

STATE OF IDAHO PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE	PERMIT NUMBER <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">7</td> <td style="border: 1px solid black; padding: 2px;">7</td> <td style="border: 1px solid black; padding: 2px;">7</td> <td style="padding: 0 10px;">-</td> <td style="border: 1px solid black; padding: 2px;">0</td> <td style="border: 1px solid black; padding: 2px;">0</td> <td style="border: 1px solid black; padding: 2px;">1</td> <td style="border: 1px solid black; padding: 2px;">1</td> <td style="border: 1px solid black; padding: 2px;">2</td> </tr> </table> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">AQCR</td> <td style="width: 33%;">CLASS</td> <td style="width: 33%;">SIC</td> </tr> <tr> <td style="border: 1px solid black; height: 20px;"></td> <td style="border: 1px solid black; text-align: center;">A 2</td> <td style="border: 1px solid black; text-align: center;">1 4 4 2</td> </tr> </table> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">ZONE</td> <td colspan="4" style="width: 85%;">UTM COORDINATE (km)</td> </tr> <tr> <td style="border: 1px solid black; height: 20px;"></td> </tr> </table>	7	7	7	-	0	0	1	1	2	AQCR	CLASS	SIC		A 2	1 4 4 2	ZONE	UTM COORDINATE (km)								
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AQCR	CLASS	SIC																								
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ZONE	UTM COORDINATE (km)																									

1. **PERMITTEE**
Konen Rock Crushing, Inc.

2. **PROJECT**
Portable Rock Crushing Plant

3. MAILING ADDRESS RT 3, Box 489	CITY Dayton	STATE WA	ZIP CODE 99328
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4. SITE LOCATION COUNTY Portable	NO. OF FULL TIME EMPLOYEES 5	PROPERTY AREA AT SITE (Acreage) Varies
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5. PERSON TO CONTACT Tom Konen	TITLE President	TELEPHONE (509) 382-2768
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6. **EXACT PLANT LOCATION**
Portable

7. **GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**
Rock Crushing

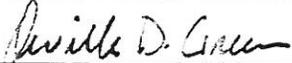
8. **GENERAL CONDITIONS**

This permit is issued according to the Rules for the Control of Air Pollution in Idaho, Section 16.01.01.200, and pertains only to emissions of air contaminants that are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the permittee from compliance with other applicable federal, state, tribal or local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Idaho Department of Health and Welfare, Division of Environmental Quality (DEQ) or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes of design or equipment that result in any change in the nature or amount of emissions must be approved in advance by the DEQ unless exempted by the Rules for the Control of Air Pollution in Idaho Sections 220 through 225.

 ASSISTANT ADMINISTRATOR DIVISION OF ENVIRONMENTAL QUALITY	DATE: April 21, 1997
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PERMIT TO CONSTRUCT

P E R M I T N U M B E R

PERMITTEE, PROJECT, AND LOCATION

Konen Rock Crushing, Inc.
Dayton, WA 99328

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SOURCE

Portable Rock Crushing Plant

1. EMISSION LIMITS

1.1 Crusher Opacity Limit

Particulate matter (PM) emissions from portable rock crushers shall not exhibit more than 15% opacity. Opacity shall be determined using the procedures specified in the DEQ's "Procedures Manual for Air Pollution Control."

1.2 Transfer Point Opacity Limit

Particulate matter (PM) emissions from any transfer point on belt conveyors, or from each grinding mill, screening operation, bucket elevator, belt conveyor bagging operation, storage bin, enclosed truck, or rail car loading station shall not exhibit greater than 10% opacity. Opacity shall be determined using the procedures specified in the DEQ's "Procedures Manual for Air Pollution Control."

1.3 Opacity Limit

Emissions emanating from any stack, vent, or other functionally equivalent opening, shall not exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period as required in IDAPA 16.01.01.625 (Rules for the Control of Air Pollution in Idaho). Opacity shall be determined using the procedures contained in DEQ's "Procedures Manual for Air Pollution Control."

