25.9%	2.5%	0.0	0.0
		Worst Case PTE of VOC =		**0.0**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
PTE of Total HAPs (tons/yr) =	**0.00**	
PTE of Single HAP (tons/yr) =	**0.00**	**Xylenes**

Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents*

		Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
Volatile Organic HAP	CAS#	Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
Total Organic HAPs		**26.08%**	**0.33%**	**1.29%**	**0.68%**	**0.19%**
Worst Single HAP		**9.00% Xylenes**	**0.31% Naphthalene**	**0.50% Xylenes**	**0.23% Xylenes**	**0.07% Chrysene**

Methodology
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] * [Maximum Weight % of VOC Solvent in Binder]
PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [Maximum VOC Solvent Usage (tons/yr)]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

Appendix A.1: Emissions Calculations
Gasoline Fuel Transfer and Dispensing Operation
Unlimited Emissions

Company Name: **Valley Asphalt Corporation Plant #17**
Source Address: **11048 Highway 56, Aurora, Indiana 47001**
Permit Number: **029-27896-05327**
Reviewer: **Janet Mobley**

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling emission factors from AP-42 Table 5.2-7 were used. The total potential emission of VOC is as follows:

Gasoline Throughput =	0	gallons/day
=	0.0	kgal/yr

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.00
Tank breathing and emptying	1.0	0.00
Vehicle refueling (displaced losses - controlled)	1.1	0.00
Spillage	0.7	0.00
Total		**0.00**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	**0.00**	
Limited PTE of Single HAP (tons/yr) =	**0.00**	**Xylenes**

Methodology
The gasoline throughput was provided by the source.
Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] * [365 days/yr] * [kgal/1000 gal]
PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

Appendix A.2: Emissions Calculations
Limited Emission Summary

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

Asphalt Plant Limitations

Maximum Hourly Asphalt Production =	325	ton/hr							
Annual Asphalt Production Limitation =	1,000,000	ton/yr							
Slag Usage Limitation =	150,000	ton/yr	1.50	% sulfur					
Natural Gas Limitation =	0	MMCF/yr							
No. 2 Fuel Oil Limitation =	1,106,466	gal/yr, and	0.50	% sulfur					
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur					
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur					
Propane Limitation =	0	gal/yr, and	0.20	gr/100 ft3 sulfur					
Butane Limitation =	0	gal/yr, and	0.22	gr/100 ft3 sulfur					
Used/Waste Oil Limitation =	534,416	gal/yr, and	1.00	% sulfur	0.50	% ash	0.200	% chlorine,	0.010 % lead
Diesel Engine Oil Limitation =	0	gal/yr, and							

PM Dryer/Mixer Limitation =	0.384	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.163	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.182	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production
Slag SO2 Dryer/Mixer Limitation =	0.740	lb/ton of slag processed
Cold Mix Asphalt VOC Usage Limitation =	0.0	tons/yr

Limited/Controlled Emissions

	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Hazardous Air Pollutants		
Process Description	**PM**	**PM10**	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**	**Total HAPs**	**Worst Case HAP**	
Ducted Emissions										
Dryer Fuel Combustion (worst case)	8.55	6.81	6.81	39.28	11.06	0.27	2.77	3.78	9.90	(hydrogen chloride)
Dryer/Mixer (Process)	191.80	81.39	90.83	29.00	27.50	16.00	65.00	5.33	1.55	(formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	55.50	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.12	0.20	0.20	4.22	1.19	0.01	0.30	0.00	0.004	(hexane)
Worst Case Emissions*	**191.91**	**81.59**	**91.03**	**99.00**	**28.69**	**16.01**	**65.30**	**5.33**	**9.90**	(hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out and On-Site Yard	0.26	0.26	0.26	0	0	2.47	0.85	0.05	0.01	(formaldehyde)
Material Storage Piles	2.23	0.78	0.78	0	0	0	0	0	0	
Material Processing and Handling	3.23	1.53	0.23	0	0	0	0	0	0	
Material Crushing, Screening, and Conveying	15.87	5.80	5.80	0	0	0	0	0	0	
Unpaved and Paved Roads (worst case)	35.49	9.05	0.90	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	0.00	0	0.00	0.00	(xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0.09	0.00	(xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	negl	negl	
Total Fugitive Emissions	**57.09**	**17.41**	**7.97**	**0**	**0**	**2.47**	**0.85**	**0.14**	**0.00**	(xylenes)
Totals Limited/Controlled Emissions	**249.00**	**99.00**	**99.00**	**99.00**	**28.69**	**18.48**	**66.15**	**5.48**	**9.90**	(xylenes)

negl = negligible
Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.
*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion
Fuel component percentages provided by the source.

