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

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: July 29, 2011

RE: Ziese & Sons Excavating, Inc / 089 - 29374 - 05349

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

Notice of Decision: Approval - Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FN-REGIS.dot 1/2/08

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REGISTRATION
OFFICE OF AIR QUALITY

Ziese and Sons Excavating, Inc.
Portable

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. R089-29374-05349	
Issued by: Alfred C. Dumaual, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: July 29, 2011

SECTION A SOURCE SUMMARY

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

A.1 General Information

The Registrant owns and operates a portable excavating and concrete crushing facility.

Initial Source Address:	6929 W. 109th Avenue, Crown Point, IN 46307
General Source Phone Number:	(219) 663-2625
SIC Code:	1794
County Location:	Lake County
Source Location Status:	Nonattainment for PM 2.5 standard Attainment for all other criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

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

(a) One (1) 150 HP portable diesel-fired crusher, identified as CC-1, approved for construction in 2011, with a maximum throughput capacity of 80 tons per hour, utilizing water suppression as particulate control.

(b) One (1) material handling conveyor, with a maximum throughput capacity of 80 tons per hour.

(c) Material storage piles with a maximum capacity of 500 tons.

(d) Unpaved roads and parking lots.

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

B.3 Registration Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

(a) Violation of any conditions of this registration.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.

(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 registration shall not require revocation of this registration.

(d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to Registration No. 089-29374-05349 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

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

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

(a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.

(b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

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

Indianapolis, IN 46204-2251

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

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

B.8 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this registration, the Registrant shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this registration or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

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

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

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

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

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

The Registrant shall implement the PMPs.

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

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

Portable Source Requirements

B.9 Relocation of Portable Sources [326 IAC 2-14-4]

(a) This permit is approved for operation in all areas of Indiana. This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2 and Emission Offset in 326 IAC 2-3.

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

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

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

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

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

(5) If relocating to another source:

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

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

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

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

(d) A valid registration consists of this document and any subsequent “Relocation Site Approval” letter specifying the current location of the portable plant.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

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

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

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

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

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

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

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

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

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

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

(c) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in Lake County.

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

C.2 Fugitive Dust Emissions [326 IAC 6-4]

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

C.3 Fugitive Dust Emissions [326 IAC 6.8-10-3]

Pursuant to 326 IAC 6.8-10-3 (formerly 326 IAC 6-1-11.1) (Lake County Fugitive Particulate Matter Control Requirements), and when in Lake County, the particulate matter emissions from source wide activities shall meet the following requirements:

(a) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).

(b) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).

(c) The opacity of fugitive particulate emissions from exposed areas shall not exceed ten percent (10%) on a six (6) minute average.

(d) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.

(e) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.

(f) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.

(g) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).

(h) Material processing facilities shall include the following:

(1) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.

(2) The PM10 emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

(3) The PM10 stack emissions from a material processing facility shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

(4) The opacity of fugitive particulate emissions from the material processing facilities, except a crusher at which a capture system is not used, shall not exceed ten percent (10%) opacity.

(5) The opacity of fugitive particulate emissions from a crusher at which a capture system is not used shall not exceed fifteen percent (15%).

(i) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).

(j) Material transfer limits shall be as follows:

(1) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).

(2) Where adequate wetting of the material for fugitive particulate emissions control

is prohibitive to further processing or reuse of the material, the opacity shall not exceed ten percent (10%), three (3) minute average.

(3) Slag and kish handling activities at integrated iron and steel plants shall comply with the following particulate emissions limits:

(A) The opacity of fugitive particulate emissions from transfer from pots and trucks into pits shall not exceed twenty percent (20%) on a six (6) minute average.

(B) The opacity of fugitive particulate emissions from transfer from pits into front end loaders and from transfer from front end loaders into trucks shall comply with the fugitive particulate emission limits in 326 IAC 6.8-10-3(9).

(k) Any facility or operation not specified in 326 IAC 6.8-10-3 shall meet a twenty percent (20%), three (3) minute average opacity standard.

The Registrant shall achieve these limits by controlling fugitive particulate matter emissions according to the Fugitive Dust Control Plan, which is included as Attachment A to this registration.