1.4 Visible Emission Limits at Property Boundary

Fugitive emissions shall not be observed leaving the property boundary for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period. Visible emissions shall be determined by Method 22, as described in 40 CFR Part 60, Appendix A, or a DEQ approved alternative method.

2. OPERATING REQUIREMENTS

2.1 Number of Crushers and Generators

The rock crushing facility shall not use more than three (3) crushers and one (1) one thousand kilowatt (1,000 kW) diesel-fired generator.

2.2 Aggregate Production Rate Limits

2.2.1 The production rate rock crushing facility shall not exceed a maximum of two million eighty thousand tons per year (2,080,000 T/yr) when

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SOURCE

Portable Rock Crushing Plant

operating in any attainment or unclassifiable area, or in any PM-10 non-attainment area or proposed PM-10 non-attainment area.

2.3 Generator Set Limits

- 2.3.1 The electrical generator set shall be limited to a maximum capacity of one thousand kilowatts (1,000 kW).
- 2.3.2 Generator fuel shall be No. 2 diesel only. The sulfur content of the No. 2 fuel oil shall not exceed 0.5 percent by weight in accordance with IDAPA 16.01.01.728.02.
- 2.3.3 The hours of operation of the electrical generator set shall not exceed a maximum of eight thousand five hundred thirty-five hours per year (8,535 hr/yr) when operating in any attainment or unclassifiable area, or in any PM-10 non-attainment area or proposed PM-10 non-attainment area.

2.4 Control of Fugitive Emissions

Fugitive emissions from the rock crushing facility, traffic areas, stockpiles and aggregate handling equipment shall be reasonably controlled as required in IDAPA 16.01.01.651.

Reasonable controls may include, but are not limited to, the following:

- 2.4.1 Use of water or environmentally safe chemicals;
- 2.4.2 Application of dust suppressants;
- 2.4.3 Use of control equipment;
- 2.4.4 Covering of trucks;
- 2.4.5 Paving; and
- 2.4.6 Prompt removal of earth or other stored material from streets, where practical.

2.5 Air Stagnation Advisory Days

No operation of the rock crushing facility shall occur during days of Air Stagnation Advisory.

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SOURCE

Portable Rock Crushing Plant

3. MONITORING REQUIREMENTS

3.1 Operating Parameters

The following parameters shall be monitored and recorded. The most recent two (2) years' compilation of data shall be kept on-site in a log and made available to DEQ representatives upon request.

3.1.1 Aggregate production in tons per month (T/mo) and tons per year (T/yr) when operating in any attainment or unclassifiable area, or in any PM-10 nonattainment area or proposed PM-10 nonattainment area.

3.1.2 Hours of operation of the electrical generator set in hours per month (hr/mo) and hours per year (hr/yr) when operating in any attainment or unclassifiable area, or in any PM-10 nonattainment area or proposed PM-10 nonattainment area.

3.2 Reasonable Control Measures

The permittee shall monitor and record in a log, during operation, the periodic method(s) used to reasonably control fugitive emissions from this facility. The log shall include the type of control used (i.e. water, environmentally safe chemical dust suppressants, etc.) as well as the circumstances under which no controls are used. The most recent two (2) years' compilation of data shall be kept on-site and made available to DEQ representatives upon request.

3.3 Initial Performance Test

Within one hundred eighty (180) days of starting up the facility or within sixty (60) days of reaching the maximum production rate specified in this permit, whichever occurs first, the permittee shall conduct a performance test, according to 40 CFR 60.675 and the DEQ's "Procedures Manual for Air Pollution Control," on all equipment affected by 40 CFR 60.670, to demonstrate compliance with this permit. A visible emissions determination at the property boundary shall also be conducted to demonstrate compliance with this permit. The aggregate production rate of the facility shall be monitored and recorded during the performance test.

