

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **102013-003**

Project Number: 2013-07-042
Installation ID: 047-0182

Parent Company: Ideker, Inc.

Parent Company Address: P.O. Box 7140, St. Joseph, MO 64507

Installation Name: Ideker, Inc.-Mosby

Installation Address: 12528 6th Street, Mosby, MO 64024

Location Information: Clay County, S17, T52N, R30W

Application for Authority to Construct was made for:
Increase production by adding a moisture content testing requirement. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

-
- Standard Conditions (on reverse) are applicable to this permit.
 - Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

OCT - 3 2013

EFFECTIVE DATE

A handwritten signature in black ink, appearing to read "Kyra L Moore".

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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SITE SPECIFIC SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

1. **Superseding Condition**
The conditions of this permit supersede all special conditions found in the previously issued construction permits 062007-005 and 062007-005A from the Air Pollution Control Program.
2. **Best Management Practices Requirement**
Ideker, Inc.-Mosby shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing Best Management Practices as defined in Attachment AA.
3. **Ambient Air Impact Limitation**
 - A. Ideker, Inc.-Mosby shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM₁₀) of 150.0 µg/m³ 24-hour average in ambient air.
 - B. Ideker, Inc.-Mosby shall demonstrate compliance with Special Condition 3.A using Attachment A, Attachment B, or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms. Ideker, Inc.-Mosby shall account for the impacts from other sources of PM₁₀ as instructed in the attachments.
 - C. Ideker, Inc.-Mosby is exempt from the record keeping requirements found in Special Condition 3.B. when no other plants are located at this site.
4. **Annual Emission Limit**
 - A. Ideker, Inc.-Mosby shall emit less than 10.0 tons of PM_{2.5} in any 12-month period from the entire installation.
 - B. Ideker, Inc.-Mosby shall demonstrate compliance with Special Condition 4.A using Attachment C or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
5. **Moisture Content Testing Requirement**
 - A. Ideker, Inc.-Mosby shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent by weight.

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SITE SPECIFIC SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.
 - C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.
 - D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).
 - E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing the test. The report shall be filed on-site or at the Ideker, Inc.-Mosby main office within 30 days of completion of the required test.
 - F. If the moisture content of either of the two tests is less than the moisture content in Special Condition 5.A, another test may be performed within 15 days of the noncompliant test. If the results of that test also exceed the limit, Ideker, Inc.-Mosby shall either:
 - 1) Apply for a new permit to account for the revised information, or
 - 2) Submit a plan for the installation of wet spray devices to the Compliance/Enforcement Section of the Air Pollution Control Program within 10 days of the second noncompliant test. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
 - G. In lieu of testing, Ideker, Inc.-Mosby may obtain test results that demonstrate compliance with the moisture content in Special Condition 5.A from the supplier of the aggregate.
6. Control Device Requirement-Baghouse
- A. Ideker, Inc.-Mosby shall control emissions from the drum dryer (EP-4) using baghouses as specified in the permit application.
 - B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources employees may easily observe them.
 - C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to

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The permittee is authorized to construct and operate subject to the following special conditions:

occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

- D. Ideker, Inc.-Mosby shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
- E. Ideker, Inc.-Mosby shall maintain a copy of the baghouse manufacturer's performance warranty on site.
- F. Ideker, Inc.-Mosby shall maintain an operating and maintenance log for the baghouses which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
- 7. **Minimum Distance to Property Boundary Requirement**
The primary emission point, the drum dryer (EP-04), shall be located at least 400 feet from the nearest property boundary.
- 8. **Record Keeping Requirement**
Ideker, Inc.-Mosby shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources personnel upon request.
- 9. **Reporting Requirement**
Ideker, Inc.-Mosby shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2013-07-042
Installation ID Number: 047-0182
Permit Number:

Ideker, Inc.-Mosby
12528 6th Street
Mosby, MO 64024

Complete: August 06, 2013

Parent Company:
Ideker, Inc.
P.O. Box 7140
St. Joseph, MO 64507

Clay County, S17, T52N, R30W

PROJECT DESCRIPTION

Ideker, Inc.-Mosby has proposed a production increase for this stationary plant with a natural gas-fired drum dryer and asphaltic cement heater. One of the originally unpaved haul roads has recently been paved. Additionally, Ideker, Inc.-Mosby has requested a moisture content testing requirement to increase overall production. There are two hot mix asphalt storage silos with a combined MHDR of 400 tons per hour, which is also the MHDR of the drum dryer. No diesel generators or engines are used by this plant as the site is equipped with municipal power. Processed hot mix asphalt is delivered as sellable product. The emission units associated with this plant are listed below in Table 1.