This source uses slag

Appendix A.2: Emissions Calculations
Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr
Limited Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

The following calculations determine the limited emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

Production and Fuel Limitations

Maximum Hourly Asphalt Production =	325	ton/hr								
Annual Asphalt Production Limitation =	1,000,000	ton/yr								
Natural Gas Limitation =	0	MMCF/yr								
No. 2 Fuel Oil Limitation =	1,106,466	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0.50	% sulfur						
Propane Limitation =	0	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Limitation =	0	gal/yr, and	0.22	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	534,416	gal/yr, and	1.00	% sulfur	0.50	% ash	0.200	% chlorine,	0.010	% lead
Diesel Engine Oil Limitation =	0	gal/yr, and								

Limited Emissions

	Emission Factor (units)								Limited Potential to Emit (tons/yr)								
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/ Waste Oil (lb/kgal)	Diesel Engine (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)	Diesel Engine (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	7.0	7.815	0.5	0.6	32.0	43.4	0.00	1.11	0.00	0.00	0.000	0.000	8.55	0.00	**8.55**
PM10	7.6	3.3	8.3	9.315	0.5	0.6	25.5	43.4	0.00	1.83	0.00	0.00	0.000	0.000	6.81	0.00	**6.81**
SO2	0.6	71.0	75.0	78.5	0.02	0.02	147.0	40.6	0.00	39.28	0.00	0.00	0.000	0.000	39.28	0.00	**39.28**
NOx	100	20.0	47.0	55.0	13.0	15.0	19.0	617.4	0.00	11.06	0.00	0.00	0.00	0.00	5.08	0.00	**11.06**
VOC	5.5	0.20	0.20	0.28	1.0	1.10	1.0	49.0	0.00	0.11	0.00	0.00	0.00	0.00	0.27	0.00	**0.27**
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	133.0	0.00	2.77	0.00	0.00	0.00	0.00	1.34	0.00	**2.77**
Hazardous Air Pollutant																	
HCl							13.2								3.53		**3.53**
Antimony			5.25E-03	5.25E-03			negl				0.00E+00	0.00E+00			negl		**0.0E+00**
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01		0.0E+00	3.10E-04	0.00E+00	0.00E+00			2.94E-02		**2.9E-02**
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl		0.0E+00	2.32E-04	0.00E+00	0.00E+00			negl		**2.3E-04**
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03		0.0E+00	2.32E-04	0.00E+00	0.00E+00			2.49E-03		**2.5E-03**
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02		0.0E+00	2.32E-04	0.00E+00	0.00E+00			5.34E-03		**5.3E-03**
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04		0.0E+00		0.00E+00	0.00E+00			5.61E-05		**5.6E-05**
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55		0.0E+00	6.97E-04	0.00E+00	0.00E+00			1.5E-01		**0.15**
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02		0.0E+00	4.65E-04	0.00E+00	0.00E+00			1.82E-02		**0.02**
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04					0.0E+00	2.32E-04	0.00E+00	0.00E+00					**2.3E-04**
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02		0.0E+00	2.32E-04	0.00E+00	0.00E+00			2.94E-03		**0.003**
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl		0.0E+00	1.16E-03	0.00E+00	0.00E+00			negl		**1.2E-03**
1.1.1-Trichloroethane			2.36E-04	2.36E-04							0.00E+00	0.00E+00					**0.0E+00**
1,3-Butadiene								5.47E-03								0.00E+00	**0.0E+00**
Acetaldehyde								1.07E-01								0.00E+00	**0.0E+00**
Acrolein								1.30E-02								0.00E+00	**0.0E+00**
Benzene	2.1E-03		2.14E-04	2.14E-04				1.31E-01	0.0E+00		0.00E+00	0.00E+00				0.00E+00	**0.0E+00**
Bis(2-ethylhexyl)phthalate							2.2E-03								5.88E-04		**5.9E-04**
Dichlorobenzene	1.2E-03						8.0E-07		0.0E+00						2.14E-07		**2.1E-07**
Ethylbenzene			6.36E-05	6.36E-05							0.00E+00	0.00E+00					**0.0E+00**
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				1.65E-01	0.0E+00	3.37E-02	0.00E+00	0.00E+00				0.00E+00	**0.034**
Hexane	1.8E+00								0.00								**0.000**
Phenol							2.4E-03								6.41E-04		**6.4E-04**
Toluene	3.4E-03		6.20E-03	6.20E-03				5.73E-02	0.0E+00		0.00E+00	0.00E+00				0.00E+00	**0.0E+00**
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	2.35E-02	negl		0.00E+00	0.00E+00			1.04E-02	0.00E+00	**1.0E-02**
Polycyclic Organic Matter		3.30E-03								1.83E-03							**1.8E-03**
Xylene			1.09E-04	1.09E-04				3.99E-02			0.00E+00	0.00E+00				0.00E+00	**0.0E+00**
								Total HAPs	**0.00**	**0.04**	**0.00**	**0.00**	**0**	**0**	**3.74**	**0.00**	**3.78**