4. REPORTING REQUIREMENTS

4.1 Performance Test Protocol

The permittee shall submit a test protocol for the performance test required by this permit to the DEQ for approval at least thirty (30) days prior to the test date.

Date: April 21, 1997

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SOURCE

Portable Rock Crushing Plant

4.2 Performance Test Report

The permittee shall submit a report of the results of the performance test required by this permit, including all required process data, to the DEQ within thirty (30) days after the date on which the performance test is conducted.

4.3 Relocation

At least ten (10) days prior to relocation of any equipment covered by this permit, the permittee shall report to DEQ, on relocation forms supplied by DEQ, the following information:

4.3.1 Exact location of the new site of operations;

4.3.2 Start-up date at the new site of operations and the duration of operations at the new site;

4.3.3 Equipment to be used at the new site; and

4.3.4 A scaled plot plan clearly showing the property boundary of the new site.

4.4 Certification of Documents

All documents including, but not limited to, application forms for Permits to Construct, monitoring data, supporting information, requests for confidential treatment, testing reports or compliance certifications submitted to the DEQ shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate and complete.

Date: April 21, 1997

PERMIT TO CONSTRUCT GENERAL PROVISIONS

- A. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the Rules for the Control of Air Pollution in Idaho. The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the Rules for the Control of Air Pollution in Idaho, and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.
- B. The permittee shall at all times (except as provided in the Rules for the Control of Air Pollution in Idaho) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.
- C. The permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:
- 1) To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and
 - 2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and require stack emission testing in conformance with the DEQ's Procedures Manual for Air Pollution Control when deemed appropriate by the Director.
- D. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.
- E. The permittee shall notify the DEQ, in writing, of the required information for the following events within five working days after occurrence;
- 1) Initiation of Construction - Date
 - 2) Completion/Cessation of Construction - Date
 - 3) Actual Production Start up - Date
 - 4) Initial Date of Achieving Maximum Production Rate - Production Rate and Date
- F. If emission testing is specified, the permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one hundred and eighty (180) days after initial start up. Such testing must strictly adhere to the procedures outlined in the DEQ's Procedures Manual for Air Pollution Control, and shall not be conducted on weekends or state holidays without prior written DEQ approval. Testing procedures and specific time limitations may be modified by the DEQ by prior negotiation if conditions warrant adjustment. The DEQ shall be notified at least fifteen (15) days prior to the scheduled compliance test. Any records or data generated as a result of such compliance test shall be made available to the DEQ upon request.
- The maximum allowable operating rate shall be limited to 120% of the average operating rate attained during the performance test period, unless (1) a more restrictive operating limit is specified elsewhere in this permit, or (2) at such an operating rate, emissions would exceed any emission limit(s) set forth in this permit.
- G. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

Date: April 21, 1997

April 17, 1997

M E M O R A N D U M

TO: Martin Bauer, Chief
Air Quality Permitting Bureau
Air and Hazardous Waste

FROM: Bill Rogers, Air Quality Engineer *BR*
Air Quality Permitting Bureau
Air and Hazardous Waste

SUBJECT: **Permit to Construct Technical Analysis**
P970012 Konen Rock Crushing, Inc., Portable
(Standard Rock Crusher Permit to Construct)

PURPOSE

The purpose of this memorandum is to satisfy the requirements of IDAPA 16.01.01.200 (Rules for the Control of Air Pollution in Idaho) for issuing Permits to Construct (PTC).

PROJECT DESCRIPTION

Konen Rock Crushing, Inc. (Konen) is proposing to modify a portable rock crushing facility. Konen is requesting a PTC be issued to cover the operations of the rock crushing facility in both attainment and non-attainment areas throughout the state of Idaho. The rock crushing facility's maximum hourly production rate is three hundred tons per hour (300 T/hr). The facility includes a one thousand kilowatt (1,000 kW) diesel-fired electrical generator.

