



Oregon

John A. Kitzhaber, M.D., Governor

Department of Environmental Quality

Western Region

201 W Main, Suite 2-D

Medford, OR 97501

(541) 776-6010

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November 13, 2002

Royal Oak Enterprises, Inc.
P. O. Box 2367
White City, OR 97503

Re: Air Contaminant Discharge
Permit No. 15-0058
Application No. 020298

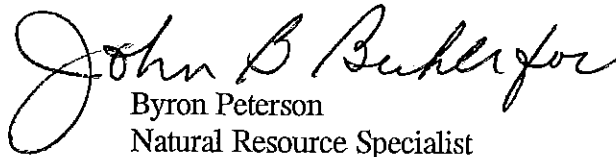
The Department of Environmental Quality has completed processing your permit application. Based upon the material contained in your application and the additional comment received in response to the public notice, the Department has issued the enclosed Air Contaminant Discharge Permit. The permit became effective when signed by the Western Region-Medford Air Quality Manager.

If you wish to appeal any of the conditions or limitations contained in the attached permit or if you have any questions, please contact the Department staff person listed below. If issues related to the permit conditions cannot be resolved to your satisfaction, you may request a hearing before the Environmental Quality Commission or its authorized representative, pursuant to ORS Chapter 183 and OAR Chapter 340, Section 14.025(5). **Such request for hearing shall be made in writing to the Director on or before 20 days following the date of permit issuance.**

A copy of the current permit must be available at the facility at all times. Failure to comply with permit conditions may result in a civil penalty.

We ask that you review your permit carefully and if you have any questions, please contact me at (541) 776-6010, extension 229.

Sincerely,


Byron Peterson
Natural Resource Specialist

150058PP

Enclosure

cc: EPA Region X



STANDARD
AIR CONTAMINANT DISCHARGE PERMIT

Department of Environmental Quality
Western Region
750 Front Street NE, Suite 120
Salem, Oregon 97301-1039
(503) 378-8240

This permit is being issued in accordance with the provisions of ORS 468A.040 and based on the land use compatibility findings included in the permit record.

ISSUED TO:

Royal Oak Enterprises, Inc.
P.O. Box 2367
White City, OR 97503

INFORMATION RELIED UPON:

Application No.: 020298
Date Received: 07/29/2002


PLANT SITE LOCATION:

7930 Agate Road
White City, OR 97503

LAND USE COMPATIBILITY FINDING:

Approving Authority: Jackson County
Approval Date: 04/13/1995

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY


John Becker, Western Region-Medford Air Quality Manager

11-13-02
Dated

Source(s) Permitted to Discharge Air Contaminants (OAR 340-216-0020):

Table 1 Code	Source Description	SIC
Part B, 75	Charcoal Manufacturer	2861

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1.0 GENERAL EMISSION STANDARDS AND LIMITS

- 1.1. Visible Emissions** The permittee must comply with the following visible emission limits, as applicable. Emissions from any air contaminant source installed, constructed, or modified after June 1, 1970, must not exceed an opacity equal to or greater than 20% for a period aggregating more than 3 minutes in any one hour.
- 1.2. Particulate Matter Emissions** The permittee must comply with the following particulate matter emission limits, as applicable:
- a. Particulate matter emissions from any burning equipment installed, constructed, or modified after June 1, 1970, must not exceed 0.1 grains per standard cubic foot, corrected to 12% CO₂ or 50% excess air.
 - b. Particulate matter emissions from any air contaminant source installed, constructed, or modified after June 1, 1970, other than fuel burning equipment and fugitive emission sources must not exceed 0.1 grains per standard cubic foot.
 - c. Non-fugitive particulate matter emissions from any process must not exceed the amount shown in Table 1 of OAR 340-226-0310 for the process weight allocated to such a process.
- 1.3. Fugitive Emissions** The permittee must take reasonable precautions to prevent fugitive dust emissions by:
- a. Treating vehicular traffic areas of the plant site under the control of the permittee.
 - b. Operating all air contaminant-generating processes so that fugitive type dust associated with the operation will be adequately controlled at all times.
 - c. Storing collected materials from air pollution control equipment in a covered container or other method equally effective in preventing the material from becoming airborne during storage and transfer.
- 1.4. Particulate Matter Fallout** The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person. The Department will verify that the deposition exists and will notify the permittee that the deposition must be controlled.

