

## **Statement of Basis**

**Permit to Construct No. P-2008.0171  
Project No. 60790**

**H K Contractors, Inc.  
Idaho Falls, Idaho**

**Facility ID No. 777-00444**

**Final**

**April 15, 2011  
Eric Clark  
Permit Writer**

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

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## ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
gr	grain (1 lb = 7,000 grains)
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
HAP	hazardous air pollutant
hp	horsepower
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pounds per hour
m	meter(s)
MACT	Maximum Achievable Control Technology
µg/m <sup>3</sup>	micrograms per cubic meter
MMBtu	million British thermal units
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards
PC	permit condition
PM	particulate matter
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
RAP	Recycled Asphalt Pavement
Rules	Rules for the Control of Air Pollution in Idaho
scf	standard cubic feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	Synthetic Minor
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
TAP	toxic air pollutant
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

## **FACILITY INFORMATION**

### **Description**

The process includes a hot mix asphalt (HMA) plant that consists of a drum mix dryer, an asphalt tank heater, a ~~wet venturi scrubber~~, asphalt oil storage tanks, fuel storage tanks, and materials transfer equipment. Materials transfer equipment may include front end loaders, storage bins, conveyors, stock piles, and haul trucks.

Stockpiled aggregate is transferred to feed bins. Aggregate may consist of up to 50% recycled asphalt pavement (RAP). Aggregate is dispensed from the bins onto feeder conveyors, which transfer the aggregate to the drum mix dryer. Aggregate travels through the drum-mix dryer and when dried is mixed with liquid asphalt cement. The resulting HMA is conveyed to hot storage bins until it can be loaded into trucks for transport off site or transferred to silos for temporary storage. Electrical power will be supplied to the plant from the local power grid.

The facility is also permitted to replace part of the design aggregate with petroleum-contaminated soil and aggregate. Petroleum-contaminated soil and aggregate are delivered from the Telford pit by truck. The stockpile of petroleum-contaminated soil will remain on a designated clay-lined pad at the Telford pit. The stockpile is covered when not in use. A portable crusher may be brought on the Telford pit site to crush the contaminated aggregate. The contaminated aggregate is then combined with clean aggregate, and conveyed into the feed end of the HMA drum dryer at the site near the city of Teton. The petroleum hydrocarbons are volatilized and partially destroyed by incineration prior to the addition of the hot asphalt cement to produce hot-mix asphalt. Heavier hydrocarbon fractions that are not volatilized are expected to be solidified or encapsulated in the asphalt/aggregate matrix.

Asphalt cement is stored in an above-ground tank, kept in a liquid state using a tank heater fueled by propane.

### **Permitting History**

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

- March 1, 1976 Initial PTC No. 1000-0005 was issued for a HMA. (S)
- June 28, 1999 PTC No. P-019-00031, modification was issued. (S) This modification replaced the facility No. from 777-00019 to 019-00031 and added the ability to remediate petroleum contaminated soil.
- June 28, 2007 PTC P-2007.0069, modification was issued. (S) The purpose of this PTC is to replace the drum dryer Hauck 360 Burner with a Hauck 520 multi-fuel burner and to include using propane, distillate fuel oil, and used oil in addition to natural gas as drum dryer fuels.
- June 10, 2009 PTC P-2008.0171, modification was issued. (S) The permit was converted from a stationary source to a portable source.

### **Application Scope**

This PTC is for a minor modification at an existing minor facility.

The applicant has proposed to replace their existing Venturi Scrubber with a Gentec Pulse jet Baghouse.

### ***Application Chronology***

January 27, 2011	DEQ received an application and an application fee.
February 24, 2011	DEQ determined that the application was complete.
March 21, 2011	DEQ made available the draft permit and statement of basis for peer and regional office review.
March 23, 2011	DEQ made available the draft permit and statement of basis for applicant review.
April 6, 2011	DEQ received the permit processing fee.
April 15, 2011	DEQ issued the final permit and statement of basis.