Methodology

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
No. 2, No.4, and No.6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5
Diesel Engine Oil: AP-42 Chapter 3.3 (dated 10/96), Tables 3.3-1 and 3.3-2

*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
SO2 = Sulfur Dioxide
NOx = Nitrous Oxides
VOC - Volatile Organic Compounds
CO = Carbon Monoxide
HAP = Hazardous Air Pollutant
HCl = Hydrogen Chloride
PAH = Polyaromatic Hydrocarbon

Appendix A.2: Emissions Calculations
Dryer/Mixer
Limited Process Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

The following calculations determine the limited emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production =	325	ton/hr
Annual Asphalt Production Limitation =	1,000,000	ton/yr
PM Dryer/Mixer Limitation =	0.384	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.163	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.182	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

	Emission Factor or Limitation (lb/ton) Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Limited/Controlled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
Criteria Pollutant	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	**Worse Case PTE**
PM*	0.384	0.384	0.384	191.8	191.8	191.8	**191.8**
PM10*	0.163	0.163	0.163	81.4	81.4	81.4	**81.4**
PM2.5*	0.182	0.182	0.182	90.8	90.8	90.8	**90.8**
SO2**	0.003	0.011	0.058	1.7	5.5	29.0	**29.0**
NOx**	0.026	0.055	0.055	13.0	27.5	27.5	**27.5**
VOC**	0.032	0.032	0.032	16.0	16.0	16.0	**16.0**
CO***	0.130	0.130	0.130	65.0	65.0	65.0	**65.0**
Hazardous Air Pollutant							
HCl			2.10E-04			0.11	**0.11**
Antimony	1.80E-07	1.80E-07	1.80E-07	9.00E-05	9.00E-05	9.00E-05	**9.00E-05**
Arsenic	5.60E-07	5.60E-07	5.60E-07	2.80E-04	2.80E-04	2.80E-04	**2.80E-04**
Beryllium	negl	negl	negl	negl	negl	negl	**0.00E+00**
Cadmium	4.10E-07	4.10E-07	4.10E-07	2.05E-04	2.05E-04	2.05E-04	**2.05E-04**
Chromium	5.50E-06	5.50E-06	5.50E-06	2.75E-03	2.75E-03	2.75E-03	**2.75E-03**
Cobalt	2.60E-08	2.60E-08	2.60E-08	1.30E-05	1.30E-05	1.30E-05	**1.30E-05**
Lead	6.20E-07	1.50E-05	1.50E-05	3.10E-04	7.50E-03	7.50E-03	**7.50E-03**
Manganese	7.70E-06	7.70E-06	7.70E-06	3.85E-03	3.85E-03	3.85E-03	**3.85E-03**
Mercury	2.40E-07	2.60E-06	2.60E-06	1.20E-04	1.30E-03	1.30E-03	**1.30E-03**
Nickel	6.30E-05	6.30E-05	6.30E-05	3.15E-02	3.15E-02	3.15E-02	**3.15E-02**
Selenium	3.50E-07	3.50E-07	3.50E-07	1.75E-04	1.75E-04	1.75E-04	**1.75E-04**
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	2.00E-02	2.00E-02	2.00E-02	**2.00E-02**
Acetaldehyde			1.30E-03			0.65	**0.65**
Acrolein			2.60E-05			1.30E-02	**1.30E-02**
Benzene	3.90E-04	3.90E-04	3.90E-04	0.20	0.20	0.20	**0.20**
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.12	0.12	0.12	**0.12**
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	1.55	1.55	1.55	**1.55**
Hexane	9.20E-04	9.20E-04	9.20E-04	0.46	0.46	0.46	**0.46**
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.02	0.02	0.02	**0.02**
MEK			2.00E-05			0.01	**0.01**
Propionaldehyde			1.30E-04			0.07	**0.07**
Quinone			1.60E-04			0.08	**0.08**
Toluene	1.50E-04	2.90E-03	2.90E-03	0.08	1.45	1.45	**1.45**
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.10	0.44	0.44	**0.44**
Xylene	2.00E-04	2.00E-04	2.00E-04	0.10	0.10	0.10	**0.10**
						Total HAPs	**5.33**
						Worst Single HAP	**1.55 (formaldehyde)**

Methodology
Limited/Controlled Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-4, 11.1-7, 11.1-8, 11.1-10, and 11.1-12
Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

* PM, PM10, and PM2.5 AP-42 emission factors based on drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. According to AP-42 fuel type does not significantly effect PM, PM10, and PM2.5 emissions.
** SO2, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.
*** CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

Abbreviations
VOC - Volatile Organic Compounds
HCl = Hydrogen Chloride
SO2 = Sulfur Dioxide
HAP = Hazardous Air Pollutant
PAH = Polyaromatic Hydrocarbon