- 1.5. **Nuisance and Odors** The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by Department personnel.

2.0 OPERATION AND MAINTENANCE REQUIREMENTS

- 2.1. **Fugitive Emissions Control Plan** While operating in the Medford-Ashland AQMA, the permittee must prepare and implement site-specific plans for the control of fugitive emissions in accordance with OAR 340-240-0180.
- 2.2. **O&M plan** While operating in the Medford-Ashland AQMA, the permittee must prepare and implement an operation and maintenance (O&M) plan in accordance with OAR 340-240-0190.

3.0 PLANT SITE EMISSION LIMITS

- 3.1. **Plant Site Emission Limits (PSEL)**

Plant site emissions must not exceed the following:

Pollutant	Limit	Units
PM	15	tons per year
PM ₁₀	15	tons per year
	124	pounds per day
NO _x	39	tons per year
CO	99	tons per year
VOC	39	tons per year

- 3.2. **Annual Period** The annual plant site emissions limits apply to any 12-consecutive calendar month period.

4.0 COMPLIANCE DEMONSTRATION

- 4.1. PSEL Compliance Monitoring** Compliance with the PSEL is determined for each 12-consecutive calendar month period based on the following calculation for each pollutant:

$$E = \Sigma(EF \times P)/2000 \text{ lbs}$$

where,

- E = pollutant emissions (ton/yr);
EF = pollutant emission factor (see Condition 11.0);
P = process production (see Condition 12.0).

- 4.2. Emission Factors** The permittee must use the default emission factors provided in Condition 11.0 for calculating pollutant emissions, unless alternative emission factors are approved by the Department. The permittee may request or the Department may require using alternative emission factors provided they are based on actual test data or other documentation (e.g., AP-42 compilation of emission factors) that has been reviewed and approved by the Department.

5.0 SPECIAL CONDITIONS

- 5.1. Special conditions** In the event an Air Pollution Alert, Warning, or Emergency Episode is declared in the Medford-Ashland AQMA area by the Department, the permittee shall take actions appropriate to the declared Air Pollution Episode as listed in Oregon Administrative Rules 340, Division 206 Table I "Air Pollution Episode". Air Pollution Episodes will be declared by the Department and information will be made available through the radio and television media.

6.0 RECORDKEEPING REQUIREMENTS

- 6.1. Operation and Maintenance** The permittee must maintain the following records related to the operation and maintenance of the plant and associated air contaminant control devices:
- All operating and production parameters to be reported to Department annually as required in Condition 12.0.
 - A record of PSEL compliance monitoring calculations as required in Condition 4.1.

- c. Excess emission record.
- d. A description of any maintenance to the air contaminant control system.

- 6.2. Excess Emissions** The permittee must maintain records of excess emissions as defined in OAR 340-214-0300 through 340-214-0340 (recorded on occurrence). Typically, excess emissions are caused by process upsets, startups, shutdowns, or scheduled maintenance. In many cases, excess emissions are evident when visible emissions are greater than 20% opacity for 3 minutes or more in any 60-minute period.
- 6.3. Complaint Log** The permittee must maintain a log of all written complaints and complaints received via telephone that specifically refer to air pollution concerns associated to the permitted facility. The log must include a record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution.
- 6.4. Retention of Records** Unless otherwise specified, all records must be maintained on site for a period of two (2) years and made available to the Department upon request.

7.0 REPORTING REQUIREMENTS

- 7.1. Excess Emissions** The permittee must notify the Department by telephone or in person of any excess emissions which are of a nature that could endanger public health.
- a. Such notice must be provided as soon as possible, but never more than one hour after becoming aware of the problem. Notice must be made to the regional office identified in Condition 8.4.
 - b. If the excess emissions occur during non-business hours, the permittee must notify the Department by calling the Oregon Emergency Response System (OERS). The current number is 1-800-452-0311.
 - c. The permittee must also submit follow-up reports when required by the Department.
- 7.2. Annual Report** For each year this permit is in effect, the permittee must submit to the Department by **February 15** two (2) copies of the following information for the previous calendar year:
- a. Operating parameters:

- i. Daily and annual records of briquettes produced;
- ii. Amount of natural gas usage in the boiler and the briquette dryer (cubic feet/year);
- iii. Amount of "Instant Lite" solvent usage.
- b. Records of PSEL compliance monitoring calculations as required by Conditions 4.1 and 6.1.b.
- c. Records of all planned and unplanned excess emissions events.
- d. Summary of complaints relating to air quality received by permittee during the year.
- e. List permanent changes made in plant process, production levels, and pollution control equipment which affected air contaminant emissions.
- f. List major maintenance performed on pollution control equipment.