SECTION D.1 OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

(a) One (1) 150 HP portable diesel-fired crusher, identified as CC-1, approved for construction in 2011, with a maximum throughput capacity of 80 tons per hour, utilizing water suppression as particulate control.

(b) One (1) material handling conveyor, with a maximum throughput capacity of 80 tons per hour.

(c) Material storage piles with a maximum capacity of 500 tons.

(d) Unpaved roads and parking lots.

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

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 Particulate Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the listed emissions units shall not exceed the pounds per hour limitations as follows:

Process	Process Weight Rate (tons/hr)	Particulate Emissions (lbs/hr)
Diesel-Fired Crusher (CC-1)	80	49.06
Material Handling Conveyor	80	49.06

The pound per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for this facility and its control device. Section B - Preventive Maintenance Plan contains the Registrant's obligation with regard to the preventive maintenance plan required by this condition.

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

REGISTRATION
ANNUAL NOTIFICATION

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Ziese and Sons Excavating, Inc.
Initial Address:	6929 W. 109th Avenue
Initial City/State/Zip:	Crown Point, IN 46307
Phone Number:	(219) 663-2625
Registration No.:	R089-29374-05349

I hereby certify that Ziese and Sons Excavating, Inc. is :
- ☐ still in operation.
- ☐ no longer in operation.

I hereby certify that Ziese and Sons Excavating, Inc. is :
- ☐ in compliance with the requirements of Registration No. R089-29374-05349.
- ☐ not in compliance with the requirements of Registration No. R089-29374-05349.

Authorized Individual (typed):
Title:
Signature:
Phone Number:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

ATTACHMENT A
FUGITIVE DUST CONTROL PLAN

Source Information:

Name of Source: Ziese & Sons Excavating, Inc.
Initial Address of Source: 6929 W. 109th Avenue, Crown Point, Indiana 46307
General Source Telephone Number: (219) 663-2625

Description of Processes, Operations, and Areas that Potentially Emit Fugitive Dust:

Fugitive dust particulate emissions may be generated from the crushing and conveying of the aggregate material and the unpaved plant roadways. When dust is generated such that they would be in violation of the permit, water shall be applied to the crusher, conveyor and/or the unpaved roadways as needed to minimize dust from being emitted.

Fugitive Dust Control Measures:

(a) Fugitive particulate matter (dust) emissions from paved roads, unpaved roads, and parking lots shall be controlled by one or more of the following measures on an as needed basis:
- (1) Paved roads and parking lots:
  - (A) cleaning by vacuum sweeping on an as needed basis;
  - (B) flushing on an as needed basis; and/or
  - (C) power brooming while wet either from rain or application of water on an as needed basis.
- (2) Unpaved roads and parking lots:
  - (A) paving with asphalt or concrete;
  - (B) treating with emulsified asphalt (or other suitable and effective oil or chemical dust suppressant approved by IDEM OAQ) on an as needed basis;
  - (B) treating with water on an as needed basis; and/or
  - (C) double chipping, sealing, and maintaining the road surface on an as needed basis.

(b) Fugitive particulate matter (dust) emissions from material (gravel, sand, slag, limestone, and/or recycled asphalt pavement (RAP)) storage piles shall be controlled by one or more of the following measures on an as needed basis:
- (1) maintaining minimum size and number of storage piles;
- (2) cleaning around the storage pile area on an as needed basis;
- (3) treating around the storage pile area with emulsified asphalt on an as needed basis;
- (4) treating around the storage pile area with water on an as needed basis; and/or
- (5) treating the storage piles with water on an as needed basis.

(c) Fugitive particulate matter (dust) emissions from the transferring of materials (gravel, sand, slag, limestone, and/or recycled asphalt pavement (RAP)) to and from storage piles shall be controlled by one of the following measures on an as needed basis:
- (1) minimizing the vehicular distance between transfer points;
- (2) reducing free fall distance of transfer points;
- (3) enclosing the transfer points and if needed exhausting emissions to particulate control equipment during transferring operations; and/or
- (4) applying water to the materials on an as needed basis.