Appendix A.2: Emissions Calculations
Dryer/Mixer Slag Processing
Limited Emissions

Company Name: **Valley Asphalt Corporation Plant #17**
Source Address: **11048 Highway 56, Aurora, Indiana 47001**
Permit Number: **029-27896-05327**
Reviewer: **Janet Mobley**

The following calculations determine the limited emissions from the processing of slag in the aggregate drying/mixing

Slag Usage Limitation =	150,000	ton/yr	
SO2 Slag Limitation =	0.740	lb/ton of slag processed	1.50 % sulfur

Criteria Pollutant	Emission Factor or Limitation (lb/ton)* Slag Processing	Limited Potential to Emit (tons/yr) Slag Processing
SO2	0.740	55.5

Methodology

* Testing results for Slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from slag containing 1.10% sulfur content. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

Limited Potential to Emit SO2 from Slag (tons/yr) = (Slag Usage Limitation (ton/yr)] * [Limited Emission Factor (lb/ton)] * [ton/2000 lbs]

Abbreviations

SO2 = Sulfur Dioxide

Appendix A.2: Emissions Calculations
Hot Oil Heater
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr
Limited Emissions

Company Name: **Valley Asphalt Corporation Plant #17**
Source Location: **11048 Highway 56, Aurora, Indiana 47001**
Permit Number: **029-27896-05327**
Reviewer: **Janet Mobley**

Maximum Hot Oil Heater Fuel Input Rate =	1.90	MMBtu/hr		
Natural Gas Usage =	0	MMCF/yr		
No. 2 Fuel Oil Usage =	118,886	gal/yr, and	0.50	% sulfur

Unlimited/Uncontrolled Emissions

	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	Hot Oil Heater		Hot Oil Heater		
Criteria Pollutant	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	**Worse Case Fuel (tons/yr)**
PM	1.9	2.0	0.000	0.119	**0.12**
PM10/PM2.5	7.6	3.3	0.000	0.196	**0.20**
SO2	0.6	71.0	0.000	4.220	**4.22**
NOx	100	20.0	0.000	1.189	**1.19**
VOC	5.5	0.20	0.000	0.012	**0.01**
CO	84	5.0	0.000	0.297	**0.30**
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	0.0E+00	3.33E-05	**3.3E-05**
Beryllium	1.2E-05	4.2E-04	0.0E+00	2.50E-05	**2.5E-05**
Cadmium	1.1E-03	4.2E-04	0.0E+00	2.50E-05	**2.5E-05**
Chromium	1.4E-03	4.2E-04	0.0E+00	2.50E-05	**2.5E-05**
Cobalt	8.4E-05		0.0E+00		**0.0E+00**
Lead	5.0E-04	1.3E-03	0.0E+00	7.49E-05	**7.5E-05**
Manganese	3.8E-04	8.4E-04	0.0E+00	4.99E-05	**5.0E-05**
Mercury	2.6E-04	4.2E-04	0.0E+00	2.50E-05	**2.5E-05**
Nickel	2.1E-03	4.2E-04	0.0E+00	2.50E-05	**2.5E-05**
Selenium	2.4E-05	2.1E-03	0.0E+00	1.25E-04	**1.2E-04**
Benzene	2.1E-03		0.0E+00		**0.0E+00**
Dichlorobenzene	1.2E-03		0.0E+00		**0.0E+00**
Ethylbenzene					**0**
Formaldehyde	7.5E-02	6.10E-02	0.0E+00	3.63E-03	**0.004**
Hexane	1.8E+00		0.00		**0.000**
Phenol					**0**
Toluene	3.4E-03		0.0E+00		**0.0E+00**
Total PAH Haps	negl		negl		**0**
Polycyclic Organic Matter		3.30E-03		1.96E-04	**2.0E-04**
		Total HAPs =	**0.0E+00**	**4.2E-03**	**0.004**

Methodology
Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
Sources of AP-42 Emission Factors for fuel combustion:
Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
SO2 = Sulfur Dioxide
NOx = Nitrous Oxides
VOC - Volatile Organic Compounds
CO = Carbon Monoxide
HAP = Hazardous Air Pollutant
HCl = Hydrogen Chloride
PAH = Polyaromatic Hydrocarbon

Appendix A.2: Emissions Calculations
Asphalt Load-Out and Yard Emissions
Limited Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

The following calculations determine the limited fugitive emissions from hot asphalt mix load-out and on-site yard for a drum mix hot mix asphalt plant

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	1,000,000	tons/yr

	Emission Factor (lb/ton asphalt)		Limited Potential to Emit (tons/yr)		
Pollutant	**Load-Out**	**On-Site Yard**	**Load-Out**	**On-Site Yard**	**Total**
Total PM*	5.2E-04	NA	0.26	NA	**0.26**
Organic PM	3.4E-04	NA	0.17	NA	**0.17**
TOC	0.004	0.001	2.08	0.550	**2.6**
CO	0.001	3.5E-04	0.67	0.176	**0.85**

