

**CONSTRUCTION PERMIT
OFFICE OF AIR MANAGEMENT**

**Foertsch Construction Company, Inc.
Hunley Creek Mine
near the intersection of County Road 800 East and Highway 62
Dale, Indiana**

is hereby authorized to construct

- (a) one (1) surface coal mine capable of mining 30,000 tons of coal per month. The coal mine shall consist of drilling, blasting, topsoil removal, overburden loading, overburden unloading, overburden replacement, coal loading, and coal dumping operations; and
- (b) one (1) coal preparation plant with a maximum production capacity of 100 tons of coal per hour. The coal preparation plant shall consist of coal storage, raw coal unloading, crushing, screening, conveying and finished coal loading operations.

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP-147-8924-00034	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

Construction Conditions

General Construction Conditions

1. That the data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).
2. That this permit to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

3. That pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.
4. That pursuant to 326 IAC 2-1-9(b)(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.
5. That notwithstanding Construction Condition No. 6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

First Time Operation Permit

6. That this document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:
 - (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
 - (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
 - (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1-7.1(Fees).
 - (e) The Permittee has the option to apply for an operation permit renewal, pursuant to 326 IAC 2-1-4, at least ninety (90) days prior to the expiration date established in the validation letter or apply for a Source Specific Operating Agreement (SSOA) under 326 IAC 2-9. The operation permit issued shall contain as a minimum the conditions in the Operation Conditions section of this permit.

NSPS Reporting Requirement

7. That pursuant to the New Source Performance Standards (NSPS), Part 60.250 through 60.254, Subpart Y, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:
- (a) Commencement of construction date (no later than 30 days after such date);
 - (b) Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
 - (c) Actual start-up date (within 15 days after such date); and
 - (d) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

Reports are to be sent to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, IN 46206-6015

The application and enforcement of these standards have been delegated to the IDEM-OAM. The requirements of 40 CFR Part 60 are also federally enforceable.

8. That when the facility is constructed and placed into operation the following operation conditions shall be met:

Operation Conditions

General Operation Conditions

1. That the data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
2. That the permittee shall comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder.

Preventive Maintenance Plan

3. That pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:
 - (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
 - (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
 - (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

Transfer of Permit

4. That pursuant to 326 IAC 2-1-6 (Transfer of Permits):

- (a) In the event that ownership of these coal mining operation and coal preparation plant is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
- (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
- (c) The OAM shall reserve the right to issue a new permit.

Permit Revocation

5. That pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

Availability of Permit

6. That pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the IDEM, (local agency if applicable) or other public official having jurisdiction.

Malfunction Condition

7. That pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning

of said occurrence.

- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

Opacity Limitations

- 8. That pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:
 - (a) visible emissions shall not exceed an average of 40% opacity in 24 consecutive readings.
 - (b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

Fugitive Dust Emissions

- 9. That pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of IDEM. [326 IAC 6-4-5(c)].

Fugitive Dust Emissions

- 10. That pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emissions Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on August 29, 1997. This plan consists of applying water or other approved dust suppressant on storage piles, unpaved roadways, sand/aggregate dropping operations on an "as-needed" basis such that the following visible emission conditions are met:
 - (a) Visible emissions from storage piles shall not exceed twenty percent (20%) in twenty four (24) consecutive readings in a six (6) minute period. This limitation may not apply during periods when application of control measures are ineffective or unreasonable due to sustained very high wind speeds. The opacity shall be determined using 40 CFR 60, Appendix A, Method 9, except that the opacity shall be observed at the point of maximum opacity. The observer shall stand at least fifteen (15) feet, but no more than one-fourth (1/4) mile, from the plume and at approximately right angles to the plume.
 - (b) Visible emissions from unpaved roadways shall not exceed an average instantaneous opacity of twenty percent (20%). Average instantaneous opacity shall be the average of twelve (12) instantaneous opacity readings, taken for four (4) vehicle passes, consisting of three (3) opacity readings for each vehicle pass. The three (3) opacity readings for each vehicle pass shall be taken as follows:
 - (i) The first will be taken at the time of emission generation.
 - (ii) The second will be taken five (5) seconds later.
 - (iii) The third will be taken five (5) seconds later or ten (10) seconds after the first.

The three (3) readings shall be taken at approximately four (4) feet from the surface at the point of maximum opacity. The observer shall stand at least fifteen (15) feet, but no more than one-fourth (1/4) mile, from the plume and at approximately right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the unpaved roadway.