7.3. Initial Startup Notice

The permittee must notify the Department in writing of the date a new facility is started up. The notification must be submitted no later than seven (7) days after startup.

7.4. Notice of Change of Ownership or Company Name

The permittee must notify the Department in writing using a Departmental "Permit Application Form" within 60 days after the following:

- a. Legal change of the name of the company as registered with the Corporations Division of the State of Oregon; or
- b. Sale or exchange of the activity or facility.

7.5. Construction or Modification Notices

The permittee must notify the Department in writing using a Departmental "Notice of Construction Form," or "Permit Application Form," and obtain approval in accordance with OAR 340-210-0205 through 340-210-0250 before:

- a. Constructing, installing, or establishing a new stationary source that will cause an increase in any regulated pollutant emissions;
- b. Making any physical change or change in operation of an existing stationary source that will cause an increase, on an hourly basis at full production, in any regulated pollutant emissions; or
- c. Constructing or modifying any air pollution control equipment.

- 7.6. **Where to Send Reports and Notices** The reports, with the permit number prominently displayed, must be sent to the Permit Coordinator for the region where the source is located as identified in Condition 8.3.

8.0 ADMINISTRATIVE REQUIREMENTS

- 8.1. **Permit Renewal Application** The completed application package for renewal of this permit is due on 5/01/06. Two (2) copies of the application must be submitted to the DEQ Permit Coordinator listed in Condition 8.3
- 8.2. **Permit Modifications** Application for a modification of this permit must be submitted not less than 60 days prior to the source modification. A special activity fee must be submitted with an application for the permit modification. The fees and two (2) copies of the application must be submitted to the Business Office of the Department.
- 8.3. **Permit Coordinator Address** All reports, notices, and applications should be directed to the Permit Coordinator for the area where the source is located. The Permit Coordinator address for this area is as follows:
Department of Environmental Quality
750 Front Street NE, Suite 120
Salem, OR 97301-1039
Telephone: (503) 378-8240 ext. 225
- 8.4. **Department Contacts** Information about air quality permits and the Department's regulations may be obtained from the DEQ web page at www.deq.state.or.us. All inquiries about this permit should be directed to the regional office for the area where the source is located. The Department's regional office for this area is as follows:
Department of Environmental Quality
201 W Main Street, Suite 2-D
Medford, OR 97501-2744
Telephone: (541) 776-6010

9.0 FEES

- 9.1. Annual Compliance Fee** The Annual Fee specified in OAR 340-216-0020, Table 2, Part 2 for a Standard ACDP is due on **December 1** of each year this permit is in effect. An invoice indicating the amount, as determined by Department regulations, will be mailed prior to the above date.
- 9.2. Change of Ownership or Company Name Fee** The non-technical permit modification fee specified in OAR 340-216-0020, Table 2, Part 3(a) is due with an application for changing the ownership or the name of the company.
- 9.3. Special Activity Fees** The special activity fees specified in OAR 340-216-0020, Table 2, Part 3 (b through i) are due with an application to modify the permit.
- 9.4. Where to Submit Fees** Fees must be submitted to:
Department of Environmental Quality
Business Office
811 SW Sixth Avenue
Portland, Oregon 97204-1390

10.0 GENERAL CONDITIONS AND DISCLAIMERS

- 10.1. Permitted Activities** This permit allows the permittee to discharge air contaminants from processes and activities related to the air contaminant source(s) listed on the first page of this permit until this permit expires, is modified, or is revoked.
- 10.2. Other Regulations** In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by the Department.
- 10.3. Conflicting Conditions** In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply.
- 10.4. Masking of Emissions** The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement.