NA = Not Applicable (no AP-42 Emission Factor)

PM/HAPs	**0.012**	**0**	**0.012**
VOC/HAPs	**0.031**	**0.008**	**0.039**
non-VOC/HAPs	**1.6E-04**	**4.2E-05**	**2.0E-04**
non-VOC/non-HAPs	**0.15**	**0.04**	**0.19**

Total VOCs	**1.95**	**0.5**	**2.5**
Total HAPs	**0.04**	**0.008**	**0.05**
Worst Single HAP			**0.011 (formaldehyde)**

Methodology
The asphalt temperature and volatility factor were provided by the source.
Limited Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16
Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14)::

Total PM/PM10 Ef = 0.000181 + 0.00141(-V)e^((0.0251)(T+460)-20.43)
Organic PM Ef = 0.00141(-V)e^((0.0251)(T+460)-20.43)
TOC Ef = 0.0172(-V)e^((0.0251)(T+460)-20.43)
CO Ef = 0.00558(-V)e^((0.0251)(T+460)-20.43)

On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32
*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

Abbreviations
TOC = Total Organic Compounds
CO = Carbon Monoxide
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound

Appendix A.2: Emissions Calculations
Asphalt Load-Out and Yard Emissions (continued)
Limited Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile	Limited Potential to Emit (tons/yr)		
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Load-out	Onsite Yard	Total
PAH HAPs								
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	4.4E-04	NA	4.4E-04
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	4.8E-05	NA	4.8E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	1.2E-04	NA	1.2E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	3.2E-05	NA	3.2E-05
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	1.3E-05	NA	1.3E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	3.8E-06	NA	3.8E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	3.2E-06	NA	3.2E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	3.9E-06	NA	3.9E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	1.3E-05	NA	1.3E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	1.8E-04	NA	1.8E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	6.3E-07	NA	6.3E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	8.5E-05	NA	8.5E-05
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.3E-03	NA	1.3E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	8.0E-07	NA	8.0E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	4.1E-03	NA	0.004
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	2.1E-03	NA	2.1E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	3.8E-05	NA	3.8E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.4E-03	NA	1.4E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	2.6E-04	NA	2.6E-04
Total PAH HAPs						**0.010**	**NA**	**0.010**
Other semi-volatile HAPs								
Phenol		PM/HAP	---	Organic PM	1.18%	2.0E-03	0	2.0E-03

NA = Not Applicable (no AP-42 Emission Factor)

Methodology
Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] * [Organic PM (tons/yr)]
Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations
PM = Particulate Matter
HAP = Hazardous Air Pollutant
POM = Polycyclic Organic Matter

Appendix A.2: Emissions Calculations
Asphalt Load-Out and Yard Emissions (continued)
Limited Emissions

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile	Limited Potential to Emit (tons/yr)		
					Load-out and Onsite Yard (% by weight of TOC)	Load-out	Onsite Yard	Total
VOC		VOC	---	TOC	94%	**1.95**	**0.52**	**2.47**
non-VOC/non-HAPS								
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	1.4E-01	3.6E-02	0.171
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	9.6E-04	2.5E-04	0.001
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.5E-02	3.9E-03	0.019
Total non-VOC/non-HAPS					7.30%	**0.152**	**0.040**	**0.19**
Volatile organic HAPs								
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	1.1E-03	2.9E-04	1.4E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	2.0E-04	5.3E-05	2.5E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	1.0E-03	2.7E-04	1.3E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	2.7E-04	7.2E-05	3.4E-04
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	4.4E-06	1.2E-06	5.5E-06
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	3.1E-04	8.3E-05	3.9E-04
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	2.3E-03	6.1E-04	2.9E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	5.8E-03	1.5E-03	0.007
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	1.8E-03	4.8E-04	0.002
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	3.1E-03	8.3E-04	0.004
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	3.7E-05	9.9E-06	4.7E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0	0	0.0E+00
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	1.5E-04	4.0E-05	1.9E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	1.6E-04	4.2E-05	2.0E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	4.4E-03	1.2E-03	0.006
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	2.7E-05	7.2E-06	3.4E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	8.5E-03	2.3E-03	0.011
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	1.7E-03	4.4E-04	2.1E-03
Total volatile organic HAPs					1.50%	**0.031**	**0.008**	**0.039**

Methodology
Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] * [TOC (tons/yr)]
Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations
TOC = Total Organic Compounds
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
MTBE = Methyl tert butyl ether

Appendix A.2: Emissions Calculations
Material Storage Piles
Limited Emissions

Company Name: **Valley Asphalt Corporation Plant #17**
Source Address: **11048 Highway 56, Aurora, Indiana 47001**
Permit Number: **029-27896-05327**
Reviewer: **Janet Mobley**

Note: Since the emissions from the storage piles are minimal, the limited emissions are equal to the unlimited emissions.