# TECHNICAL ANALYSIS

## Emissions Units and Control Devices

Table 1 EMISSIONS UNIT AND CONTROL DEVICE INFORMATION

ID No.	Source Description	Control Equipment Description	Emissions Point ID No. and Description
Drum Dryer	<p><b>Hot Mix Asphalt Drum Dryer</b>  <b>Manufacturer:</b> Barber-Greene  <b>Model:</b> DM-60  <b>Model Burner:</b> 520 Hauck multi fuel  <b>Manufacture Date:</b> 1968  <b>Type of HMA Plant:</b> Drum Mix  <b>Rated Capacity:</b> 96.8 MMBtu/hr  <b>Maximum Capacity:</b> 400 T/hr  <b>Maximum Production:</b> 350 T/hr and 5,000 T/day  <b>Design Aggregate:</b> Up to 50% RAP, may use petroleum-contaminated soil &amp; aggregate  <b>Fuel:</b> Natural gas, propane, distillate fuel oil ASTM Grade 1 and 2 or mix thereof, and used oil</p>	<p><b>Pulse Jet Baghouse</b>  <b>Manufacturer:</b> Gentec  <b>Model:</b> AB448-15  <b>Type:</b> Pulse Jet  <b>Number of bags:</b> 448  <b>Bag dimensions:</b> 14.125' x 0.4375'  <b>Air to Cloth ratio:</b> 1.79 to 1  <b>PM<sub>10</sub> control efficiency:</b> 99%</p>	<p><b>Exit height:</b> 25 ft  <b>Exit diameter:</b> 4 ft  <b>Exit flow rate:</b> 15,551 acfm  <b>Exit temperature:</b> 213 °F</p>
Tank Heater	<p><b>Asphalt Tank Heater</b>  <b>Manufacturer:</b> Hyway Tank Heater  <b>Model:</b> 30 GT-HTS  <b>Serial No.:</b> 664  <b>Rated Capacity:</b> 1.5 MMBtu/hr  <b>Fuel Types:</b> Natural Gas and Propane  <b>Maximum Fuel Usage:</b> 15 scf/hour and 50,400 scf/year</p>	None	<p><b>Exit height:</b> 12 ft  <b>Exit diameter:</b> 0.75 ft  <b>Exit temperature:</b> 300°F</p>
Storage Tanks	<p><b>Storage Tanks</b>  <b>Asphalt Cement Tanks</b>  <b>Model:</b> above-ground storage tank  <b>Maximum capacity:</b> 30,000 gallons  <b>Type:</b> asphalt cement  <b>Model:</b> above-ground storage tank  <b>Maximum capacity:</b> 12,000 gallons  <b>Type:</b> fuel oil  <b>Distillate Fuel Tank</b>  <b>Model:</b> above-ground storage tank  <b>Maximum capacity:</b> 8,000 gallons  <b>Type:</b> asphalt cement  <b>Used Oil Tank</b>  <b>Model:</b> above-ground storage tank  <b>Maximum capacity:</b> 24,000 gallons  <b>Type:</b> fuel oil</p>	None	Storage tank vents
Fugitives	<p><b>Materials transfer points (includes fugitives)</b>  <b>Aggregate dump to ground,</b>  <b>Aggregate dump to conveyor,</b>  <b>Aggregate conveyor to elevated storage</b></p>	<p><b>Minimized drop heights, water sprays, or equivalent control methods</b></p>	Fugitive points

**Emissions Inventories**

An emissions inventory for the HMA plant was provided in the application. The emission inventory is based on emission factors from Section 11.1 of AP-42 (04/04), the sources and emission controls descriptions summarized in Table 1, source test, the fuel types summarized in Table 1, and the following operational limits: 350 T/hr and 4,200 T/day maximum asphalt production.

Emissions estimates were calculated separately for each fuel evaluated for use in the HMA. An emission estimate for each emission source was then developed by selecting the maximum value for each pollutant and each fuel type evaluated for that source, as provided in Table 2. This represents a worst-case approach for conservatively evaluating the maximum potential emissions from each source regardless of which fuel the facility chooses to use.

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

The facility is permitted to process up to 50% remediated petroleum soil with aggregate. The TAPs analysis and evaluation was reviewed with the prior permitting action. Emissions information can be seen in the Statement of Basis from the previous permit, issued June 10, 2009. The permit no. is P-2008.0171.

**Uncontrolled Emissions:**

The following table presents the post project uncontrolled emissions for criteria pollutants as submitted by the Applicant and verified by DEQ staff.

**Table 2 POST PROJECT UNCONTROLLED EMISSIONS FOR CRITERIA POLLUTANTS**

Emissions Unit	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	Lead
	T/yr	T/yr	T/yr	T/yr	T/yr	lb/quarter
<b>Point Sources</b>						
Drum Dryer	1800	88.9	84.3	199.3	49.1	11.5
Tank Heater	0.297	12.8	1.8	1.02	0.23	0.0068
<b>Total, Point Sources</b>	<b>1800.30</b>	<b>101.70</b>	<b>86.10</b>	<b>200.32</b>	<b>49.33</b>	<b>11.51</b>
<b>Fugitive Sources</b>						
Emissions Unit	PM <sub>10</sub> <sup>a</sup>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	Lead
	T/yr	T/yr	T/yr	T/yr	T/yr	lb/quarter
<b>Fugitive Sources</b>						
Loadout & Silo Filling	1.7	0.00	0.00	3.88	6.18	0.00
<b>Total, Fugitive Sources</b>	<b>1.70</b>	<b>0.00</b>	<b>0.00</b>	<b>3.88</b>	<b>6.18</b>	<b>0.00</b>

**Post Project Potential to Emit**

The following table presents the post project potential to emit for criteria pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff. Note that this permitting action does not include a change in PTE.