- (c) Visible emissions from material transfer operations shall not exceed an average instantaneous opacity of twenty percent (20%). The average instantaneous opacity shall be the average of three (3) opacity readings taken five (5) seconds, ten (10) seconds, and fifteen (15) seconds after the end of one (1) material loading or unloading operation. The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand at least fifteen (15) feet, but no more than one-fourth (1/4) mile, from the plume and at approximately right angles to the plume.

Compliance with these opacity limitations shall also meet the requirements of 326 IAC 5-1.

NSPS

11. That the coal preparation plant shall comply with the New Source Performance Standards, 326 IAC 12 (40 CFR 60.250 through 60.254, Subpart Y) "Standards of Performance for Coal Preparation Plants". This rule requires that the visible emissions from the coal crushing, screening, conveying, coal storage system, raw coal unloading and finished coal loading operations be limited to twenty percent (20%) opacity or less. Compliance with this opacity limit shall also satisfy the requirements of 326 IAC 5-1.

NSPS Testing Requirement

12. That opacity tests to determine compliance with the NSPS, Subpart Y shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up pursuant to 40 CFR 60.675(c) and 40 CFR 60.11. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.
- (a) A test protocol shall be submitted to the OAM, Compliance Data Section, 35 days in advance of the test.
- (b) The Compliance Data Section shall be notified of the actual test date at least two (2) weeks prior to the date.
- (c) All test reports must be received by the Compliance Data Section within 45 days of completion of the testing.
- (d) Whenever the results of the test performed exceed the level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM that they are acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.
- (e) A second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.

Nonfugitive Emissions

13. That nonfugitive emissions from crushing, screening, and conveying operations at the coal preparation plant shall be enclosed, unless a wet suppression system is used in order to meet the requirements of the NSPS, Subpart Y.

Open Burning

14. That the permittee shall not burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6.

15. That the coal mine and coal preparation plant shall be located at the following legal description:

The SW 1/4 of the SE 1/4 of Section 12, the NW 1/4 of the NE 1/4, Part of the NE 1/4 of the NE 1/4, the NE 1/4 of the SE 1/4, the NW 1/4 of the SE 1/4. The SE 1/4 of the NE 1/4, the SW 1/4 of the NE 1/4, and Part of the SE 1/4 of the SE 1/4, all in Section 13, all in Township-4-South, Range-5-West, Spencer County, Indiana.

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. The requirements of this rule (326 IAC 1-6) shall apply to the owner or operator of any facility which has the potential to emit twenty-five (25) pounds per hour of particulates, one hundred (100) pounds per hour of volatile organic compounds or SO₂, or two thousand (2,000) pounds per hour of any other pollutant; or to the owner or operator of any facility with emission control equipment which suffers a malfunction that causes emissions in excess of the applicable limitation.

326 IAC 1-2-39 “Malfunction” definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. (Air Pollution Control Board; 326 IAC 1-2-39; filed Mar 10, 1988, 1:20 p.m. : 11 IR 2373)

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Foertsch Construction Company, Inc.
Dale, Indiana
Permit Reviewer: Marco A. Salenda

Page 10 of 9
CP-147-8924
ID-147-00034

PAGE 2 OF 2

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for New Construction and Operation

Source Background and Description

Source Name: Foertsch Construction Company, Inc.
Source Location: Hunley Creek Mine near the intersection of County Road 800
East and Highway 62, Dale, Indiana
County: Spencer County
Construction Permit No.: CP-147-8924-00034
SIC Code: 1211
Permit Reviewer: Marco A. Salenda

The Office of Air Management (OAM) has reviewed an application from Foertsch Construction Company, Inc. relating to the construction and operation of the following collocated activities:

- (a) one (1) surface coal mine capable of mining 30,000 tons of coal per month. The coal mine shall consist of drilling, blasting, topsoil removal, overburden loading, overburden unloading, overburden replacement, coal loading, and coal dumping operations; and
- (b) one (1) coal preparation plant with a maximum production capacity of 100 tons of coal per hour. The coal preparation plant shall consist of coal storage, raw coal unloading, crushing, screening, conveying and finished coal loading operations.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on August 29, 1997.

Emissions Calculations

See Appendices A1 and A2 (Emissions Calculation Spreadsheets) for detailed calculations (six pages).

Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Allowable Emissions (tons/year)	Potential Emissions (tons/year)
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Particulate Matter (PM)	717	717
Particulate Matter (PM10)	346	346
Sulfur Dioxide (SO ₂)	0.0	0.0
Volatile Organic Compounds (VOC)	0.0	0.0
Carbon Monoxide (CO)	0.0	0.0
Nitrogen Oxides (NO _x)	0.0	0.0
Single Hazardous Air Pollutant (HAP)	0.0	0.0
Combination of HAPs	0.0	0.0

- (a) The potential emissions are equivalent to the allowable emissions. Therefore, the allowable emissions are used for the permitting determination.
- (b) Allowable emissions (as defined in the Indiana Rule) of particulate matter are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

County Attainment Status

Spencer County has been classified as attainment or unclassifiable for total suspended particulates (TSP) and particulate matter with aerodynamic diameter less than 10 microns (PM10). Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Since there is an applicable New Source Performance Standard (NSPS) that was in effect as of August 7, 1980 for coal preparation plants, both fugitive and nonfugitive emissions from the coal preparation plant are counted toward determination of PSD applicability.

Emissions from the surface coal mining operations are all fugitives and are not counted toward determination of PSD applicability since there are no applicable New Source Performance Standards (NSPS) in effect as of August 7, 1980 for surface coal mines.

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	4.5
PM10	2.3
SO ₂	0.0
VOC	0.0
CO	0.0
NO _x	0.0
Single HAP	0.0
Combination HAPs	0.0

- (a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD

requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

40 CFR Part 60, Subpart Y

The subject coal preparation plant is subject to the New Source Performance Standard, 326 IAC 12 and 40 CFR 60.250 through 60.254, Subpart Y (Standards of Performance for Coal Preparation Plants). This rule requires that the visible emissions from the coal crushing, screening, conveying, coal storage system, raw coal unloading and finished coal loading operations be limited to twenty percent (20%) opacity or less.

State Rule Applicability

326 IAC 5-1 Visible Emission Limitations

326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), requires the following:

- (a) Visible emissions shall not exceed an average of 40% opacity in 24 consecutive readings.
- (b) Visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

This rule requires the source not to generate fugitive dust to the extent that some portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located.

326 IAC 6-5 (Fugitive Particulate Emissions Limitations)

This rule requires a fugitive dust plan to be submitted. The plan, which was submitted on August 29, 1997, was reviewed, and approved. The source shall comply with all dust abatement measures contained therein, which includes, but not limited to, applying water or other approved dust suppressant on storage piles, unpaved roadways, sand/aggregate dropping operations on an "as-needed" basis such that the following visible emission conditions are met:

- (a) Visible emissions from storage piles shall not exceed twenty percent (20%) in twenty four (24) consecutive readings in a six (6) minute period. This limitation may not apply during periods when application of control measures are ineffective or unreasonable due to sustained very high wind speeds. The opacity shall be determined using 40 CFR 60, Appendix A, Method 9, except that the opacity shall be observed at the point of

maximum opacity. The observer shall stand at least fifteen (15) feet, but no more than one-fourth (1/4) mile, from the plume and at approximately right angles to the plume.

- (b) Visible emissions from unpaved roadways shall not exceed an average instantaneous opacity of twenty percent (20%). Average instantaneous opacity shall be the average of twelve (12) instantaneous opacity readings, taken for four (4) vehicle passes, consisting of three (3) opacity readings for each vehicle pass. The three (3) opacity readings for each vehicle pass shall be taken as follows:

- (i) The first will be taken at the time of emission generation.
- (ii) The second will be taken five (5) seconds later.
- (iii) The third will be taken five (5) seconds later or ten (10) seconds after the first.

The three (3) readings shall be taken at approximately four (4) feet from the surface at the point of maximum opacity. The observer shall stand at least fifteen (15) feet, but no more than one-fourth (1/4) mile, from the plume and at approximately right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the unpaved roadway.

- (c) Visible emissions from material transfer operations shall not exceed an average instantaneous opacity of twenty percent (20%). The average instantaneous opacity shall be the average of three (3) opacity readings taken five (5) seconds, ten (10) seconds, and fifteen (15) seconds after the end of one (1) material loading or unloading operation. The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand at least fifteen (15) feet, but no more than one-fourth (1/4) mile, from the plume and at approximately right angles to the plume.

Compliance with these opacity limitations shall also meet the requirements of 326 IAC 5-1.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

None of these listed air toxics will be emitted from this proposed construction.