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

Ef = 1.7*(s/1.5)*(365-p)/235*(f/15)
where Ef = emission factor (lb/acre/day)
s = silt content (wt %)
p = 125 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.80	0.439	0.154
Limestone	1.6	1.85	1.30	0.439	0.154
RAP	0.5	0.58	1.40	0.148	0.052
Gravel	1.6	1.85	1.20	0.406	0.142
Slag	3.8	4.40	1.00	0.803	0.281
			Totals	**2.23**	**0.78**

Methodology
PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) * (Maximum Pile Size (acres)) * (ton/2000 lbs) * (8760 hours/yr)
PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) * 35%
*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)
**Maximum anticipated pile size (acres) provided by the source.

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PM2.5 = PM10
PTE = Potential to Emit

Appendix A.2: Emissions Calculations
Material Processing, Handling, Crushing, Screening, and Conveying
Limited Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)

To estimate potential fugitive dust emissions from processing and hangling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

Ef = k*(0.0032)*[(U/5)^1.3 / (M/2)^1.4]
where: Ef = Emission factor (lb/ton)

k (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U =	10.2	= worst case annual mean wind speed (Source: NOAA, 2006*)
M =	4.0	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
Ef (PM) =	2.27E-03	lb PM/ton of material handled
Ef (PM10) =	1.07E-03	lb PM10/ton of material handled
Ef (PM2.5) =	1.62E-04	lb PM2.5/ton of material handled

Annual Asphalt Production Limitation =	1,000,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	950,000	tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	1.08	0.51	0.08
Front-end loader dumping of materials into feeder bins	1.08	0.51	0.08
Conveyor dropping material into dryer/mixer or batch tower	1.08	0.51	0.08
Total (tons/yr)	**3.23**	**1.53**	**0.23**

Methodology
The percent asphalt cement/binder provided by the source.
Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additivies
*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 19.2.2)
To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 19.2.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	2.57	1.14
Screening	0.025	0.0087	11.88	4.13
Conveying	0.003	0.0011	1.43	0.52
Limited Potential to Emit (tons/yr) =			**15.87**	**5.80**

Methodology
Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Limited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]
Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)
Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2
*Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).
**Assumes PM10 = PM2.5
Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PTE = Potential to Emit

Appendix A.2: Emissions Calculations
Unpaved Roads
Limited Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Annual Asphalt Production Limitation =	1,000,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	950,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	50,000	tons/yr
No. 2 Fuel Oil Limitation =	1,106,466	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	4.2E+04	1.7E+06	300	0.057	2409.7
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.2E+05	300	0.057	2409.7
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.4E+03	6.7E+04	300	0.057	78.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.4E+03	1.7E+04	300	0.057	78.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	1.2E+02	5.1E+03	300	0.057	6.6
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.2E+02	1.4E+03	300	0.057	6.6
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	2.3E+05	4.3E+06	300	0.057	12851.7
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	2.3E+05	3.4E+06	300	0.057	12851.7
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	4.2E+04	1.7E+06	300	0.057	2367.4
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	4.2E+04	7.1E+05	300	0.057	2367.4
	Total				**6.2E+05**	**1.3E+07**			**3.5E+04**

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.057	miles/trip

Unmitigated Emission Factor, Ef = k*[(s/12)^a]*[(W/3)^b] (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [(365 - P)/365]
Mitigated Emission Factor, Eext = E * [(365 - P)/365]
where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	6.09	1.55	0.16	lb/mile
Mitigated Emission Factor, Eext =	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	7.34	1.87	0.19	4.83	1.23	0.12	2.41	0.62	0.06
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	7.34	1.87	0.19	4.83	1.23	0.12	2.41	0.62	0.06
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.240	0.061	0.01	0.158	0.040	4.0E-03	0.079	0.020	2.0E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.240	0.061	0.01	0.158	0.040	4.0E-03	0.079	0.020	2.0E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.020	0.005	5.2E-04	0.013	0.003	3.4E-04	0.007	0.002	1.7E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.020	0.005	5.2E-04	0.013	0.003	3.4E-04	0.007	0.002	1.7E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	39.16	9.98	1.00	25.75	6.56	0.66	12.88	3.28	0.33
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	39.16	9.98	1.00	25.75	6.56	0.66	12.88	3.28	0.33
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	7.21	1.84	0.18	4.74	1.21	0.12	2.37	0.60	0.06
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	7.21	1.84	0.18	4.74	1.21	0.12	2.37	0.60	0.06
	Totals	**107.96**	**27.52**	**2.75**	**70.99**	**18.09**	**1.81**	**35.49**	**9.05**	**0.90**

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PM2.5 = PM10
PTE = Potential to Emit