SUMMARY OF EVENTS

On January 31, 1997, the Idaho Department of Health and Welfare, Division of Environmental Quality (DEQ) received a PTC application from Konen to modify a portable rock crushing facility. The application was determined complete on February 27, 1997.

DISCUSSION

1. Process Description

The majority of rock crushing facilities in Idaho mine rock deposits from pits using front-end loaders. However, rock may also be mined from quarries by drilling and blasting or dredged from stream beds. Rock crushing facilities generally produce three to four sizes of aggregate by employing a series of crushers and screens.

The rock is transferred to a vibrating grizzly to segregate large from small material. The large material is conveyed to the primary crusher (usually a jaw or gyratory crusher) where it is reduced to 3 to 12 inches in diameter. The crushed material is transferred to the primary screen where it is separated into two or three size ranges. The oversized material is conveyed to a secondary crusher, and the smaller material is transferred to a tertiary crusher or is

stockpiled. The secondary crusher (usually a gyratory or cone crusher) reduces the material to roughly 1 to 4 inches in diameter. The material is rescreened. The oversized material is crushed in a tertiary crusher and rescreened, and the small aggregate is stockpiled.

Particulate matter (PM) emissions are generated at all points of crushing, screening and material transfer. The use of water spray is the most common method used to control particulate emissions. If an electrical generation unit is used, the combustion of fuel also results in PM emissions as well as NO_x, SO_x, CO, and VOCs. Fugitive PM emissions are generated by the mining activities, the aggregate storage piles, and front-end loader and truck traffic.

2. Equipment Listing

The analysis upon which this permit was based assumed that the following equipment would be used. The question regarding NSPS applicability is for Title V Operating Permit purposes.

- 2.1 Primary Crusher
Manufacturer/Type: AW/Jaw
Model: *****
Serial Number: 25403064US7
Maximum Capacity: 300 T/hr
NSPS Affected: YES
- 2.2 Secondary Crusher
Manufacturer/Type: El Jay/Cone
Model: RC54
Serial Number: *****
NSPS Affected: YES
- 2.3 Tertiary Crusher
Manufacturer/Type: Bar Mac/Impact
Model: 9600 MK III
Serial Number: 1155-11-89
NSPS Affected: YES
- 2.4 Generator
Manufacturer: *****
Model: *****
Serial Number: *****
Rated Power Output: 1,000 (kW)
Stack Diameter: 0.67 (ft)
Stack Height: 14 (ft)
Exhaust Flowrate: 8,832 (acfm)
Exhaust Temperature: 895 (°F)

3. Area Classification

The rock crushing facility is a portable source and may operate in both attainment and non-attainment areas throughout Idaho.

4. Emission Estimates

This facility's uncontrolled and controlled potential to emit (PTE) is 124.5 T/yr and 99 T/yr, respectively. The emission estimates are included as Appendix A.

The emissions are inherently limited below certain triggering levels (i.e., PSD and Title V thresholds) by placing limits on maximum throughput for the crushing equipment and hours of operation of the generator, in this case, 2.08 MMT/yr maximum throughput and 8,535 hr/yr. The emissions are not limited to specific pound per hour or ton per year emission rates because of the margin of error inherent in the emission estimates, which are not source specific, but rather are applicable to the broader source category of crushed stone processing.

Emission estimates to determine the PTE for aggregate processing and handling are conservatively determined using a spreadsheet specifically developed for rock crushing facilities. The spreadsheet has been developed using emission factors from AP-42, Table 11.19.2-2 to estimate the facility's emissions from crushers, screens, and transfer points. Fugitive emissions from sources that are not affected facilities, pursuant to 40 CFR 60.670, are not included in determining PTE. PTE is used to determine if PSD or Title V Operating Permit requirements apply to the facility.

The facility is permitted to use a 1,000 kW electrical generator to power the facility. Emissions due to the operation of the generator are estimated using the spreadsheet that incorporates emission factors from AP-42, Section 3, "Stationary Internal Combustion Sources." The estimated emissions are included in Appendix A.