**Table 3 POST PROJECT POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS**

Emissions Unit	PM <sub>10</sub>		SO <sub>2</sub>		NO <sub>x</sub>		CO		VOC		Lead	
	lb/hr <sup>a</sup>	T/yr <sup>b</sup>	lb/qtr	T/yr								
Point Sources												
Drum Dryer	9.324	13.43	20.3	29	19.25	27.7	45.5	65.5	11.2	16.1	3.75	0.0075
Tank Heater	0.679	0.97	2.42	1.43	0.412	0.59	0.232	0.33	0.0152	0.2	0.22	.00044
Loadout & Silo Filling	0.388	1.43	0.00	0.00	0.00	0.00	0.885	1.26	1.41	2.0	0	0
Post Project Totals	10.39	15.83	22.72	30.43	19.66	28.29	46.62	67.09	12.63	18.30	3.97	0.01

- a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.  
 b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

As demonstrated in Tables 2 and 3, this facility has uncontrolled potential to emit for PM<sub>10</sub>, CO and SO<sub>2</sub> emissions greater than the Major Source threshold of 100 T/yr and a controlled potential to emit for all pollutants less than the Major Source threshold of 100 T/yr. Therefore, this facility is designated as a Synthetic Minor facility. As demonstrated in Table 3 the facility's PTE for all criteria pollutants is less than 80% of the Major Source thresholds of 100 T/yr. Therefore, this facility will not be designated as a SM-80 facility.

**Non-Carcinogenic TAP Emissions**

A summary of the estimated uncontrolled and controlled non-carcinogenic emissions increase of toxic air pollutants (TAP) is provided in the following table. The estimated controlled emissions increases of TAP were below applicable emissions screening levels (EL). Estimated controlled TAP emissions were below the annual major source threshold.

Pre- and post project, as well as the change in, non-carcinogenic TAP emissions are presented in the following table:

**Table 4 PRE- AND POST PROJECT NON-CARCINOGENIC TAP EMISSIONS SUMMARY  
POTENTIAL TO EMIT**

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Chromium	2.3E-04	2.3E-04	0.0000	5.6E-07	No

Therefore, modeling is not required for any TAPs because the 24-hour average non-carcinogenic screening EL identified in IDAPA 58.01.01.585 were not exceeded.

**Carcinogenic TAP Emissions**

A summary of the estimated uncontrolled and controlled carcinogenic emissions increase of toxic air pollutants (TAP) is provided in the following table. The estimated controlled emissions increases of TAP were below applicable emissions screening levels (EL). Estimated controlled TAP emissions were below the annual major source threshold.

Pre- and post project, as well as the change in, carcinogenic TAP emissions are presented in the following table:

**Table 5 PRE- AND POST PROJECT CARCINOGENIC TAP EMISSIONS SUMMARY POTENTIAL TO EMIT**

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Acetaldehyde	1.48E-01	1.48E-01	0.0000	3.00E-03	No
Arsenic	3.07E-04	3.07E-04	0.0000	1.5E-06	No
Benzene	4.52E-02	4.52E-02	0.0000	1.2E-01	No
Formaldehyde	3.64E-01	3.64E-01	0.0000	5.1E-04	No
Cadmium	2.18E-04	2.18E-04	0.0000	3.7E-06	No
Nickel	3.32E-02	3.32E-02	0.0000	2.7E-05	No
Benzo(a)pyrene	2.02E-06	2.02E-06	0.0000	2.6E-06	No

a) Polycyclic Organic Matter (POM) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

Therefore, modeling is not required for any TAPs because the annual average carcinogenic screening EL identified in IDAPA 58.01.01.586 was not exceeded.

**Post Project HAP Emissions**

There is no change in emissions associated with this project. Therefore all HAPs emissions remain unchanged from the previous permitting action. Please refer to the Statement of Basis from the previous permit, issued June 10, 2009. The permit no. is P-2008.0171.

**Ambient Air Quality Impact Analyses**

An ambient air quality impact analyses was not performed for this project as there was no change in emission and need to model. For further detail regarding ambient modeling performed for this facility, refer to the Statement of Basis from the previous permit, issued June 10, 2009. The permit no. is P-2008.0171.