Appendix A.2: Emissions Calculations
Paved Roads
Limited Emissions

Company Name: Valley Asphalt Corporation Plant #17
Source Address: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Annual Asphalt Production Limitation =	1,000,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	950,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	50,000	tons/yr
No. 2 Fuel Oil Limitation =	1,106,466	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	4.2E+04	1.7E+06	300	0.057	2409.7
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.2E+05	300	0.057	2409.7
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.4E+03	6.7E+04	300	0.057	78.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.4E+03	1.7E+04	300	0.057	78.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	1.2E+02	5.1E+03	300	0.057	6.6
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.2E+02	1.4E+03	300	0.057	6.6
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	2.3E+05	4.3E+06	300	0.057	12851.7
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	2.3E+05	3.4E+06	300	0.057	12851.7
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	4.2E+04	1.7E+06	300	0.057	2367.4
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	4.2E+04	7.1E+05	300	0.057	2367.4
	Total				**6.2E+05**	**1.3E+07**			**3.5E+04**

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.057	miles/trip

Unmitigated Emission Factor, Ef = [k * (sL/2)^0.65 * (W/3)^1.5 - C] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	0.00036	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	0.6	g/m^2 = Ubitiguous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)]
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]

where p =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365	days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	0.66	0.13	0.02	lb/mile
Mitigated Emission Factor, Eext =	0.60	0.12	0.02	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.79	0.15	0.02	0.72	0.14	0.02	0.36	0.07	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.79	0.15	0.02	0.72	0.14	0.02	0.36	0.07	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.026	0.005	7.5E-04	0.024	0.005	6.8E-04	0.012	2.3E-03	3.4E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.026	0.005	7.5E-04	0.024	0.005	6.8E-04	0.012	2.3E-03	3.4E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	2.2E-03	4.2E-04	6.3E-05	2.0E-03	3.9E-04	5.7E-05	1.0E-03	1.9E-04	2.9E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	2.2E-03	4.2E-04	6.3E-05	2.0E-03	3.9E-04	5.7E-05	1.0E-03	1.9E-04	2.9E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	4.23	0.82	0.12	3.86	0.75	0.11	1.93	0.38	0.06
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	4.23	0.82	0.12	3.86	0.75	0.11	1.93	0.38	0.06
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.78	0.15	0.02	0.71	0.14	0.02	0.36	0.07	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.78	0.15	0.02	0.71	0.14	0.02	0.36	0.07	0.01
	Totals	**11.65**	**2.27**	**0.33**	**10.65**	**2.07**	**0.31**	**5.33**	**1.04**	**0.15**

Methodology
Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particulate Matter (<2.5 um)
PM2.5 = PM10
PTE = Potential to Emit

Appendix A.2: Emissions Calculations
Cold Mix Asphalt Production and Stockpiles
Limited Emissions

Company Name: **Valley Asphalt Corporation Plant #17**
Source Address: **11048 Highway 56, Aurora, Indiana 47001**
Permit Number: **029-27896-05327**
Reviewer: **Janet Mobley**

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Cold Mix Asphalt VOC Usage Limitation = 0.0 tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder	Weight % VOC solvent in binder that evaporates	VOC Solvent Usage Limitation (tons/yr)	Limited PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	0.0	0.0
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	0.0	0.0
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	0.0	0.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	0.0	0.0
Other asphalt with solvent binder	25.9%	2.5%	0.0	0.0
			Worst Case Limited PTE of VOC =	**0.0**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	**0.00**	
Limited PTE of Single HAP (tons/yr) =	**0.00**	**Xylenes**

Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents*

		Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
Volatile Organic HAP	CAS#	Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
Total Organic HAPs		**26.08%**	**0.33%**	**1.29%**	**0.68%**	**0.19%**
Worst Single HAP		**9.00% Xylenes**	**0.31% Naphthalene**	**0.50% Xylenes**	**0.23% Xylenes**	**0.07% Chrysene**

Methodology
Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [VOC Solvent Usage Limitation (tons/yr)]
Limited PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
Limited PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

Appendix A.2: Emissions Calculations
Gasoline Fuel Transfer and Dispensing Operation
Limited Emissions

Company Name: **Valley Asphalt Corporation Plant #17**
Source Address: **11048 Highway 56, Aurora, Indiana 47001**
Permit Number: **029-27896-05327**
Reviewer: **Janet Mobley**

Note: Since the emissions from the gasoline fuel transfer and dispensing operation are minimal, the limited emissions are equal to the unlimited emissions.