Conclusion

The construction of this surface coal mine and coal preparation plant will be subject to the conditions of the attached proposed **Construction Permit No. CP-147-8924-00034**.

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for New Construction and Operation

Source Name: Foertsch Construction Company, Inc.
Source Location: Hunley Creek Mine near the intersection of County Road 800 East and Highway 62, Dale, Indiana
County: Spencer County
Construction Permit No.: CP-147-8924-00034
SIC Code: 1211
Permit Reviewer: Marco A. Salenda

On October 2, 1997, the Office of Air Management (OAM) had a notice published in the Journal Democrat, Rockport, Indiana, stating that Foertsch Construction Company, Inc. had applied for a construction permit to construct and operate a surface coal mine collocated with a coal preparation plant with control. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed. Due to the unavailability of the permit application for public review at the Lincoln Heritage Public Library during the period of October 2 through October 7, 1997, the comment period had to be extended until November 8, 1997.

On November 7, 1997, Francis Lueken Jr. and Janet Dilger, jointly submitted comments on the proposed construction permit. The summary of the comments and corresponding responses is as follows:

Comment:

Both Mr. Lueken and Ms. Dilger raise a great concern regarding the fugitive dust that will be generated by the proposed coal mining and processing activities to the health and properties of many residents, some of which have allergic reaction to dust and have respiratory problems, that are located adjacent to the proposed site.

Response:

IDEM has included a comprehensive fugitive particulate matter (dust) control plan in the permit. This plan includes, but is not limited to, applying water or other approved dust suppressant on storage piles, unpaved roadways, and material transfer operations on an "as-needed" basis to minimize the creation of fugitive dust and its transport. IDEM feels that these measures are sufficient at this time to address the situation. IDEM will also have its inspector visit the source frequently to make sure that the source complies with its permit.

IDEM routinely performs air quality analyses to insure that issuance of any type of permit will not result in a violation of any state or federal air regulations and standards. A permit would be denied if any of the conditions within 326 IAC 2-1-3(i)(7) (copy enclosed) were met. Furthermore, the air quality analyses demonstrate that air quality in the vicinity of the source will continue to comply with the air quality standards, which were established to maintain and protect public health.

Appendix A2: PM-10 Emission Calculations

Company Name:	Foertsch Construction Company, Inc.
Plant Location:	Intersection of C.R. 800 East and Highway 62, Dale, Indiana
County:	Spencer County
CP:	147-8924
Plt ID:	147-00034
Date Received:	August 29, 1997
Permit Reviewer:	Marco A. Salenda

The application is based on a production schedule of 3000 hr/yr. To obtain maximum potential, the data has been multiplied by 2.92 (except for storage emissions, which are independent of production rates).

$$8760 \text{ hr/yr} / 3000 \text{ hr/yr} = 2.92$$

* * emissions before controls * *

Coal Mine:

Drilling	43,560	holes/yr x	0.16 lb/hole	/ 2000 lb/ton x	2.92 =	10.18 tons/yr	SCC #3-05-010-33
Blasting	500	blasts/yr x	32.7 lb/blast	/ 2000 lb/ton x	2.92 =	23.87 tons/yr	SCC #3-05-010-35
Topsoil Removal	76,000	tons/yr x	0.05 lb/ton	/ 2000 lb/ton x	2.92 =	5.55 tons/yr	SCC #3-05-010-30
Loading Overburden	*****	tons/yr x	0.015 lb/ton	/ 2000 lb/ton x	2.92 =	178.07 tons/yr	SCC #3-05-010-37
Unloading Overburden	*****	tons/yr x	0.001 lb/ton	/ 2000 lb/ton x	2.92 =	11.87 tons/yr	SCC #3-05-010-42
Replacing Overburden	*****	tons/yr x	0.006 lb/ton	/ 2000 lb/ton x	2.92 =	71.23 tons/yr	SCC #3-05-010-48
Loading Coal	300,000	tons/yr x	0.03 lb/ton	/ 2000 lb/ton x	2.92 =	13.14 tons/yr	SCC #3-05-010-38
Dumping Coal	300,000	tons/yr x	0.001 lb/ton	/ 2000 lb/ton x	2.92 =	0.44 tons/yr	SCC #3-05-010-40
Transporting			** see page 3 **			20.51 tons/yr	AP-42 Ch.11.2.1
Total for mine:						334.85 tons/yr	

Preparation Plant:

Storage						0.38 tons/yr	AP-42 Ch.11.2.3
			** see page 3 **				
Unloading raw coal	300,000	tons/yr x	0.001 lb/ton	/ 2000 lb/ton x	2.92 =	0.44 tons/yr	SCC #3-05-010-08
Crushing	300,000	tons/yr x	0.001 lb/ton	/ 2000 lb/ton x	2.92 =	0.44 tons/yr	SCC #3-05-010-10
Screening	300,000	tons/yr x	0.008 lb/ton	/ 2000 lb/ton x	2.92 =	3.50 tons/yr	SCC #3-05-010-12
Conveying	300,000	tons/yr x	0.01 lb/ton	/ 2000 lb/ton x	2.92 =	4.38 tons/yr	SCC #3-05-010-11
Loading finished coal	300,000	tons/yr x	0.005 lb/ton	/ 2000 lb/ton x	2.92 =	2.19 tons/yr	SCC #3-05-010-15
Total for preparation plant:						11.33 tons/yr	

Total Emissions Before Controls: 346.18 tons/yr

Note: Emission factors account for a wet process (in situ wetness >1.5% free moisture content)

** emissions after controls **

Coal Mine:

Drilling	10.18 tons/yr x	100% emitted after controls =	10.18 tons/yr
Blasting	23.87 tons/yr x	100% emitted after controls =	23.87 tons/yr
Topsoil Removal	5.55 tons/yr x	100% emitted after controls =	5.55 tons/yr
Loading Overburden	178.07 tons/yr x	100% emitted after controls =	178.07 tons/yr
Unloading Overburden	11.87 tons/yr x	100% emitted after controls =	11.87 tons/yr
Replacing Overburden	71.23 tons/yr x	100% emitted after controls =	71.23 tons/yr
Loading Coal	13.14 tons/yr x	100% emitted after controls =	13.14 tons/yr
Dumping Coal	0.44 tons/yr x	50% emitted after controls =	0.22 tons/yr
Transporting	20.51 tons/yr x	50% emitted after controls =	10.25 tons/yr
<hr/>			
Total for mine:			324.38 tons/yr

Preparation Plant:

Storage	0.38 tons/yr x	50% emitted after controls =	0.19 tons/yr
Unloading raw coal	0.44 tons/yr x	50% emitted after controls =	0.22 tons/yr
Crushing	0.44 tons/yr x	10% emitted after controls =	0.04 tons/yr
Screening	3.50 tons/yr x	10% emitted after controls =	0.35 tons/yr
Conveying	4.38 tons/yr x	10% emitted after controls =	0.44 tons/yr
Loading finished coal	2.19 tons/yr x	50% emitted after controls =	1.10 tons/yr
<hr/>			
Total for preparation plant:			2.34 tons/yr

Total Emissions After Controls: 326.72 tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

$$E_f = 1.7 \cdot (s/1.5) \cdot (365-p)/235 \cdot (f/15)$$

$$= 5.67 \text{ lb/acre/day}$$

where s = 4.9 % silt
 p = 125 days of rain greater than or equal to 0.01 inches
 f = 15 % of wind greater than or equal to 12 mph

$$E_p (\text{storage}) = E_f \cdot sc \cdot (40 \text{ cuft/ton}) / (2000 \text{ lb/ton}) / (43560 \text{ sqft/acre}) / (25 \text{ ft}) \cdot (365 \text{ day/yr})$$

$$= 0.38 \text{ tons/yr}$$

where sc = 10 ,000 tons storage capacity

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads, based on 8760 hours of use and AP-42, Ch 11.2.1.

$$4 \text{ trips/hour} \times$$

$$0.5 \text{ mile/trip} \times$$

$$2 \text{ (round trip) } \times$$

$$8760 \text{ hr/yr} = 33182.88 \text{ miles per year maximum}$$

$$E_f = k \cdot 5.9 \cdot (s/12) \cdot (S/30) \cdot (W/3)^{0.7} \cdot (w/4)^{0.5} \cdot ((365-p)/365)$$

$$= 1.24 \text{ lb/mile}$$

where k = 0.36 (particle size multiplier)
 s = 4.9 % silt content of unpaved roads
 p = 125 days of rain greater than or equal to 0.01 inches
 S = 5 miles/hr vehicle speed
 W = 40 tons average vehicle weight
 w = 18 wheels

$$\frac{1.24 \text{ lb/mi} \times 33182.88 \text{ mi/yr}}{2000 \text{ lb/ton}} = 20.51 \text{ tons/yr}$$