(d) Fugitive particulate matter (dust) emissions from transporting of materials (gravel, sand, slag, limestone, and/or recycled asphalt pavement (RAP)) by truck, front end loaders, or

similar material hauling vehicles shall be controlled by one of the following measures on an as needed basis:

(1) minimizing the vehicular distance between transfer points;
(2) using completely enclosed vehicles;
(3) tarping the vehicles;
(4) maintaining vehicle bodies in a condition to prevent leakage (e.g., insuring tailgates are tight and do not leak);
(5) applying water to the materials on an as needed basis; and/or
(6) maintaining a 10 MPH speed limit in the yard.

(e) Fugitive particulate matter (dust) emissions from the loading and unloading of materials (gravel, sand, slag, limestone, and/or recycled asphalt pavement (RAP)) to and from feed bins, hoppers, silos, and material hauling vehicles shall be controlled by one of the following measures on an as needed basis:

(1) enclosing the loading/unloading area and if needed exhausting emissions to particulate control equipment during loading/unloading operations;
(2) reducing free fall distance;
(3) reducing the rate of discharge of the materials; and/or
(4) applying water to the materials on an as needed basis.

(f) Fugitive particulate matter (dust) emissions from material (gravel, sand, slag, limestone, and/or recycled asphalt pavement (RAP)) crushing, grinding, screening, mixing, conveying, and transfer shall be controlled by the following measure on an as needed basis:

(1) reducing free fall distance of transfer points;
(2) enclosing the emission source with venting of particulate emissions to a fabric filter; and/or
(3) applying water to the materials on an as needed basis.

Schedule of Compliance:

This plan will be fully implemented upon startup of operations and adherence to the plan will continue until revisions to the plan have been submitted to IDEM.

Monitoring and Record Keeping:

(a) For each application of water or chemical solution to roadways, the following shall be recorded:
(1) The name and location of the roadway controlled.
(2) Application rate.
(3) The time of each application.
(4) The width of each application.
(5) The identification of each method of application.
(6) The total quantity of water or chemical used for each application.
(7) For each application of chemical solution, the concentration and identity of the chemical.
(8) The material data safety sheets for each chemical.

(b) For application of physical or chemical control agents not covered by clause (B), the following:
(1) The name of the agent.
(2) The location of application.
(3) The application rate.
(4) The total quantity of agent used.
(5) If diluted, the percent of concentration.
(6) The material data safety sheets for each chemical.

(c) A log recording incidents when control measures were not used and a statement of explanation.
(d) Copies of all records required by this rule shall be submitted to the department within twenty (20) working days of a written request by the department.

(e) The records required under this subdivision shall be:
(1) kept and maintained for at least three (3) years; and
(2) available for inspection and copying by department representatives during working hours.

(f) A quarterly report shall be submitted to the department stating the following:
(1) The dates any required control measures were not implemented.
(2) A listing of those control measures.
(3) The reasons that the control measures were not implemented.
(4) Any corrective action taken.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Description and Location

Source Name:	**Ziese and Sons Excavating, Inc.**
Initial Source Location:	**6929 W. 109th Avenue, Crown Point, IN 46307**
County:	**Lake**
SIC Code:	**1794**
Registration No.:	**089-29374-05349**
Permit Reviewer:	**Jason R. Krawczyk**

On June 18, 2010, the Office of Air Quality (OAQ) received an application from Ziese and Sons Excavating, Inc. related to the construction and operation of a new portable excavating and concrete crushing facility.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in Lake County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of East Chicago bounded by Columbus Drive on the north; the Indiana Harbor Canal on the west; 148th Street, if extended, on the south; and Euclid Avenue on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of East Chicago and Lake County.
O_3	Attainment effective May 11, 2010, for the 8-hour ozone standard.[1]
PM_{10}	Attainment effective March 11, 2003, for the cities of East Chicago, Hammond, Whiting, and Gary. Unclassifiable effective November 15, 1990, for the remainder of Lake County.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.

[1]The U. S. EPA has acknowledged in both the proposed and final rulemaking for this redesignation that the anti-backsliding provisions for the 1-hour ozone standard no longer apply as a result of the redesignation under the 8-hour ozone standard. Therefore, permits in Lake County are no longer subject to review pursuant to Emission Offset, 326 IAC 2-3.
Basic nonattainment designation effective federally April 5, 2005, for PM2.5.