- 10.5. Department Access** The permittee must allow the Department's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary functions related to this permit in accordance with ORS 468-095.
- 10.6. Permit Availability** The permittee must have a copy of the permit available at the facility at all times.
- 10.7. Open Burning** The permittee may not conduct any open burning except as allowed by OAR 340 Division 264.
- 10.8. Asbestos** The permittee must comply with the asbestos abatement requirements in OAR 340, Division 248 for all activities involving asbestos-containing materials, including, but not limit to, demolition, renovation, repair, construction, and maintenance.
- 10.9. Property Rights** The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
- 10.10. Termination, Revocation, or Modification** The Department may modify or revoke this permit pursuant to OAR 340-216-0082 and 340-216-0084.

11.0 EMISSION FACTORS

Emissions device or activity	Pollutant	Emission Factor (EF)	EF units	EF Reference
Briquet Dryer	PM/PM ₁₀	2.5	lb/ MMft ³	DEQ
	CO	84	lb/ MMft ³	AP-42
	NO _x	280	lb/ MMft ³	AP-42
	VOC	5.5	lb/ MMft ³	AP-42
Briquet Plant - Baghouses	PM/PM ₁₀	0.56	lb/ton	AP-42 10.7.2 99% baghouse control
Instant Lite Line	VOC	1.32	lb/ton	9/16/94 Source test
50HP Natural Gas Boiler	PM/PM ₁₀	2.5	lb/ MMft ³	AP-42
	CO	84	lb/ MMft ³	AP-42
	NO _x	100	lb/ MMft ³	AP-42
	VOC	5.5	lb/ MMft ³	AP-42

12.0 PROCESS/PRODUCTION RECORDS

Emissions device or activity	Process or production parameter	Frequency
Briquet Dryer	Fuel Usage	Monthly and Annual
Briquet Plant-baghouses	Briquet Production	Monthly and Annual
Instant Lite Line	Instant lite Production	Monthly and Annual
50HP Natural Gas Boiler	Fuel Usage	Monthly and Annual

13.0 ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

ACDP	Air Contaminant Discharge Permit	NSR	New Source Review
ASTM	American Society for Testing and Materials	O ₂	oxygen
AQMA	Air Quality Maintenance Area	OAR	Oregon Administrative Rules
calendar year	The 12-month period beginning January 1st and ending December 31st	ORS	Oregon Revised Statutes
CFR	Code of Federal Regulations	O&M	operation and maintenance
CO	carbon monoxide	Pb	lead
DEQ	Oregon Department of Environmental Quality	PCD	pollution control device
dscf	dry standard cubic foot	PM	particulate matter
EPA	US Environmental Protection Agency	PM ₁₀	particulate matter less than 10 microns in size
FCAA	Federal Clean Air Act	ppm	part per million
gal	gallon(s)	PSD	Prevention of Significant Deterioration
gr/dscf	grains per dry standard cubic foot	PSEL	Plant Site Emission Limit
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040	PTE	Potential to Emit
I&M	inspection and maintenance	RACT	Reasonably Available Control Technology
lb	pound(s)	scf	standard cubic foot
MMBtu	million British thermal units	SER	Significant Emission Rate
NA	not applicable	SIC	Standard Industrial Code
NESHAP	National Emissions Standards for Hazardous Air Pollutants	SIP	State Implementation Plan
NO _x	nitrogen oxides	SO ₂	sulfur dioxide
NSPS	New Source Performance Standard	Special Control Area	as defined in OAR 340-204-0070
		VE	visible emissions
		VOC	volatile organic compound
		year	A period consisting of any 12-consecutive calendar months

Department of Environmental Quality
 Western Region
 Air Quality Program

Standard
AIR CONTAMINANT DISCHARGE PERMIT
REVIEW REPORT

Royal Oak Enterprises, Inc.
 7930 Agate Road
 White City, OR, 97503
 (541) 826-2756

Source Test	Compl Sched	Report				Excess		NSR	PSD	RACT	NSPS	NESHAP	Size	Public Notice
		A	S	Q	M	R	N							
		X					X						ST	III

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PERMITTING

PERMITTING ACTION

1. The proposed permit is a new permit for an existing source. The facility currently has a Title V operating permit that is currently scheduled to expire on 07/01/2006. The facility is reducing emissions to qualify for a Standard Air Contaminant Discharge Permit (ACDP).