**REGULATORY ANALYSIS**

**Attainment Designation (40 CFR 81.313)**

The facility is currently located in Fremont County, which is designated as attainment or unclassifiable for PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>2</sub>, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

**Permit to Construct (IDAPA 58.01.01.201)**

IDAPA 58.01.01.201

Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the modified emissions source. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

**Tier II Operating Permit (IDAPA 58.01.01.401)**

IDAPA 58.01.01.401

Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400-410 were not applicable to this permitting action.

**Registration Procedures & Requirements for Portable Equipment (IDAPA 58.01.01.500)**

IDAPA 58.01.01.500 Portable Equipment Requirements

Portable equipment needs to be registered within 90 days after permit issuance and DEQ must be notified at least 10 days prior to relocation. This requirement is assured by Permit Condition 8.

**General Restrictions on Odors (IDAPA 58.01.01.776)**

IDAPA 58.01.01.776 General Restrictions on Odors

No person shall allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids into the atmosphere in such quantities as to cause air pollution. This requirement is assured by Permit Conditions 10 and 13.

**Visible Emissions (IDAPA 58.01.01.625)**

IDAPA 58.01.01.625 Visible Emissions

The sources of PM<sub>10</sub> emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Condition 16.

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

IDAPA 58.01.01.301 Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for all criteria pollutants or 10 tons per year for any one HAP or 25 tons per year for all HAPs as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006.113, and the requirements of IDAPA 58.01.01.301 do not apply.

**PSD Classification (40 CFR 52.21)**

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52.21(a)(2). Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is/is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

**NSPS Applicability (40 CFR 60)**

**40 CFR 60, 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.

H K Contractors, Inc. – The HMA was constructed by Barber Green in 1968. However, the process was modified 2007 to include remediated soil in 2007. Therefore, the facility is subject to subpart I.

§ 60.92 *Standard for particulate matter.*

In accordance with §60.92, no owner or operator shall discharge or cause the discharge into the atmosphere from any affected facility any gases which contain particulate matter in excess of 0.04 gr/dscf or exhibit 20 percent opacity or greater. This NSPS emission limit is included as a permit condition in the PTC.

§ 60.93 *Test methods and procedures.*

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

In accordance with §60.93(b), compliance with the particulate matter standards shall be determined by EPA Reference Method 5, and opacity shall be determined by EPA Reference Method 9. These test requirements are included as a permit condition in the PTC.

**NESHAP Applicability (40 CFR 61)**

The facility is not subject to any NESHAP requirements in 40 CFR 61.

**MACT Applicability (40 CFR 63)**

The facility is not subject to any MACT standards in 40 CFR Part 63.

**Permit Conditions Review**

This section describes the permit conditions only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

Existing Permit Condition 1.3

Table 1.1 lists all sources of regulated emissions in this PTC.

**Table 1.1 SUMMARY OF REGULATED EMISSIONS SOURCES**

Permit Section	Source Description	Emissions Controls
2	<p><u>Hot Mix Asphalt Drum Dryer</u>  <b>Manufacturer:</b> Barber-Greene  <b>Model:</b> DM-60  <b>Burner Model:</b> 520 Hauck Multi fuel burner  <b>Manufacture date:</b> 1968  <b>Type of HMA Plant:</b> Drum Mix  <b>Rated Heat Input Capacity:</b> 96.8 MMBtu/hr  <b>Maximum capacity:</b> 400 T/hr  <b>Maximum production:</b> 350 T/hr and 5,000 T/day  <b>Design Aggregate :</b> Up to 50% RAP, may use petroleum-contaminated soil and aggregate  <b>Fuel:</b> natural gas, propane distillate fuel oil ASTM Grade 1 and Grade 2, and No.1/No.2 mix fuel, used oil</p>	<p><u>Wet Venturi Scrubber</u>  <b>Manufacturer:</b> Barber-Greene  <b>Model:</b> CV-70</p> <p><u>Drum Mixer Baghouse:</u>  <b>Manufacturer:</b> Gentec  <b>Model:</b> AB448-15 Pulse Jet Baghouse  <b>Type:</b> Reverse pulse-jet  <b>Flow rate:</b> 18,551 acfm  <b>PM<sub>10</sub> control efficiency:</b> 99.0%</p>
2	<p><u>Asphalt Tank Heater</u>  <b>Manufacturer/Model:</b> Hyway tank heater, 30GT-HTS  <b>Serial No.:</b> 664  <b>Rated Heat Input Capacity:</b> 1.5 MM Btu/hr  <b>Fuel Types:</b> propane  <b>Max Fuel Usage:</b> 15 scf/hour, and 50,400 scf/year</p>	None

Revised Permit Condition 4

The emission sources regulated by this permit are listed in the following table.