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

(b) $PM_{2.5}$
U.S. EPA, in the Federal Register Notice 70 FR 943 dated January 5, 2005, has designated Lake

County as nonattainment for $PM_{2.5}$. On March 7, 2005 the Indiana Attorney General's Office, on behalf of IDEM, filed a lawsuit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's New Source Review Rule for $PM_{2.5}$ promulgated on May 8, 2008. These rules became effective on July 15, 2008. Therefore, direct $PM_{2.5}$ and SO_2 emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.

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

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-5.1-2 (Registrations) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Ziese and Sons Excavating, Inc. on June 18, 2010, relating to the construction and operation of a new portable excavating and concrete crushing facility.

The following is a list of the new emission units and pollution control devices:

(a) One (1) 150 HP portable diesel-fired crusher, identified as CC-1, approved for construction in 2011, with a maximum throughput capacity of 80 tons per hour, utilizing water suppression as particulate control.

(b) One (1) material handling conveyor, with a maximum throughput capacity of 80 tons per hour.

(c) Material storage piles with a maximum capacity of 500 tons.

(d) Unpaved roads and parking lots.

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – Registration

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

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)									
	PM	PM10*	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Diesel Combustion	1.52	1.52	1.52	1.42	21.45	1.74	4.62		0.02	negl.
Concrete Crushing	1.89	0.84	0.84	-	-	-	-	-	-	-
Material Handling	1.06	0.39	0.39	-	-	-	-	-	-	-
Storage Piles	1.16	0.55	0.08	-	-	-	-	-	-	-
Unpaved Roadways	1.24	0.32	0.03	-	-	-	-	-	-	-
Total PTE of Entire Source	**6.87**	**3.62**	**2.87**	**1.42**	**21.45**	**1.74**	**4.62**	**799**	**0.02**	**negl.**
Exemptions Levels**	5	5	5	10	10	10	25	100,000	25	10
Registration Levels**	25	25	25	25	25	25	100	100,000	25	10

negl. = negligible

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

**The 100,000 CO_2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

(a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of PM and NOx are within the ranges listed in 326 IAC 2-5.1-2(a)(1). The PTE of all other regulated criteria pollutants are less than the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 (Registrations). A Registration will be issued.

(b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

(c) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

(a) The requirements of the New Source Performance Standard for Nonmetallic Mineral Processing Plants, 40 CFR 60, Subpart OOO (326 IAC 12), are not included in the permit, since the facility is portable and has a capacity less than 136 megagrams per hour (150 tons per hour).

(b) The requirements of the New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart IIII (326 IAC 12), are not included for this proposed revision, since the 150 HP portable diesel-fired crusher (CC-1) meets the definition of a nonroad engine, as defined in 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition) and is therefore not considered a stationary internal combustion engine as defined in 40 CFR 60.4219.

(c) The requirements of the New Source Performance Standard for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60, Subpart JJJJ (326 IAC 12), are not included for this proposed revisions, since the 150 HP portable diesel-fired crusher (CC-1) is compression ignition and meets the definition of a nonroad engine, as defined in 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition) and is therefore not considered a stationary internal combustion engine as defined in 40 CFR 60.4248.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) From the Portland Cement Manufacturing Industry, 40 CFR 63.1340, Subpart LLL (326 IAC 20-27), are not included in the permit, since this facility is not a portland cement plant as defined in 40 CFR 63.1341. The source is a portable excavating and concrete crushing plant.

(f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63.6580, Subpart ZZZZ (326 IAC 20-84), are not included for this proposed revision, since the 150 HP portable diesel-fired crusher (CC-1) meets the definition of a nonroad engine, as defined in 40 CFR 1068.30 and is therefore not considered a stationary reciprocating internal combustion engine as defined in 40 CFR 63.6675.

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

Compliance Assurance Monitoring (CAM)

(h) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

(a) 326 IAC 2-5.1-2 (Registrations)
Registration applicability is discussed under the Permit Level Determination – Registration section above.

(b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.

(c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is located in Lake County, it has actual emissions of NOx and VOC of less than twenty-five (25) tons per year, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

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

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

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

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

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

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

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

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

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

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

(c) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when the source is located in Lake County.