OTHER PERMITS

2. Other permits issued or required by the Department of Environmental Quality for this source include: A 500-J General Permit for boiler blow down water and a 1500-J General Permit for Stormwater.

ATTAINMENT STATUS

3. The source is located in a nonattainment area for PM₁₀. The area is in attainment for all other pollutants.
4. The source is not located within 10 kilometers of a Class I area.

SOURCE DESCRIPTION

OVERVIEW

5. The permittee operates a charcoal briquet manufacturing facility. The facility was built in 1969 with construction completed in February of 1970
6. The following changes have been made to the facility since the last permit renewal: The Herreshoff furnace has been shutdown and the briquet dryer has been converted from steam heat to natural gas..

PROCESS AND CONTROL DEVICES

7. Existing air contaminant sources at the facility consist of the following:
 - a. The Briquet Plant consists of two Char silos, the briquette dryer, the production area, and packaging area. The Char silos are controlled by two baghouses (10 HP Hosokawa Mikropul and a 25 HP Hosokawa Mikropul) which were installed in 1970. The production area is controlled by a baghouse (50 HP Flact Environmental Control System) which was installed in 1979 and the packaging area which is controlled by a baghouse (40 HP Fabric Filter Northwest) installed in 1988.

COMPLIANCE

8. The facility was inspected on 9/01/2001 and 9/24/2002 and found to be in compliance with permit conditions.
9. During the prior permit period there were no complaints recorded for this facility.
10. No enforcement actions have been taken against this source since the last permit renewal.

SPECIAL CONDITIONS

11. In the event an Air Pollution Alert, Warning, or Emergency Episode is declared in the Medford-Ashland AQMA area by the Department, the permittee shall take actions appropriate to the declared Air Pollution Episode as listed in Oregon Administrative Rules 340, Division 206 Table I "Air Pollution Episode". Air Pollution Episodes will be declared by the Department and information will be made available through the radio and television media.

EMISSIONS

12. Proposed PSEL information:

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limits (PSEL)		
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase or Decrease (tons/yr)
PM/ PM ₁₀	137	177	177	185	15	-170
NO _x	154	181	181	182	39	-143
CO	359	23	23	27	99	+72
VOC	37	42	42	38	39	+1

- a. The proposed source specific PSELs for all gaseous pollutants are equal to the Generic PSEL level in accordance with OAR 340-216-0066(3)(b).
- b. The basis for the PSEL is provided in the attached emission detail sheets.
- c. The PSEL is a federally enforceable limit on the potential to emit.
- d. Royal Oak in 1987 requested an increase in the netting basis which was approved by the Environmental Quality Commission (EQC). Royal Oak, in a letter dated

9/23/1999, returned a portion of their CO emission to the air shed.

- e. The area around Royal Oak currently shows modeled impacts above the National Ambient Air Quality Standards (NAAQS). The Department is currently reviewing this information to determine if additional reductions in emissions will be required. This may include an adjustment of the netting basis to reduce both the annual and daily unassigned emissions.

13. In addition to the PSEL, the permit includes the following:

Pollutant	Unassigned Emissions (tons/yr)
PM/ PM ₁₀	162
NO _x	142
CO	0
VOC	3

SIGNIFICANT EMISSION RATE ANALYSIS

14. For each pollutant, the proposed Plant Site Emission Limit is less than the Netting Basis plus the significant emission rate, thus no further air quality analysis is required.
15. An analysis of the proposed PSEL increases over the Netting Basis is shown in the following table.

Pollutant	SER	Increase due to utilizing the generic PSEL level (tons/yr)
PM/PM ₁₀	15/5*	
NO _x	40	
CO	100	76
VOC	40	

*SER for Medford-Ashland AQMA

MAJOR SOURCE APPLICABILITY

CRITERIA POLLUTANTS

16. A major source is a facility that has the potential to emit more than 100 tons per year of any criteria pollutant. This facility is not a major source of criteria pollutant emissions.

HAZARDOUS AIR POLLUTANTS

17. A major source is a facility that has the potential to emit more than 10 tons/year of any single HAP or 25 tons/year of combined HAPs. This source is not a major source of hazardous air pollutants.