**Table 6 REGULATED SOURCES**

Source Descriptions	Emission Controls
<p><b><u>Hot Mix Asphalt Drum Dryer</u></b>  <b>Manufacturer:</b> Barber-Greene  <b>Model:</b> DM-60  <b>Burner Model:</b> 520 Hauck Multi fuel burner  <b>Manufacture date:</b> 1968  <b>Type of HMA Plant:</b> Drum Mix  <b>Rated Heat Input Capacity:</b> 96.8 MMBtu/hr  <b>Maximum capacity:</b> 400 T/hr  <b>Maximum production:</b> 350 T/hr and 5,000 T/day  <b>Design Aggregate :</b> Up to 50% RAP,                      may use petroleum-contaminated soil and aggregate  <b>Fuel:</b> natural gas, propane                      distillate fuel oil ASTM Grade                      1 and Grade 2,                      and No.1/No.2 mix fuel ,and                      used oil</p>	<p><b><u>Drum Mixer Baghouse:</u></b>  <b>Manufacturer:</b> Gentec  <b>Model:</b> AB448-15 Pulse Jet Baghouse  <b>Type:</b> Reverse pulse-jet  <b>Flow rate:</b> 18,551 acfm  <b>PM<sub>10</sub> control efficiency:</b> 99.0%</p>
<p><b><u>Asphalt Tank Heater</u></b>  <b>Manufacturer/Model:</b> Hyway tank heater, 30GT-HTS  <b>Serial No.:</b> 664  <b>Rated Heat Input Capacity:</b> 1.5 MM Btu/hr  <b>Fuel Types:</b> Propane  <b>Max Fuel Usage:</b> 15 scf/hour, and 50,400 scf/year</p>	<p>None</p>

This permit condition has been revised to remove the reference to the venturi scrubber and replace it with details pertaining to the added baghouse.

New Permit Condition 6

Maintaining the moisture content in 1/4" or smaller aggregate material at 1.5% by weight, water sprays, shrouds, or other emissions controls shall be used at all transfer points downstream of the aggregate and RAP storage bins. These areas include, but are not limited to the:

- Aggregate Weigh Conveyor(s) - Transfer from the bins to the conveyors and from the conveyors to the scalping screens.
- Aggregate Scalping Screen(s) - Aggregate flow across the scalping screen onto the conveyors.
- Aggregate Conveyor(s) to the Asphalt Drum Mixer (e.g., opening of the drum) - Aggregate transfer from the conveyors to the asphalt drum mixer.

Operate with a covered conveyor(s) from the asphalt drum mixer to the silo fill transfer point, or if loaded directly into the truck, from the asphalt drum mixer to the truck loadout transfer point.

This condition was added to provide further detail as to what is expected regarding implementation strategies to control fugitive dust emissions.

Existing Permit Condition 2.2

The particulate matter (PM) and particulate matter with an aerodynamic diameter less than or equal to ten microns (PM<sub>10</sub>) emissions from the HMA plant are controlled by a wet venturi scrubber. **Error! Reference source not found.** Table 2.1 below describes the control devices or measures associated with the HMA plant.

**Table 2.1 CONTROL DESCRIPTIONS OF THE HMA PLANT**

<i>Emissions Units / Processes</i>	<i>Emissions Control Devices</i>	<i>Emissions Sources</i>
<i>Drum Dryer</i>	<i>Wet Venturi Scrubber</i>	<p><u>Wet Venturi Scrubber Stack:</u>                      Exit height: 36 ft (10.97 meters)                      Exit diameter: 3.0 ft (0.91 meters)                      Exhaust flow rate: Not Given                      Exit flow velocity: 145 ft/sec (44.2 m/sec)                      Exit temperature: 135 °F (330.37 K)                      Control efficiency: 70%</p>
<i>Asphalt Heater</i>	<i>None</i>	<p><u>Tank Heater Stack:</u>                      Exit height: 12 ft                      Exit diameter: 0.75 ft                      Exhaust flow rate: Not Given                      Exit flow velocity: Not Given                      Exit temperature: 300°F</p>
<i>Materials transfer (fugitives)</i>	<i>Minimized drop heights, water sprays, or equivalent control methods</i>	<p>Aggregate dump to ground, sand dump to ground, aggregate dump to conveyor, sand dump to conveyor, aggregate conveyor to elevator storage, and sand conveyor to elevated storage.                      Control efficiency: 75%</p>