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

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

(f) 326 IAC 6.5-1 (Particulate Matter Limitations Except Lake County)
Although this facility can relocate to the counties of Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, and Wayne, it is not specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10, does not have the potential to emit one hundred (100) tons or more, or actual emissions of ten (10) tons or more of particulate matter. Therefore the requirements of 326 IAC 6.5 are not applicable. (The facility has potential particulate emissions of 6.87 tons per year.)

(g) 326 IAC 6.8-8 (Lake County: Continuous Compliance Plan)
The source is not subject to the requirements of 326 IAC 6.8-8 (Lake County: Continuous

Compliance Plan) because it does not have uncontrolled total suspended particulate (TSP) emissions that may exceed one hundred (100) tons per year based on eight thousand seven hundred sixty (8,760) hours of operation and AP-42 emission factors.

(h) 326 IAC 6.8-10 (Lake County: Fugitive Particulate Matter)
The source is subject to the requirements of 326 IAC 6.8-10, because the combined potenital fugitive particulate emissions from the unpaved roadways and parking lots, material transfer operations, storage piles, and crushing operations are greater than 5 tons per year.

Pursuant to 326 IAC 6.8-10-3, and when in Lake County, the particulate matter emissions from source wide activities shall meet the following requirements:

(1) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).

(2) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).

(3) The opacity of fugitive particulate emissions from exposed areas shall not exceed ten percent (10%) on a six (6) minute average.

(4) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.

(5) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.

(6) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.

(7) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).

(8) Material processing facilities shall include the following:

(A) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.

(B) The PM10 emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

(C) The PM10 stack emissions from a material processing facility shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

(D) The opacity of fugitive particulate emissions from the material processing facilities, except a crusher at which a capture system is not used, shall not exceed ten percent (10%) opacity.

(E) The opacity of fugitive particulate emissions from a crusher at which a capture system is not used shall not exceed fifteen percent (15%).

(9) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).

(10) Material transfer limits shall be as follows:

(A) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).

(B) Where adequate wetting of the material for fugitive particulate emissions control is prohibitive to further processing or reuse of the material, the opacity shall not exceed ten percent (10%), three (3) minute average.

(C) Slag and kish handling activities at integrated iron and steel plants shall comply with the following particulate emissions limits:

(i) The opacity of fugitive particulate emissions from transfer from pots and trucks into pits shall not exceed twenty percent (20%) on a six (6) minute average.

(ii) The opacity of fugitive particulate emissions from transfer from pits into front end loaders and from transfer from front end loaders into trucks shall comply with the fugitive particulate emission limits in 326 IAC 6.8-10-3(9).

(11) Any facility or operation not specified in 326 IAC 6.8-10-3 shall meet a twenty percent (20%), three (3) minute average opacity standard.

The Permittee shall achieve these limits by controlling fugitive particulate matter emissions according to the Fugitive Dust Control Plan, which is included as Attachment A to the permit.

(i) 326 IAC 6.8-11 (Lake County: Particulate Contigency Measures)
This source is subject to the requirements of 326 IAC 6.8-11, because the source has fugitive emission sources to which 326 IAC 6.8-10-1(a) applies.

(j) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.

Crushing Operation

(k) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the listed emissions units shall not exceed the pounds per hour limitations as follows:

Process	Process Weight Rate (tons/hr)	Particulate Emissions (lbs/hr)
Diesel-Fired Crusher (CC-1)	80	49.06
Material Handling Conveyor	80	49.06

The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Based on calculations, no control devices are needed to comply with these limits.

(l) The portable diesel-fired crusher (CC-1) is not subject to the conditions of 6.8-1-2 because emissions from this unit are considered fugitive particulate emissions. The emissions unit is subject to 326 IAC 6.8-10 (Lake County: Fugitive Particulate Matter). A fugitive dust control plan was submitted to IDEM, OAQ on June 28, 2010 and will be included as Attachment A to Registration 089-29374-05349.

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

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

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on June 18, 2010.

The construction and operation of this source shall be subject to the conditions of the attached proposed Registration No. 089-29374-05349. The staff recommends to the Commissioner that this Registration be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Jason R. Krawczyk at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5174 or toll free at 1-800-451-6027 extension 4-5174.