ADDITIONAL REQUIREMENTS

NSPS APPLICABILITY

18. There are no sources at this facility for which NSPS standards have been promulgated.

NESHAPS/MACT APPLICABILITY

19. There are no sources at this facility for which NESHAPS/MACT standards have been promulgated.

TACT APPLICABILITY

20. The source is meeting the states TACT/Highest and Best Rules through the use of baghouse controls on it's operation.

PUBLIC NOTICE

21. Pursuant to OAR 340-216-0066(4)(a)(A), Standard Air Contaminant Discharge Permits require public notice in accordance with OAR 340-209-0030(3)(c). Therefore, the proposed permit will be placed on public notice from <date> to <date>. The Department will schedule a hearing to allow interested persons to submit oral or written comments, if the Department receives written requests from ten persons, or from an organization representing at least ten persons, for a hearing within 35 days of the mailing of the public notice.

bcp:xxx
Document3
12/6/2002

Name: Royal Oak
Permit #: 15-0058

Plant Site Emission Detail Sheet
Proposed Emissions

<u>Briquet Dryer</u>	<u>Pollutant</u>	<u>Emission Factor</u>	<u>Reference</u>	<u>Emissions</u>	
				<u>lbs/day</u>	<u>tons/yr</u>
408,000 ft ³ natural gas/day:	PM/PM ₁₀	2.5 lb/MMft ³ natural gas	DEQ	1.02	0.19
148,920,000 ft ³ natural gas/yr:	CO	84 lb/MMft ³ natural gas	AP-42		6.25
8760 # hrs/yr:	NO _x	280 lb/MMft ³ natural gas	AP-42		20.85
24 # hrs/day:	SO ₂	1.7 lb/MMft ³ natural gas	AP-42		0.13
	VOC	5.5 lb/MMft ³ natural gas	AP-42		0.41
Briquet Plant-Baghouses:					
54,000 tons of Briquets/yr.	PM/PM ₁₀	0.56 lb/ton	AP-42 10.7.2	123.20	15.12
220 tons of Briquets/day			99% baghouse control		
Instant Light Line:					
34,800 tons instant light	VOC	1.32 lbs/ton	9/16/94 source test		22.97
50 HP Natural Gas Boiler					
480,000 ft ³ natural gas/day	PM/PM ₁₀	2.5 lb/MMft ³ natural gas	DEQ	1.2	0.02
17,520,000 ft ³ natural gas/yr.	CO	84 lb/MMft ³ natural gas	AP-42		0.74
	NO _x	100 lb/MMft ³ natural gas	AP-42		0.88
	SO ₂	1.7 lb/MMft ³ natural gas	AP-42		0.01
	VOC	5.5 lb/MMft ³ natural gas	AP-42		0.05

Total Emissions:		
	<u>lb/day</u>	<u>tons/yr</u>
PM/PM ₁₀	124.2	15.3
CO		7.0
NO _x		21.7
SO ₂		0.1
VOC		23.4

Name: Royal Oak
Permit #: 15-0058

Plant Site Emission Detail Sheet
Adjusted netting basis (1999)

<u>Herreshoff Furnace</u>	<u>Pollutant</u>	<u>Emission Factor</u>	<u>Reference</u>	<u>Emissions</u>	
				<u>lbs/day</u>	<u>tons/yr</u>
168 tons char/day 29,000 tons char/yr 8760 # hrs/yr: 24 # hrs/day:	PM/PM ₁₀	10 lbs/ton	DEQ	1680	145.0
	CO	1.6 lbs/ton	90-94 Source Test		23.2
	NO _x	6.7 lbs/ton	90-93 Source Test		97.2
	VOC	1.1 lbs/ton	90-92 Source Test		16.0
Hogged Fuel Boiler					
50,000 lbs-stm/hr 4.28E+08 lbs-stm/yr	PM/PM ₁₀	0.03 gr/dscf	OAR 340-240-0110(3)(C)	136.8	22.8
	CO ⁽¹⁾				0
	NO _x	0.39	90-93 Source Test		83.46
	VOC	0.12	90-93 Source Test		25.68
Briquet Plant-Baghouses:					
31,056 tons of Briquets/yr. 240 tons of Briquet/day	PM/PM ₁₀	0.56 lb/ton	AP-42 10.7.2 99% baghouse control	134.4	8.70

(1) The TV permit allowed Royal Oak two years from permit issuance to submit a plan for use of credits from the shutdown of the hogged fuel boiler. In a letter submitted 9/23/1999, Royal Oak submitted a plan for their use. Royal Oak in that letter returned the CO emissions to the air shed. The CO emissions have been removed from the netting basis.