Table 1: Emission Units

Emission Unit	Description	Quantity
EU-01	Aggregate Handling Bins*	8
EU-02	Aggregate Conveyor*	13
EU-03	Vibrating Screen	1
EU-04a	Recycled Asphalt Shingle Crusher	1
EU-04b	Hot Mix Drum	1
EU-05	Plant Loadout	1
EU-06	Asphalt Storage Tanks	2
EU-07	Asphalt Heater	1
EU-08	Storage Pile	1
EU-09	Sales Haul Road	1
EU-11	Delivery Haul Road	1

*The aggregate handling bins and conveyors are in parallel and cannot carry the entire MHDR at any given time. Therefore, the potential to emit is based on one handling bin in series with four conveyors.

The applicant is using one of the methods described in Attachment AA, “Best Management Practices,” to control emissions from haul roads and vehicular activity areas.

This installation is located in Clay County, a maintenance area for ozone and an attainment area for all other criteria pollutants.

This installation is on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. Fugitive emissions are counted toward major source applicability. However, Category 27 does not apply to the 100 tons per year major source level thresholds. Therefore, the major source threshold for this asphalt plant is 250 tons per year.

TABLES

The following permits have been issued to Ideker, Inc.-Mosby from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
062007-005A	Concurrent Operation
062007-005	Stationary Asphalt Plant

The table below summarizes the emissions of this project. The existing actual emissions were taken from the previous year’s EIQ. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). Ideker, Inc.-Mosby has requested a voluntary PM_{2.5} emission limit to avoid the dispersion modeling requirements found in 10 CSR 10-6.060 Section (6).

Table 3: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	Existing Actual Emissions (2012 EIQ)	Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	N/D	98.83	21.26
PM ₁₀	15.0	5.89	67.11	14.43
PM _{2.5}	10.0	0.204	46.49	<10.0
SO _x	40.0	1.73	6.18	1.33
NO _x	40.0	4.15	46.18	9.93
VOC	40.0	5.78	84.27	18.13
CO	100.0	20.07	49.97	49.97
GHG (CO ₂ e)	100,000	N/D	279,836	60,188
GHG (mass)	0.0 / 250.0	N/D	279,769	60,173
Formaldehyde	10.0/2.0 ^a	N/D	5.59	1.20
2-methylnaphthalene ^b	10.0/0.01 ^a	N/D	0.13	0.03
Lead Compounds	10.0/0.01 ^a	N/D	0.001	0.0002
Total HAPs	25.0	N/D	9.77	2.1

N/D = Not Determined

^aScreening Model Action Level (SMAL)

^b2-methylnaphthalene is a member of the Polycyclic Organic Matter (POM) HAP group.

The following table shows the results of the ambient air quality impact analysis (AAQIA) that was performed to determine the impact of the pollutants listed in Table 4.

Table 4: Ambient Air Quality Impact Analysis

Pollutant	^a NAAQS/RAL (µg/m ³)	Averaging Time	^b Maximum Modeled Impact (µg/m ³)	Limited Impact (µg/m ³)	Background (µg/m ³)	^c Daily Limit (tons/day)
^d PM ₁₀ (same)	150.0	24-hour	110.8	130.0	20.0	N/A
^e PM ₁₀ (separate)	150.0	24-hour	N/A	65.0	85.0	N/A
2-methylnaphthalene	23	24-hour	0.13	N/A	N/A	N/A
2-methylnaphthalene	2.3 ^f	Annual	0.004	N/A	N/A	N/A

^aNational Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

^bModeled impact at maximum capacity with controls

^cIndirect limit based on compliance with NAAQS.

^dSolitary operation or operation with other plants that are owned by Ideker, Inc.

^eOperation with other plants that are not owned by Ideker, Inc.

^f24-hour standard is 10 times the annual RAL

EMISSIONS CALCULATIONS

Emissions for the project were calculated using emission factors found in the United States Environmental Protection Agency (EPA) document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