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

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

SUMMARY OF EMISSIONS

Company Name: Ziese & Sons Excavating, Inc.
Address City IN Zip: 6929 W. 109th Avenue, Crown Point, IN 46307
Permit Number: 089-29374-05349
Plt ID: 089-05349
Reviewer: Jason R. Krawczyk
Date: July 5, 2011

Uncontrolled Emissions (Tons/Yr)

Pollutant	Diesel Combustion	Crushing	Material Handling	Storage Piles	Roadways	Total
PM	1.52	1.89	1.06	1.16	1.24	6.87
PM10	1.52	0.84	0.39	0.55	0.32	3.62
PM2.5	1.52	0.84	0.39	0.08	0.03	2.87
VOC	1.74	-	-	-	-	1.74
NOx	21.45	-	-	-	-	21.45
SO2	1.42	-	-	-	-	1.42
CO	4.62	-	-	-	-	4.62
CO2e	799	-	-	-	-	799
Single HAP	-	-	-	-	-	0.00
Combined HAPs	0.02	-	-	-	-	0.02

Controlled Emissions (Tons/Yr)

Pollutant	Diesel Combustion	Crushing	Material Handling	Storage Piles	Roadways	Total
PM	1.52	0.42	0.05	1.16	0.62	3.78
PM10	1.52	0.19	0.02	0.55	0.16	2.44
PM2.5	1.52	0.19	0.02	0.08	0.02	1.83
VOC	1.74	-	-	-	-	1.74
NOx	21.45	-	-	-	-	21.45
SO2	1.42	-	-	-	-	1.42
CO	4.62	-	-	-	-	4.62
CO2e	799	-	-	-	-	799
Single HAP	-	-	-	-	-	0.00
Combined HAPs	0.02	-	-	-	-	0.02

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Crusher Engine

Company Name: Ziese & Sons Excavating, Inc.
Address City IN Zip: 6929 W. 109th Avenue, Crown Point, IN 46307
Permit Number: 089-29374-05349
Plt ID: 089-05349
Reviewer: Jason R. Krawczyk
Date: July 5, 2011

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	158.0
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	1,384,080

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	1.52	1.52	1.52	1.42	21.45	1.74	4.62

Note:
*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	4.52E-03	1.98E-03	1.38E-03	1.89E-04	5.72E-03	3.72E-03	4.48E-04	8.14E-04
							Potential Emission of Total HAPs (tons/yr):	**0.02**

Note:
***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Methodology:
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.15E+00	4.64E-05	9.28E-06
Potential Emission in tons/yr	795.85	0.03	0.01

Summed Potential Emissions in tons/yr	**796**
CO2e Total in tons/yr	**799**

Note:
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Methodology:
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations

Concrete Crushing Engine

Company Name: **Ziese & Sons Excavating, Inc.**
Address City IN Zip: **6929 W. 109th Avenue, Crown Point, IN 46307**
Permit Number: **089-29374-05349**
Plt ID: **089-05349**
Reviewer: **Jason R. Krawczyk**
Date: **July 5, 2011**

Uncontrolled potential to emit

Operation Type	Maximum Capacity (tons/hour)	Emission Factor (lb PM per ton)	Emission Factor (lb PM10 per ton)	PTE of PM (tons/year)	PTE of PM10/PM2.5 (tons/year)
Concrete Crusher (CC-1)	80	0.0054	0.0024	1.89	0.84
			Total Potential to Emit:	**1.89**	**0.84**

Controlled Emissions

Operation Type	Maximum Capacity (tons/hour)	Emission Factor (lb PM per ton)	Emission Factor (lb PM10 per ton)	PTE of PM (tons/year)	PTE of PM10/PM2.5 (tons/year)
Concrete Crusher (CC-1)	80	0.0012	0.0005	0.42	0.19
			Total Potential to Emit:	**0.42**	**0.19**

Note:

Emission factors are from AP-42, Chapter 11.19.2 - Crushed Stone Processing, Table 11.19.2-2. (08/04) (SCC 3-050030-03)

Assumed PM10 = PM2.5

Methodology:

PTE (tons/year) = Max. Capacity (tons/hour) * Emission factor (lb/ton) * 8760 hrs / 2000 lbs