Revised Permit Condition 15

*Emission Controls Description*

**Table 7 ASPHALT PRODUCTION DESCRIPTION**

<i>Emissions Units / Processes</i>	<i>Emission Control Devices</i>	<i>Emission Points</i>
<i>Asphalt Drum Mixer</i>	<i>Baghouse</i>	<i>Baghouse exhaust stack</i>
<i>Asphaltic Oil Tank Heater</i>	<i>N/A</i>	<i>Asphaltic oil tank heater exhaust stack</i>
<i>Materials transfer (fugitives)</i>	<i>Minimized drop heights, water sprays, or equivalent control methods</i>	<p>Aggregate dump to ground, sand dump to ground, aggregate dump to conveyor, sand dump to conveyor, aggregate conveyor to elevator storage, and sand conveyor to elevated storage.                      Control efficiency: 75%</p>

This permit condition has been revised to remove the reference to the venturi scrubber and replace it with details pertaining to the added baghouse. Also, specific parameters were removed from the permit and included only in the Statement of Basis as they are only used for informational purposes. When they were in the permit in the past they would often be interpreted as hard limits.

Existing Permit Condition 2.10

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

**Table 2.4 USED OIL SPECIFICATIONS<sup>1</sup>**

<i>Constituent/property</i>	<i>Allowable level</i>
<i>Arsenic</i>	<i>5 ppm maximum</i>
<i>Cadmium</i>	<i>2 ppm maximum</i>
<i>Chromium</i>	<i>10 ppm maximum</i>
<i>Lead</i>	<i>100 ppm maximum</i>
<i>Flash point</i>	<i>100 deg. F minimum</i>
<i>Total halogens</i>	<i>1,000 ppm maximum</i>
<i>PCBs<sup>2</sup></i>	<i>&lt; 2 ppm</i>

<sup>1</sup> *The specification does not apply to mixtures of used oil and hazardous waste that continue to be regulated as hazardous waste (see 40 CFR 279.10(b)).*

<sup>2</sup> *Applicable standards for the burning of used oil containing PCBs are imposed by 40 CFR 761.20(e)*

Revised Permit Condition 22

*In accordance with 40 CFR 279.11, used oil (as defined by ASTM D6488) shall be limited to RFO4, RFO5L, and RFO5H and shall not exceed any of the allowable levels of the constituents or properties listed in the following table:*

**Table 8 40 CFR 279.11 - USED OIL SPECIFICATIONS<sup>1</sup>**

<i>Constituent/Property</i>	<i>Allowable Level</i>
<i>Arsenic</i>	<i>5 ppm</i>
<i>Cadmium</i>	<i>2 ppm</i>
<i>Chromium</i>	<i>10 ppm</i>
<i>Lead</i>	<i>100 ppm</i>
<i>Sulfur</i>	<i>5,000 ppm (0.5% by weight)</i>
<i>Flash Point</i>	<i>A minimum of 100 °F</i>
<i>Total Halogens</i>	<i>4,000 ppm</i>
<i>PCBs<sup>2</sup></i>	<i>&lt; 2 ppm</i>

<sup>1</sup> *The specification does not apply to mixtures of used oil and hazardous waste that continue to be regulated as hazardous waste (see 40 CFR 279.10(b)).*

<sup>2</sup> *Applicable standards for the burning of used oil containing PCB are imposed by 40 CFR 761.20(e).*

*If the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste. The Permittee may rebut the presumption by demonstrating that the used oil does not contain hazardous waste.*

The previous limit of 1,000 ppm for total halogens has become problematic for other facilities. The CFR states that if the concentration of halogens is between 1,000 and 4,000 ppm; it is the facility's responsibility to treatment it as hazardous waste or demonstrate that the used oil does not contain hazardous waste. The updated condition always for a little more flexibility.

Removed Permit Conditions 2.14-2.17

*2.14 - The pressure drop across the wet venturi scrubber shall be maintained within manufacturer and O&M manual specifications.*

2.15 - *The scrubbing media flow rate to the wet venturi scrubber shall be maintained within manufacturer and O&M manual specifications.*

2.16 - *The wet venturi scrubber shall be operated at all times during the operation of the drum dryer.*

2.17 - *The permittee shall, in accordance with manufacturer specifications, install, calibrate, maintain, and operate equipment to continuously measure the pressure differential across the wet venturi scrubber and the scrubbing-media flow rate to the wet venturi scrubber.*

All of these conditions were removed as they relate specifically to the venturi scrubber that was replaced with a baghouse. Therefore, they are now obsolete and no longer needed.

#### New Permit Condition 25

*The permittee shall install, operate, and maintain a baghouse on the asphalt drum mixer with a 99% PM<sub>10</sub> control efficiency or greater. The collected particulate from the baghouse shall be routed to the asphalt drum mixer for incorporation into the final asphalt product.*

This condition requires that a baghouse be installed, operated and maintained in such a manner that 99% control efficiency can be obtained.