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling emission factors from AP-42 Table 5.2-7 were used. The total potential emission of VOC is as follows:

Gasoline Throughput =	0	gallons/day
=	0.0	kgal/yr

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.00
Tank breathing and emptying	1.0	0.00
Vehicle refueling (displaced losses - controlled)	1.1	0.00
Spillage	0.7	0.00
Total		**0.00**

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	**0.00**	
Limited PTE of Single HAP (tons/yr) =	**0.00**	**Xylenes**

Methodology
The gasoline throughput was provided by the source.
Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] * [365 days/yr] * [kgal/1000 gal]
PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]
*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

Abbreviations
VOC = Volatile Organic Compounds
PTE = Potential to Emit

Appendix A.3: Emissions Calculations
Fuel Equivalency Calculations (No. 2 oil is the main fuel)
Fuel Combustion Units with Maximum Capacity < 100 MMBtu/hr

Company Name: Valley Asphalt Corporation Plant #17
Address City IN Zip: 11048 Highway 56, Aurora, Indiana 47001
Permit Number: 029-27896-05327
Reviewer: Janet Mobley

	SO2 Equivalency						NOx Equivalency			
Fuel Type	* Limited Sulfur Content	Limited Sulfur Content Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units
No. 2 Fuel Oil	0.50	% by weight	71.00	lb/kgal	1.00	gal No. 2 fuel oil per gal No. 2 fuel oil	20.0	lb/kgal	1.00	gal No. 2 fuel oil per gal No. 2 fuel oil
Waste Oil	1.0	% by weight	147.00	lb/kgal	0.48	gal waste oil per gal No. 2 fuel oil	19.0	lb/kgal	1.05	gal waste oil per gal No. 2 fuel oil

Methodology

Fuel Equivalency = [AP-42 Emission Factor for No. 2 fuel oil (lb/kgal)] / [AP-42 Emission Factor for any fuel type (lb/kgal or lb/MMCF)]
* Limited Sulfur Content - see Page 2 of Appendix A.2
Sources of AP-42 Emission Factors for fuel combustion:

No. 2, and residual fuel oil (industrial boiler < 100 MMBtu/hr): AP-42 Chapter 1.3 (dated 9/98), Table 1.3-1

Waste Oil (small boiler): AP-42 Chapter 1.11 (dated 10/96), Table 1.11-2

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Daniel T. Crago
Valley Ashpalt Corporation
11641 Mosteller Road
Cincinnati, OH 45241

DATE: September 30, 2009

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
New Source Construction and Federally Enforceable Operating Permit
029-27896-05327

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

September 30, 2009

TO: Aurora Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: **Valley Asphalt Corporation**
Permit Number: **029-27896-05327**

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	GHOTOPP 9/30/2009 Valley Asphalt Corporation 029-27896-05327 Final		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Type of Mail: **CERTIFICATE OF MAILING ONLY**	

Indiana Department of Environmental Management
Office of Air Quality – Permits Branch
100 N. Senate
Indianapolis, IN 46204

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Daniel T Crago Valley Asphalt Corporation 11641 Mosteller Rd Cincinnati OH 45241 (Source CAATS) via confirmed delivery									
2		Michael & Monica Ramsey 9931 Old SR 56 Aurora IN 47001 *(Affected Party)*									
3		Aurora Public Library 414 Second St Aurora IN 47001-1384 *(Library)*									
4		Dearborn County Commissioner 215 B West High Street Lawrenceburg IN 47025 *(Local Official)*									
5		Dearborn County Health Department 215-b W. Hight St, County Admin Building Lawrenceburg IN 47025-1910 *(Health Department)*									
6		Mr. John Teaney P.O. Box 494 10837 Aurora IN 47001 *(Affected Party)*									
7		Robin & Vic Willoughby 311 Broadway Street Aurora IN 47001 *(Affected Party)*									
8		Aurora City Council and Mayors Office P.O. Box 158 Aurora IN 47001 *(Local Official)*									
9		James & Mary Hassett 7199 E. Laughery Creek Rd Aurora IN 47001 *(Affected Party)*									
10		Nancy & William McDaniel 4600 Hartford PK # 98 Aurora IN 47001 *(Affected Party)*									
11		Ken & Jackie Greive 4685 E. Laughery Creek Road Aurora IN 47001 *(Affected Party)*									
12		Marlin M. Guss, Jr. 10400 Millstone Dr, P.O. Box 272 Aurora IN 47001 *(Affected Party)*									
13		Mrs. Shirley Greive 4412 E. Laughery Aurora IN 47001 (Affected Party)									
14		Ms. Patricia Huff 10095 Old SR 56 Aurora IN 47001 *(Affected Party)*									
15		Sam & Nancy Valone 3826 E. Laughery Creek Rd Aurora IN 47001 *(Affected Party)*									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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Mail Code 61-53

IDEM Staff	GHOTOPP 9/30/2009 Valley Asphalt Corporation 029-27896-05327 Final		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Peter & Jody 9212 Hawksridge Dr. Covington KY 41017-9136 (Affected Party)									
2		Mrs. Melanie Bushorn 4172 E. Laughery Creek Rd Aurora IN 47001 *(Affected Party)*									
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Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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