Appendix A: Emission Calculations
Material Handling Operations

Company Name: Ziese & Sons Excavating, Inc.
Address City IN Zip: 6929 W. 109th Avenue, Crown Point, IN 46307
Permit Number: 089-29374-05349
Plt ID: 089-05349
Reviewer: Jason R. Krawczyk
Date: July 5, 2011

Uncontrolled potential to emit

Operation Type	Maximum Capacity (tons/hour)	Emission Factor (lb PM per ton)	Emission Factor (lb PM10 per ton)	PTE of PM (tons/year)	PTE of PM10/PM2.5 (tons/year)
Truck Unloading	80	1.65E-05	1.65E-05	5.78E-03	5.78E-03
Conveyor Transfer	80	0.003	0.0011	1.05	0.39
		Total		**1.06**	**0.39**

Controlled Emissions

Operation Type	Maximum Capacity (tons/hour)	Emission Factor (lb PM per ton)	Emission Factor (lb PM10 per ton)	PTE of PM (tons/year)	PTE of PM10/PM2.5 (tons/year)
Truck Unloading	80	1.65E-05	1.65E-05	5.78E-03	5.78E-03
Conveyor Transfer	80	0.00014	0.0000	0.05	0.02
		Total		**0.05**	**0.02**

Note:

Emission factors are from AP-42, Chapter 11.19.2 - Crushed Stone Processing, Table 11.19.2-2. (08/04)

Assumed PM = PM10 = PM2.5 unless emission factors were. available

Methodology:

PTE (tons/year) = Max. Capacity (tons/hour) * Emission factor (lb/ton) * 8760 hrs / 2000 lbs

Appendix A: Emission Calculations
Storage Piles

Company Name: **Ziese & Sons Excavating, Inc.**
Address City IN Zip: **6929 W. 109th Avenue, Crown Point, IN 46307**
Permit Number: **089-29374-05349**
Plt ID: **089-05349**
Reviewer: **Jason R. Krawczyk**
Date: **July 5, 2011**

Uncontrolled Potential to Emit

Operation Type	Maximum Capacity (tons/hour)	Emission Factor (lb PM per ton)	Emission Factor (lb PM10 per ton)	Emission Factor (lb PM2.5 per ton)	PTE of PM (tons/year)	PTE of PM10 (tons/year)	PTE of PM2.5 (tons/year)
Storage Piles	80	0.0033	0.0016	0.0002	1.16	0.55	0.08
				Total Potential Emissions:	**1.16**	**0.55**	**0.08**

Note:
Emission factors for storage piles are from AP-42, Chapter 13.2.4

Methodology:
Emission Factor in lb/ton = k*(0.0032) * [(U/5)^1.3 * 1/(M/2)^1.4], where:
K = particle size multiplier = 0.74 (PM), 0.35 (PM10), and 0.053 (PM2.5)
U = mean wind speed, m/sec = 10
M = material moisture content = 3
PTE (tons/yr) = Maximum Capacity (tons/hr) * Emission Factor (lb/ton) * 8,760 hrs / 2,000 lbs

Appendix A: Emission Calculations
Fugitive Dust Emissions from Unpaved Roads

Company Name: Ziese & Sons Excavating, Inc.
Address City IN Zip: 6929 W. 109th Avenue, Crown Point, IN 46307
Permit Number: 089-29374-05349
Plt ID: 089-05349
Reviewer: Jason R. Krawczyk
Date: July 5, 2011

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

Vehicle Informtation (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	5.0	1.0	5.0	40.0	200.0	660	0.125	0.6	228.1
Vehicle (leaving plant) (one-way trip)	5.0	1.0	5.0	40.0	200.0	660	0.125	0.6	228.1
		Total	**10.0**		**400.0**			**1.3**	**456.3**

Average Vehicle Weight Per Trip = 40.0 tons/trip
Average Miles Per Trip = 0.13 miles/trip

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

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	40.0	40.0	40.0	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

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

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	8.28	2.11	0.21	lb/mile
Mitigated Emission Factor, Eext =	5.44	1.39	0.14	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.94	0.24	0.02	0.62	0.16	0.02	0.31	0.08	0.01
Vehicle (leaving plant) (one-way trip)	0.94	0.24	0.02	0.62	0.16	0.02	0.31	0.08	0.01
	1.89	**0.48**	**0.05**	**1.24**	**0.32**	**0.03**	**0.62**	**0.16**	**0.02**