5. Modeling

Estimated emissions due to aggregate crushing and handling are expected to vary considerably from the facility's actual emissions. Modeling results would reflect the emission estimates with an added level of conservatism built into the modeling. Because of the degree of uncertainty involved in the emissions estimate, modeling of fugitive dust emissions was not conducted. However, to ensure no ambient air quality standard will be violated due to emissions generated by crushing, screening, aggregate handling and fugitive sources, the permit requires that emissions from these sources not be seen leaving the property boundary for more than 3 minutes in

any 60 minute period. If visible emissions are not seen crossing the property boundary, no significant impact on ambient air quality nor a violation of NAAQS will occur. Therefore, regarding emissions from the crushing, screening, and conveying equipment, the crushing facility may operate in both PM-10 attainment and non-attainment areas.

The facility is permitted to use a 1,000 kW electrical generator to power the facility. The SCREEN2 modeling output is included in Appendix B and the subsequent worst-case receptor impact analysis is included as part of Appendix A. The 24-hour and annual PM-10 impacts from the generator exhaust stack at the point of maximum impact are below the levels of significant contribution¹ of 5.0 $\mu\text{g}/\text{m}^3$ and 1.0 $\mu\text{g}/\text{m}^3$, respectively. Therefore, the generator may be operated anywhere within the state of Idaho.

6. Facility Classification

Rock crushing plants are not designated facilities, as defined in IDAPA 16.01.01.006.25. This facility is not a major facility as defined in IDAPA 16.01.01.006.54 and IDAPA 16.01.01.008.14. The SIC code for this facility is 1442, "Construction Sand and Gravel." The equipment used at this facility that is subject to the New Source Performance Standards (Title 40 Code of Federal Regulations Part 60, Subpart 000, "Standards of Performance for Non-metallic Mineral Processing Plants") is listed in the source file for this facility. This facility is classified as "A2" because the uncontrolled potential to emit is greater than 100 T/yr (100 T/yr). The spreadsheet included as Appendix A automatically determines the facility classification.

7. Regulatory Review

The following rules and/or regulations have been reviewed in this permit analysis:

<u>IDAPA 16.01.01.201</u>	Permit to Construct;
<u>IDAPA 16.01.01.202</u>	Application Procedures;
<u>IDAPA 16.01.01.203</u>	Permit Requirements for New and Modified Stationary Sources;
<u>IDAPA 16.01.01.209</u>	Procedures for Issuing Permits;
<u>IDAPA 16.01.01.211</u>	Conditions for Permits to Construct;

<u>IDAPA 16.01.01.212</u>	Obligation to Comply;
<u>IDAPA 16.01.01.577</u>	Ambient PM-10 Air Quality Standard;
<u>IDAPA 16.01.01.625</u>	Visible Emissions;
<u>IDAPA 16.01.01.650</u>	Rules for Control of Fugitive Dust;
<u>IDAPA 16.01.01.728.02</u>	Distillate Fuel Oil; and
<u>40 CFR 60, Subpart OCO</u>	Standards of Performance for Nonmetallic Mineral Processing Plants.

8. AIRS Information

This permitting action is a modification which involves increasing facility operating hours. The applicant also proposes to add an additional conveyor. A form is included as Appendix C of this document to update the AIRS database for this new emissions unit.

FEES

The facility is not major, as defined in IDAPA 16.01.01.008.14. Therefore, registration and registration fees, according to IDAPA 16.01.01.526, are not applicable.

RECOMMENDATION

Based on review of application materials and all applicable state and federal rules and regulations, staff members recommend that Konen Rock Crushing, Inc. be issued a modified PTC for a portable rock crushing facility. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD PTC requirements.

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cc: Pat Rayne, AFS
Robert Wilkosz, TSB
Coeur d'Alene RO
Lewiston RO
Boise RO
Twin Falls RO
Pocatello RO
Idaho Falls RO
Source File
COF