#### Removed Permit Condition 2.25

*The permittee shall monitor and record the pressure drop across the HMA wet venturi scrubber on a weekly basis to demonstrate compliance with Permit Condition 2.14.*

This condition was removed as they relate specifically to the venturi scrubber that was replaced with a baghouse. Therefore, it is now obsolete and no longer needed.

#### Existing Permit Condition 2.27

*Performance testing on the HMA Dryer wet venturi stack shall be performed within 180 days of starting and then no less than once every five years.*

*The performance test shall measure the PM stack gas concentration in grains per dry standard cubic feet, the PM<sub>10</sub> emission rate in pounds per hour and the opacity to demonstrate compliance with Permit Conditions 2.4, 2.3, and 2.6.*

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

#### Revised Permit Condition 26

*Performance testing on the HMA Dryer baghouse stack shall be performed no later than June 2012 and then no less than once every five years.*

*The performance test shall measure the PM stack gas concentration in grains per dry standard cubic feet, the PM<sub>10</sub> emission rate in pounds per hour and the opacity to demonstrate compliance with the Opacity, emissions limit and Particulate Matter permit conditions.*

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

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

This condition was updated to require another performance test five years from the last one conducted in June of 2007.

### Existing Permit Condition 2.20

*The permittee shall monitor and record the daily production on a daily basis and the annual production on a monthly basis to demonstrate compliance with Permit Condition 2.7. Annual production shall be determined by summing each monthly production total over the previous consecutive 12-calendar month period. The recycled asphalt pavement usage shall be monitored and recorded on a daily basis, in tons per calendar day, to demonstrate compliance with Permit Condition 2.7 and 2.13.*

### Revised Permit Condition 29

*For each day that the asphalt drum mixer is operated, the Permittee shall maintain the following records:*

- *The amount of asphalt produced in tons per hour and tons per day to demonstrate compliance with the hourly and daily Asphalt Production Limits permit condition.*

*Monthly asphalt production shall be determined by summing daily production over the previous calendar month. Consecutive 12-months of asphalt production shall be determined by summing the monthly production over the previous consecutive 12 month period to demonstrate compliance with the consecutive 12-months Asphalt Production Limits permit condition.*

This condition was updated to reflect updated language to maintain consistency between other newer HMA permits.

### Existing Permit Condition 2.21

*The permittee shall physically measure and record the minimum setback distance to demonstrate compliance with the setback limits in Permit Condition 2.7:*

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

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

### Revised Permit Condition 30

*The permittee shall measure and record the distance, to an accuracy of plus or minus six feet, between the property line and the base of the asphalt drum mixer baghouse exhaust stack each time the asphalt drum mixer baghouse is moved to demonstrate compliance with the Setback Distance Requirements permit condition.*

The changes were made to make the condition more concise and avoid referencing of specific tables.

### New Permit Condition 31

*Within 60 days of permit issuance, the permittee shall have developed a Baghouse Filter System Procedures document for the inspection and operation of the baghouse filter system which controls particulate matter emissions from the asphalt drum mixer. The Baghouse Filter System Procedures document shall be a permittee-developed document independent of the manufacturer supplied operating manual but may include summaries of procedures included in the manufacturer supplied operating manual.*

*The Baghouse Filter System Procedures document shall describe the procedures that will be followed to comply with the General Compliance General Provisions and shall contain requirements for monthly see/no-see visible emissions inspections of the baghouse. The inspection shall occur during daylight hours and under normal operating conditions.*

*The Baghouse/Filter System Procedures document shall include a schedule and procedures for corrective action that will be taken if visible emissions are present from the asphalt drum mixer baghouse at any time. At a minimum the document shall include:*

*Procedures to determine if bags or cartridges are ruptured; and*

*Procedures to determine if bags or cartridges are not appropriately secured in place.*

*The permittee shall maintain records of the results of each baghouse filter system inspection. The records shall include a description of whether visible emissions were present and if visible emissions were present a description of the corrective action that was taken.*

*The Baghouse Filter System Procedures document shall be submitted to DEQ within 60 days after permit issuance and shall contain a certification by a responsible official. Any changes to the Baghouse Filter System Procedures document shall be submitted within 15 days of the change.*

*The Baghouse Filter System Procedures document shall remain on-site at all times and shall be made available to DEQ representatives upon request.*

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

This condition was added as the baghouse is replacing the scrubber. It establishes that the permittee shall establish procedures for operating the baghouse. This is a DEQ imposed standard requirement for operations using baghouses to control particulate emissions.

#### Existing Permit Condition 2.28

*The permittee shall monitor and record the following during each performance test:*

- *The HMA production rate, in tons per hour, once every 15 minutes;*
- *The recycled asphalt pavement usage in tons per hour, once every 15 minutes;*
- *The type of fuel combusted in the HMA Dryer; and*
- *Burner fuel flow rate (i.e., gallons per hour),*
- *Fuel oil sulfur content (i.e., percent by weight),*
- *Pressure drop across the wet venturi scrubber (i.e., inches of water),*
- *The water flow rate to the wet venturi scrubber (i.e., gallons per minute), and*
- *The visible emissions observed during the performance test.*

#### Revised Permit Condition 34

*The permittee shall monitor and record the following during each performance test:*

- *The HMA production rate, in tons per hour, once every 15 minutes;*
- *The recycled asphalt pavement usage in tons per hour, once every 15 minutes;*
- *The type of fuel combusted in the HMA Dryer; and*
- *Burner fuel flow rate (e.g., gallons per hour),*
- *Fuel oil sulfur content (e.g., percent by weight),*
- *The visible emissions observed during the performance test*

Requirements of measuring the pressure drop across the scrubber and the water flow rate were removed as they are now obsolete.

### Existing Permit Condition 2.26

*The following parameters shall be monitored and recorded based on the frequency indicated below.*

- *Pressure drop across the wet venturi scrubber at least once per calendar day while HMA is being produced.*
- *The scrubbing-media flow rate to the wet venturi scrubber at least once per day while HMA is being produced.*
- *For any day that RAP is included as part of the design aggregate: Tons of HMA produced that calendar day and tons of recycled asphalt pavement (RAP) used that calendar day.*

### Revised Permit Condition 35

*For any day that RAP is included as part of the design aggregate: Tons of HMA produced that calendar day and tons of recycled asphalt pavement (RAP) used that calendar day.*

This condition was shortened to only include RAP monitoring as the other two requirements related to the obsolete venturi scrubber.

### New Permit Condition 37

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

- *Standards of Performance of New Stationary Sources (NSPS), 40 CFR 60, Subpart I – Standards of Performance for Hot Mix Asphalt Plants.*

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

This added condition establishes that the federal requirements of 40 CFR Part 60 are incorporated by reference into the requirements of this permit per current DEQ guidance.

### Existing Permit Condition 3.2

*Particulate matter (PM) emissions from the HMA drum dryer are controlled by a venturi scrubber.*

### Revised Permit Condition 40

*Particulate matter (PM) emissions from the HMA drum dryer are controlled by a pulse jet baghouse.*

This condition was updated to reflect the installation of a baghouse.

### Removed Permit Condition 3.5

*When using remediating petroleum-contaminated soil and aggregate, the drum dryer shall be operated on natural gas or propane, exclusively.*

This condition was removed because it was determined that the facility wanted to also have the ability to use diesel fuel and used oil in the drum dryer when using remediated soil. It was determined that during the 1999 permitting action (see chronological time line for details) that use of gasoline fuels was allowed, but limited to 5,000 mg/kg as stated in Permit Condition 44. Also, during the 2007 permitting action a modeling demonstration was performed allowing for used oil. Additionally, the use of remediated soil shouldn't cause a change in emissions associated with the drum dryer as the unit will not get to high enough temperatures to cause the contaminants in the soil to escape. It will most likely remain within the soil. Therefore, if used oil is allowed at other locations and pollutants associated with remediated soil is not released into the atmosphere it's impact is equivalent regardless of location.

## **PUBLIC REVIEW**

### ***Public Comment Opportunity***

Because this permitting action does not authorize an increase in emissions, an opportunity for public comment period was not required or provided in accordance with IDAPA 58.01.01.209.04.

## **APPENDIX A – FACILITY DRAFT COMMENTS**

**The following comments were received from the facility on April 6, 2011:**

**Facility Comment #1:** On Page 15 – Remediation of Petroleum-Contaminated Soils and Aggregates under Operating Requirements # 43 Permitted Fuels. The Natural Gas and Propane Fuel is not available at this site for Burner fuel. We asked that it be added to our allowed fuel use if it ever became available. We are limited to Diesel Fuel (#2) and Used Oil at this time. Can you change the permit to reflect this?

**DEQ Response:** This request has been made and a discussion as to why is located in the Permit Review section of this Statement of Basis.

**Facility Comment #2:** Page 3 – Table 1 Regulated Sources: Asphalt Tank Heater: Fuel Types: In addition to the propane, can you add Natural Gas to the list of approved fuels so we can use the Natural Gas if it ever becomes available?

**DEQ Response:** This request has been made as natural gas was previously allowed; it just wasn't included in the Table.

## APPENDIX B – PROCESSING FEE