Methodology
Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

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

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Julie Ziese
Ziese & Sons Excavating, Inc
6929 W 109th Avenue
Crown Point, IN 46307

DATE: July 29, 2011

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

SUBJECT: Final Decision
Registration
089 - 29374 - 05349

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Mail Code 61-53

IDEM Staff	CDENNY 07/29/2011 Ziese & Sons Excavating, Inc 089-29374-05349 (final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Julie Ziese Ziese & Sons Excavating, Inc 6929 W 109th Avenue Crown Point IN 46307 (Source CAATS)									
2		Zachary Ziese VP Ziese & Sons Excavating, Inc 6929 W 109th Avenue Crown Point IN 46307 *(RO CAATS)*									
3		East Chicago City Council 4525 Indianapolis Blvd East Chicago IN 46312 *(Local Official)*									
4		Gary - Hobart Water Corp 650 Madison St, P.O. Box M486 Gary IN 46401-0486 *(Affected Party)*									
5		Lake County Health Department-Gary 1145 W. 5th Ave Gary IN 46402-1795 *(Health Department)*									
6		WJOB / WZVN Radio 6405 Olcott Ave Hammond IN 46320 *(Affected Party)*									
7		Laurence A. McHugh Barnes & Thornburg 100 North Michigan South Bend IN 46601-1632 *(Affected Party)*									
8		Shawn Sobocinski 3229 E. Atlanta Court Portage IN 46368 *(Affected Party)*									
9		Ms. Carolyn Marsh Lake Michigan Calumet Advisory Council 1804 Oliver St Whiting IN 46394-1725 *(Affected Party)*									
10		Crown Point City Council and Mayors Office 101 North East Street Crown Point IN 46307 *(Local Official)*									
11		Mark Coleman 9 Locust Place Ogden Dunes IN 46368 *(Affected Party)*									
12		Mr. Chris Hernandez Pipefitters Association, Local Union 597 8762 Louisiana St., Suite G Merrillville IN 46410 *(Affected Party)*									
13		Craig Hogarth 7901 West Morris Street Indianapolis IN 46231 (Affected Party)									
14		Lake County Commissioners 2293 N. Main St, Building A 3rd Floor Crown Point IN 46307 *(Local Official)*									
15		Anthony Copeland 2006 E. 140th Street East Chicago IN 46312 *(Affected Party)*									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

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Mail Code 61-53

IDEM Staff	CDENNY 07/29/2011 Ziese & Sons Excavating, Inc 089-29374-05349 (final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Barbara G. 506 Lilac Street East Chicago IN 46312 (Affected Party)									
2		Mr. Robert Garcia 3733 Parrish Avenue East Chicago IN 46312 *(Affected Party)*									
3		Mrs. Kathy Moore KERAMIDA Environmental, Inc. 401 North College Indianapolis IN 46202 *(Consultant)*									
4		Ms. Karen Kroczek 8212 Madison Ave Munster IN 46321-1627 *(Affected Party)*									
5		Calumet Township Trustee 31 E 5th Avenue Gary IN 46402 *(Affected Party)*									
6		Joseph Hero 11723 S Oakridge Drive St. John IN 46373 *(Affected Party)*									
7		Gary City Council 401 Broadway # 209 Gary IN 46402 *(Local Official)*									
8		Mr. Larry Davis 268 South, 600 West Hebron IN 46341 *(Affected Party)*									
9		Jerry Hartline Hartline Equipment 6918 W 109th Ave Crown Point IN 46307 *(Affected Party)*									
10		Resident 11121 Bell Place Crown Point IN 46307 *(Affected Party)*									
11		Resident 11112 Bell Place Crown Point IN 46307 *(Affected Party)*									
12		Gitte Laasby Post Tribune 1433 E. 83rd Ave Merrillville IN 46410 *(Affected Party)*									
13		Susan Severtson City of Gary Law Dept. 401 Broadway 4th Floor Gary IN 46402 (Local Official)									
14		Mark Zeltwanger 26545 CR 52 Nappanee IN 46550 *(Affected Party)*									
15											

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.

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