<u>Total Emissions:</u>		
	<u>lb/day</u>	<u>tons/yr</u>
PM/PM ₁₀	1951.2	176.50
CO		23.20
NO _x		180.61
VOC		41.63

Name: Royal Oak
Permit #: 15-0058

Plant Site Emission Detail Sheet
Adjusted netting basis (1987)

<u>Herreshoff Furnace</u>		<u>Pollutant</u>	<u>Emission Factor</u>	<u>Reference</u>	<u>Emissions</u>	
					<u>lbs/day</u>	<u>tons/yr</u>
168 tons char/day		PM/PM ₁₀	10 lbs/ton	DEQ	1680	145.0
29,000 tons char/yr ⁽¹⁾		CO	1.6 lbs/ton	90-94 Source Test		23.2
8760 # hrs/yr:		NO _x	6.7 lbs/ton	90-93 Source Test		97.2
24 # hrs/day:		VOC	1.1 lbs/ton	90-92 Source Test		16.0
Hogged Fuel Boiler						
50,000 lbs-stm/hr		PM/PM ₁₀	0.03 gr/dscf ⁽²⁾	OAR 340-240-0110(3)(C)	136.8	22.8
4.28E+08 lbs-stm/yr		CO	1.6 lbs/M lb-stm	90-93 Source Test		342.4
		NO _x	0.39	90-93 Source Test		83.46
		VOC	0.12	90-93 Source Test		25.68
Briquet Plant-Baghouses:						
31,056 tons of Briquets/yr.		PM/PM ₁₀	0.56 lb/ton	AP-42 10.7.2	134.4	8.70
240 tons of Briquet/day				99% baghouse control		

(1) On 3/13/1987 the EQC granted an increase in production from 21,130 tons/yr to 29,000 tons/yr of char. The increase was a variance from the existing regulations and does not count towards the SER. The Commission granted an increase in the baseline emission rate.

(2) The emissions were adjusted from .05 gr/dscf to .03 gr/dscf.

<u>Total Emissions:</u>		
	<u>lb/day</u>	<u>tons/yr</u>
PM/PM ₁₀	1951.2	176.50
CO		365.60
NO _x		180.61
VOC		41.63

Name: Royal Oak
Permit #: 15-0058

Plant Site Emission Detail Sheet
Netting basis (1978)

<u>Herreshoff Furnace</u>	<u>Pollutant</u>	<u>Emission Factor</u>	<u>Reference</u>	<u>Emissions</u>	
				<u>lbs/day</u>	<u>tons/yr</u>
168 tons char/day	PM/PM ₁₀	10 lbs/ton	DEQ	1680	105.7
21,130 tons char/yr	CO	1.6 lbs/ton	90-94 Source Test		16.9
8760 # hrs/yr:	NO _x	6.7 lbs/ton	90-93 Source Test		70.8
24 # hrs/day:	VOC	1.1 lbs/ton	90-92 Source Test		11.6
Hogged Fuel Boiler					
50,000 lbs-stm/hr	PM/PM ₁₀	0.03 gr/dscf ⁽¹⁾	OAR 340-240-0110(3)(C)	136.8	22.8
4.28E+08 lbs-stm/yr	CO	1.6 lbs/M lb-stm	90-93 Source Test		342.4
	NO _x	0.39	90-93 Source Test		83.46
	VOC	0.12	90-93 Source Test		25.68
Briquet Plant-Baghouses:					
31,056 tons of Briquets/yr.	PM/PM ₁₀	0.56 lb/ton	AP-42 10.7.2	134.4	8.70
240 tons of Briquet/day			99% baghouse control		

(1) The emissions were adjusted from .05 gr/dscf to .03 gr/dscf.

<u>Total Emissions:</u>		
	<u>lb/day</u>	<u>tons/yr</u>
PM/PM ₁₀	1951.2	137.15
CO		359.30
NO _x		154.25
VOC		37.30