Emissions from the drum mix asphalt plant were calculated using emission factors from AP-42 Section 11.1 "Hot Mix Asphalt Plants," April 2004. Sulfur oxide (SO_x) emissions were calculated using the SO₂ and SO₃ emission factors from AP-42 Section 1.3 "Fuel Oil Combustion," September 1998 and assuming half of the sulfur up to 0.1 pound per ton of product is absorbed into the product. The asphalt plant is controlled by a baghouse, so the fabric filter controlled emission factor was used to calculate particulate matter emissions. Potential emissions of filterable PM from the drum mix dryer were calculated using stack test data from a compliance test performed in 2007 in accordance with 40 CFR Part 60 *Standards of Performance for Hot Mix Asphalt Facilities*. Emissions from plant load-out were calculated using predictive equations found in AP-42 Table 11.1-14. Default values were used for asphalt volatility and mix temperature. Emissions from the asphalt heater were calculated using emission factors from AP-42 Section 1.3. Emissions from aggregate handling were calculated using emission factors from AP-42 Section 11.19.2 "Crushed Stone Processing and Pulverized Mineral Processing," August 2004. The controlled emission factors were used because the inherent moisture content of the crushed rock is greater than 1.5% by weight as required by Special Condition 5.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," November 2006. A 90% control efficiency for PM and PM₁₀ and a 40% control efficiency for PM_{2.5} are applied to the emission calculations for the use of BMPs. Emissions from load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4. The moisture content of the aggregate is 1.5% by weight. Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program's Emissions Inventory Questionnaire Form 2.8 "Storage Pile Worksheet."

AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of the pollutants listed in Table 4. The Air Pollution Control Program requires an AAQIA of PM₁₀ for all asphalt, concrete and rock-crushing plants regardless of the level of PM₁₀ emissions if a permit is required. An AAQIA is required for other pollutants if their emissions exceed their respective de minimis or screening model action level (SMAL). The AAQIA was performed using the Air Pollution Control Program's generic nomographs and when appropriate the EPA modeling software AERSCREEN. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS) or Risk Assessment Level (RAL) for the pollutant. If during continuous operation the modeled concentration of a pollutant is greater than the applicable NAAQS or RAL, the plant's production is limited to ensure compliance with the standard.

This plant uses BMPs to control emissions from haul roads and vehicular activity areas, so emissions from these sources were not included in the AAQIA. Instead they were addressed as a background concentration of 20 µg/m³ of PM₁₀ in accordance with the Air Pollution Control Program's BMPs interim policy.

OPERATING SCENARIOS

The plant is permitted to operate with other plants located at the site as long as the NAAQS is not exceeded. The following scenarios explain how Ideker, Inc.-Mosby shall demonstrate compliance with the NAAQS.

- When no other plants are located at this site Ideker, Inc. is exempt from the record keeping requirements found in Special Condition 3.B.
- When plants that are owned by Ideker, Inc., which are referred to as same owner plants, are located at the site, Ideker, Inc. must calculate the daily impact of each plant and limit the total impact of all plants to not exceed the NAAQS using Attachment A.

- When plants that are not owned by Ideker, Inc., which are referred to as separate owner plants, are located at the site, Ideker, Inc. must account for the impacts of these plants as a background concentration and add it to the total impact of all plants owned by Ideker, Inc. that are operating at the site using Attachment B. This total is limited below the NAAQS. Ideker, Inc. will limit the total impact of all plants they own and operate at the site to 65.0 $\mu\text{g}/\text{m}^3$ when any plants they do not own are located at the site. Ideker, Inc.-Mosby is not permitted to operate with any plant that is not owned by Ideker, Inc. that has a separate owner background greater than 65.0 $\mu\text{g}/\text{m}^3$.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM_{2.5} are conditioned below the de minimis level.

APPLICABLE REQUIREMENTS

Ideker, Inc.-Mosby shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- A Basic Operating Permit application is required for this facility within 30 days of equipment start up.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- 40 CFR 60 Subpart I, "Standards of Performance for Hot Mix Asphalt Facilities" applies to the equipment, but Ideker, Inc.-Mosby has previously stack tested to demonstrate compliance.

- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the proposed equipment.
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

J Luebbert
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 09, 2013, received July 22, 2013, designating Ideker, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Attachment AA: Best Management Practices

Haul roads and vehicular activity areas shall be maintained in accordance with at least one of the following options when the portable plant is operating.

1. Pavement
 - A. The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions¹ while the plant is operating.
 - B. Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

2. Application of Chemical Dust Suppressants
 - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
 - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources personnel upon request.

3. Application of Water-Documented Daily
 - A. The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
 - B. Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
 - C. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
 - D. The operator shall record the date, volume of water application and total surface area of active haul roads or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
 - E. The operator shall keep these records with the plant for not less than five (5) years, and the operator shall make these records available to Department of Natural Resources personnel upon request.

¹For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)

Mr. Cody Phillips
Vice President
Ideker, Inc.-Mosby
P.O. Box 7140
St. Joseph, MO 64507

RE: New Source Review Permit - Project Number: 2013-07-042

Dear Mr. Phillips:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact J Luebbert, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:jl

Enclosures

c: Kansas City Regional Office
PAMS File: 2013-07-042

Permit Number: