

DEPARTMENT OF  
**ECOLOGY**  
State of Washington

FINAL STATEMENT OF BASIS FOR AIR OPERATING PERMIT NUMBER 08AQ-E277  
VAAGEN BROS. LUMBER COMPANY, COLVILLE SAWMILL, STEVENS COUNTY, WA

ISSUE DATE: .....April 23, 2009

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1 LIST OF ABBREVIATIONS

AOP	Air Operating Permit
BACT	Best Available Control Technology
bf	Board feet
BTU	British Thermal Units
°C	Degrees Celsius
CAM	Compliance Assurance Monitoring
CFC	Chlorofluorocarbons
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
dscf	Dry Standard Cubic Foot
dscf/m	Dry Standard Cubic Foot per minute
Ecology	Washington State Department of Ecology
E.I.T.	Engineer in Training
EPA	United States Environmental Protection Agency
°F	Degrees Fahrenheit
FCAA	Federal Clean Air Act
ft <sup>3</sup>	Cubic foot
gr/dscf	Grains per dry standard cubic foot
hr	Hour
lb	Pound
MMBtu	Million British Thermal Units
MRRR	Monitoring, Recordkeeping, and Reporting Requirement
NOC	Notice of Construction
NO <sub>x</sub>	Oxides of Nitrogen
NSPS	New Source Performance Standard
O <sub>2</sub>	Oxygen
O&M	Operation & Maintenance
P.E.	Professional Engineer
PM	Particulate Matter
PM-10	Particulate Matter with aerodynamic diameter less than 10 micrometers
ppm	Parts per million
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RCW	Revised Code of Washington
RM	EPA Reference Method from 40 CFR Part 60, Appendix A
scfm	Standard Cubic Feet per Minute

SIP	State Implementation Plan
SO2	Sulfur Dioxide
T	Temperature
TAP	Toxic Air Pollutant
TPD	Tons Per Day
TPY	Tons Per Year
TSP	Total Suspended Particulate
VOC	Volatile Organic Compound
WAC	Washington Administrative Code
wt%	Percentage by Weight
yr	year

2 INTRODUCTION

This statement of basis summarizes the legal and factual basis for the air operating permit issued by the Washington State Department of Ecology. Unlike the air operating permit, this document is not legally enforceable. This statement of basis summarizes the emitting processes, air emissions, permitting and compliance history, the statutory or regulatory provisions that relate to the facility, and the steps taken to provide opportunities for public review of the permit. The permittee is obligated to follow the terms of the permit. Any errors or omissions in the summaries provided here do not excuse the permittee from the requirements of the permit

3 PERMIT AUTHORITY

Title V of the Federal Clean Air Act Amendments required all states to develop a renewable operating permit program for industrial and commercial sources of air pollution. The Washington State Clean Air Act (RCW 70.94 Revised Code of Washington) was amended in 1991 and 1993 to provide the Department of Ecology and Local Air Agencies with the necessary authority to implement a state-wide operating permit program. The law requires all sources with a potential to emit of one hundred tons or more per year of a criteria pollutant, ten tons of a hazardous air pollutant, or twenty-five tons in the cumulative of hazardous air pollutants, to obtain an operating permit. Criteria pollutants include sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, and volatile organic compounds. Chapter 173-401 of the Washington Administrative Code (WAC), which specified the requirements of Washington State's Operating Permit Regulation, became effective November 4, 1993. United States Environmental Protection Agency (EPA) granted Washington's program interim approval December 9, 1994. Final approval of Washington's program was granted on August 13, 2001. The current version of the regulation was filed on September 16, 2002.

4 FACILITY INFORMATION

4.1 Company Name ..... Vaagen Bros. Lumber Company

4.2 Facility Name.....Colville Lumber Mill

- 4.3 Unified Business Identification Number ..... 6000037066
- 4.4 AFS ID ..... 5306500012
- 4.5 Facility Address ..... 565 West 5<sup>th</sup>, Colville WA, 99114
- 4.6 Mailing Address..... 565 West 5<sup>th</sup>, Colville WA, 99114
- 4.7 Responsible official ..... Joe Alborano, Plant Manager
- 4.8 Site contact ..... Joe Alborano, Plant Manager
- 4.9 Contact phone number ..... 509-684-5071

5 BASIS FOR TITLE V APPLICABILITY

Vaagen Brothers Lumber Company (Vaagen), Colville Lumber Mill, is subject to Title V, Air Operating Permit Regulations, due to potential emissions of carbon monoxide (CO) in excess of 100 tons per year. WAC 173-401-200(17)(b) identifies any source that directly emits or has the potential to emit one hundred tpy or more (controlled) of any air pollutant as a major source. Major sources are required to obtain Title V permits under 173-401-300(1)(a)(i).

Potential to emit by emission unit in tons per year is shown below.

		PM10	CO	NOx	SO2	VOC	total HAP
Hog Fuel boiler	uncontrolled	251 <sup>1</sup>	–	–	–	–	–
	controlled	8.1 <sup>2</sup>	181 <sup>2</sup>	84.6 <sup>2</sup>	11.2 <sup>1</sup>	7.6 <sup>1</sup>	8.6 <sup>1</sup>
Natural gas boiler		1 <sup>3</sup>	11 <sup>3</sup>	6.6 <sup>3</sup>	0.1 <sup>3</sup>	0.7 <sup>3</sup>	0.2 <sup>3</sup>
Dry kilns		3 <sup>4</sup>	–	–	–	76 <sup>4</sup>	12.8 <sup>4</sup>
Planer baghouse		10.3 <sup>5</sup>	–	–	–	–	–

<sup>1</sup> AP-42 (2003)

<sup>2</sup> stack test

<sup>3</sup> AP-42 (1998)

<sup>4</sup> Oregon Department of Environmental Quality (2007)

<sup>5</sup> Order No. 04AQ-E137

6 ATTAINMENT CLASSIFICATION

The facility is located in an area classified as in attainment for all criteria pollutants as of April 2009.

7 SOURCE DESCRIPTION

7.1 The facility covers 80 acres, of which approximately half of which is used to produce lumber and generate electricity. The active portion of the facility includes log storage, log preparation, a sawmill with a debarking-and-sawing line, lumber drying kilns, a planer mill for finishing the lumber, a powerhouse for supplying steam, and turbines that convert a portion of the facility’s steam to electricity. Repair and maintenance facilities for vehicles and equipment are also located at the facility. A site plan is included as Attachment 1. A process flow diagram is included as Attachment 2.

7.1.1 *Log Storage and Sawmill:* Raw logs are delivered by truck to the mill and sorted by size, checked for metal contaminants, assessed for trueness and overall quality, and then stored in segregated piles prior to being processed (#20 on Attachment 1). The mill uses a large crane to move the logs about the storage area and to transport them to the sawmill.

Logs are debarked at the debarker located inside the sawmill. Bark from the debarking process is transported via conveyers to the hog which reduces it into a smaller material, called hog fuel, which is stored either in a silo (#14 on Attachment 1) or on the ground by the powerhouse (#5 on Attachment 1) for use in the mill's hogged fuel boiler or for sale to outside parties. A double-cut bandsaw and a hewsaw (#2 on Attachment 2) saw debarked logs into dimensional lumber. Much of the lumber is dried in the mill's kilns, but some is sold rough (as is) from the sawmill.

7.1.2 *Lumber Drying:* Rough lumber from the sawmill is transferred to four double track lumber kilns (#7 and #7a on Attachment 1). Non-contact steam from the powerhouse heats the kilns to dry the lumber to approximately 20 percent moisture or less. After drying, the lumber is removed from the kilns and allowed to cool outdoors or in the dry shed (#8 on Attachment 1).

7.1.3 *Planer Mill:* Dried lumber is transferred to the planer mill for surfacing (#9 & #9a). Planer exhaust is routed through a product recovery cyclone followed by a baghouse. Surfaced lumber is graded for quality and sent to trim saws which remove flaws in the finished lumber. Finished lumber is sorted by length, packaged, and stored in a lumber warehouse on site. Planer shavings are transferred pneumatically to a product recovery cyclone. Particulate emissions from the cyclone are controlled by a baghouse. Shavings collected by the cyclone are transferred by covered conveyors to a fuel silo by the powerhouse (#13) or to a truck bin near the chip and sawdust bins (#16). Trim from the trim saws is chipped, screened (with oversized material being re-chipped), and blown into truck trailers. These trailers are hauled over near the chip bunker(#19), and the chips are dumped into a pit (#17) that transfers them, via auger and conveyor, to the same railcar collection system (#18) that serves the sawmill.

7.1.4 *Powerhouse:* The mill's steam needs are met by two boilers:

7.1.4.1 *Boiler #1* is a 20,000-pound-per-hour boiler natural gas boiler installed in 1975. Boiler #1 was installed as a wood-fired boiler and converted in 1998 to natural gas fuel with a low-NOx burner. Boiler #1 is permitted to burn up to 262.8 million cubic feet of natural gas per year, but serves as a backup to boiler #2, and annual fuel use is less than 10 million cubic feet.

7.1.4.2 *Boiler #2* is 60,000 pound-per-hour Nebraska hogged fuel boiler installed in 1978. Boiler #2 was installed with a multiclone for particulate matter control. An ESP was added in 1998 to comply with particulate matter standards.

Boiler #2 is the primary boiler for the facility, producing high-pressure steam which passes through a turbine for electrical generation. After the turbine, low pressure steam is extracted to heat the dry kilns.

7.1.5 *Maintenance and Miscellaneous* – A maintenance shop in the sawmill is used for general maintenance, including the sharpening of saw blades, while the planer mill houses a tool shop for more general maintenance. A truck maintenance shop (#11) provides service to

mill vehicles. Other activities at the facility include fuel storage and dispensing, finished lumber storage and shipping.

## 8 EMISSION UNIT DESCRIPTIONS

### 8.1 Natural Gas boiler (Boiler #1)

Boiler #1 is a natural gas-fired boiler rated at 20,000 pounds of steam per hour. The boiler was installed prior to 1972 and was the sole source of steam for heating the lumber drying kilns. Boiler #1 was converted from wood waste fuel to natural gas with a low NOx burner. The June 17, 1997 Stipulation and Settlement Agreement specified that the conversion could be permitted under WAC 1730400-114—*Requirements for replacement or substantial alteration of emission control technology at an existing stationary source* if the project resulted in no increase in emissions. Ecology determined that combustion of natural gas would result in emissions of toxic air pollutants that are not emitted by combustion of hog fuel, and Order No. DE98AQ-E132 was issued under WAC 173-400-110—*New Source Review*. Order No. DE98AQ-E132 included an annual limit on natural gas use and limits on NOx, CO and opacity. Boiler #1 currently functions as a backup for boiler #2, and provides steam for the dry kilns when boiler #2 is down.

### 8.2 Hogged fuel boiler (Boiler #2)

Boiler #2 is a Wellons system with four fuel cells and a boiler with a maximum production rating of 60,000 pounds of steam per hour. The annual average steam production rate is approximately 48,000 pounds per hour. Annual steam production is approximately 400 million pounds at 500 psig. High pressure steam from Boiler #2 passes through a turbine for electrical generation. Low pressure steam extracted downstream of the turbine is used to heat the dry kilns. Steam production is limited by fuel supply, and the boiler is normally operated to generate as much steam as possible. Any available steam in excess of dry kiln demand is used in electrical generation.

Fuel for the boiler is a mixture of hogged bark from the debarking system and dry planer shavings. All fuel is generated onsite. Fuel use is not measured. Estimated annual fuel use is approximately 40,000 tons (dry).

The hogged fuel boiler was installed in 1978 under Order No. DE78-495 as a replacement for a wigwam burner used to dispose of wood waste. Pollution control consisted of a multiclone. Order No. DE78-495 limited emissions of filterable particulate matter to 50 tons per year.

The ESP was added under Order No. DE97AQ-E137 to achieve compliance with the 50 ton per year particulate matter emission limit. Order No. DE97AQ-E137 included limits on particulate matter grain loading and opacity.

### 8.3 Dry Kilns #1 -#3

Three double-track dry kilns were installed when the facility was built in 1972. The kilns are indirectly-heated by steam from boilers #1 or #2, and have a total drying capacity of about 116.8 million board feet per year. Kilns #1-#3 are subject to the general standards of WAC 173-400.

### 8.4 Dry kiln #4

The double-track dry kiln designated Kiln #4 was moved from the closed Vaagen Bros. Lumber mill in Republic, Washington in 2005. Vaagen identified the drying capacity of the kiln as about 19 million board feet per year. Because boiler #2 operates at maximum steam generating capacity, with steam in excess of kiln demand being used for electrical generation, no increase in steam production was proposed as part of the project. Order No. 05AQ-E139 limited Kiln throughput to 19 million board feet per year and restricted the mix of species dried.

Order No. 05AQ-E139, 1<sup>st</sup> Amendment (issued 7/15/2005) simplified the limit on wood species processed in the dry kiln. The 19 million board feet per year throughput limit remained unchanged.

Order No. 05AQ-E139, 2<sup>nd</sup> Amendment (issued 12/26/2006) approved modifications to the heat transfer system that would increase the drying capacity of the kiln. The Order approved an increase in the throughput limit to 50 million board feet per year. Total drying capacity for the four kilns is approximately 167 million board feet per year.

#### 8.5 Planer Baghouse

In November 2004, Vaagen proposed construction of a new planer facility, including a planer with particulate emissions controlled by a new high efficiency cyclone and baghouse. The proposed new planer was to replace the existing 30+ year-old planer and two low-efficiency cyclones—one on the boiler #2 fuel silo and one on the truck bin silo. Shavings from the new planer are transferred pneumatically to a new high-efficiency cyclone and conveyed to the boiler #2 fuel silo, the truck bin or to ground storage. Particulate emissions from the new cyclone are controlled by a Western Pneumatics baghouse. New pickup points in the planer building collect dust formerly emitted as fugitive emissions. Ecology estimated that the project would decrease potential planer PM<sub>10</sub> emissions from 43 tons to approximately 10.3 tons, and would not increase lumber or steam production. Order No. 04AQ-E137 was issued under WAC 1730400-114—*Requirements for replacement or substantial alteration of emission control technology at an existing stationary source*. The Order includes limits on opacity and grain loading from the baghouse stack.

#### 9 INSIGNIFICANT EMISSION UNITS

WAC 173-401-530: *Insignificant Emission Units* requires the following to be included in the AOP application.

9.1 WAC 173-401-530(1)(a): Emission units for which the actual emissions are less than the emission thresholds established in section WAC 173-401-530(4). *The permittee did not include any emission units in the AOP application.*

9.2 WAC 173-401-530(1)(c): Emission units or activities listed in WAC 173-401-533 with a size or production rate below the specified level. *The permittee listed the following in the AOP application.*

9.2.1 One diesel storage tank of 15,400 gallons, two gasoline storage tanks of 300 gallons each, and one propane storage tank of 500 gallons. [WAC 173-404-533(2)(c): Operation, loading and unloading of VOC storage tanks (including gasoline storage tanks), ten thousand gallons capacity or less, with lids or other appropriate closure, vp not greater than 80 mmHg at 21°C].



9.2.2 Eight natural gas heaters having heating values of 400,000, 360,000, 350,000, 324,000, 2@250,000, 88,000, and 30,000 BTU/hr. [WAC 173-404-533(2)(e): Combustion source less than five million BTU/hr, exclusively using natural gas, butane, propane and/or LPG].

9.3 WAC 173-401-530(1)(d): Emission units or activities which generate only fugitive emissions as defined in WAC 173-400-030(31)<sup>1</sup>. *The permittee did not include any emission units in the AOP application.*

## 10 COMPLIANCE HISTORY

1/22/1973: Ecology issued Regulatory Order No. 04-09, including a compliance schedule for replacement of wigwam burner. Order amended on 1/13/1974, 1/10/1975, and 8/19/1975.

3/18/1977: Ecology issued Order No. DE77-148 for failure to comply with Regulatory Order No. 04-09. Order No. DE77-148 required installation of specified equipment within 10 days of receipt of Order.

1/27/1978: Order No. DE 78-147 required Vaagen to complete engineering report for installation of power generation boiler [Boiler #2 in section 5.2 of AOP] by 2/15/78, followed by submittal of a construction schedule by 3/15/78.

9/21/1978: Order No. DE78-440 was issued after the wigwam burner continued operating beyond the agreed replacement date. Order required construction of new hog fuel boiler ["Boiler #2" in section 5.2 of AOP] by 6/30/79 and discontinuance of wigwam burner operation by 7/1/79.

11/20/1978: Order No DE78-495 approved replacement of wigwam burner with hog fuel boiler ("Boiler #2" in section 5.2 of AOP). There is no notification of initial startup in Ecology files. An Ecology inspection report describes the boiler as under construction on 6/7/1979. A letter from Vaagen Bros. dated 8/7/1980 refers to a stack test conducted on 7/16/1980.

3/20/1979: Order No DE78-495, 1<sup>st</sup> Amendment limited particulate material emissions from the hog fuel boiler to 50 tons per year.

3/22/1988: Ecology issued Notice of Penalty Incurred and Due No. DE 88-156, in the amount of \$1,000 for commercial burning without authorization.

9/19/1998: Stipulation and Agreed Order No. PCHB No. 88-45. Vaagen Bros. Lumber agreed to pay \$200 as settlement for Notice of Penalty Incurred and Due No. DE 88-156.

8/27/1991: Notice of Violation No. DE 91AQ-E125 issued for opacity from hog fuel boiler stack [Boiler #2 in section 5.2 of AOP] measured at 45% for 6-minute interval. No subsequent action was taken.

11/15/1993: Ecology issues Notice of Violation No. DE 93AQ-E133, for opacity violations from the planer shavings cyclone. Opacity measured at 46 & 38%.

11/20/1995: Ecology issues Notice of Violation No. DE95AQ-E153 for violation of 50 tpy particulate limit in Order No. DE 78-495. "Multi-cell boiler" at Colville ["Boiler #2" in section 5.2 of AOP] exceeded 50 tpy in 1991, 1993 and 1994. Each year constitutes a separate violation.

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<sup>1</sup> Correct citation is WAC 173-401-030(38)

*Included in June 17, 1997 Stipulation & Settlement Agreement.*

12/29/1995: Ecology issued Notice of Violation No. AIR-95160 for failure to submit a timely and complete AOP application. Vaagen Appealed: PCHB No. 96-005. *Included in June 17, 1997 Stipulation & Settlement Agreement.*

5/15/1996: Ecology issued Notice of Violation No. DE96AQ-E121 for exceeding 50 tpy particulate limit on hog fuel boiler. *Included in June 17, 1997 Stipulation & Settlement Agreement.*

6/17/1997: Stipulation and Settlement Agreement between Vaagen Bros. Lumber and Ecology, including:

- The following Notices of Violation which were not followed by any other formal enforcement actions:
  - NOV AIR-95160 for failure to submit timely and complete AOP application.
  - NOV DE95AQ-E156 (Republic, WA mill)
  - Penalty DE 95AQ-E157 (late fees for Republic and Ione, WA mills)
  - NOV DE95AQ-E153 for 1991, 1993 and 1994 violations of 50 ton/year particulate limit
  - NOV DE96AQ-E121 for 1997 violation of 50 ton/year particulate limit
- Seven alleged violations for which Ecology had not yet taken administrative action.
- A Settlement, including the following actions by Vaagen:
  - Submit a notice of construction application for installation of an Electrostatic Precipitator (ESP) on boiler #2. Complete startup by 7/1/1998.
  - Continue to maintain and operate Continuous Opacity Monitoring System (COMS) on boiler #2.
  - Spend up to \$100,000 to convert boiler #1 to natural gas using low-NOx burner. Application will be reviewed under RCW 70.94.153 (Replacement or Substantial alteration of Emission Control Technology) if the project results in no emission increase.
- Ecology Determinations: Ecology determines that the AOP application for the Colville mill is complete.
- Cash Settlement: Vaagen agrees to pay \$94,000 to Ecology.

9/19/1997: Ecology issues Order No DE97AQ-E127. The Order approves installation of an electrostatic precipitator (ESP) to control particulate matter emissions from the hog fuel boiler constructed under Order No DE78-495.

9/18/1998: Ecology issues Order No DE98AQ-E132 approving conversion of boiler #1 from hog fuel to natural gas.

2/12/1999: Ecology issues Notice of Violation No. DE 99AQ-E106 issued for:

- Seven opacity excursions from boiler #2 in July and August 1998
- Submittal of incomplete deviation reports
- COMS moved to new location in exhaust stack with no Performance Audits conducted after new installation

- o Failure to notify Ecology that COMS had resumed operation after failure on 9/9/1998.  
*No subsequent action taken.*

12/14/2004: Ecology issues Order No. 04AQ-E137 for installation of a new planer and new cyclones for improved control of particulate matter. Planer will not be used to increase sawmill throughput.

1/3/2005: Ecology issues Order No. 05AQER-E139 for installation of a 4<sup>th</sup> dry kiln (Kiln #4) at the facility. New kiln adds 19 mm bf/year drying capacity. Order includes limits on lumber species processed in Kiln #4.

7/15/2005: Ecology issues 1<sup>st</sup> amendment to Order No. 05AQER-E139. Order replaces limits on lumber species dried in Kiln #4 with the specification that no Southern Pine may be dried in Kiln #4.

12/26/2006: Ecology issues 2<sup>nd</sup> amendment to Order No. 05AQER-E139. Order increases allowable Kiln #4 throughput to 50 mm bf/year.

9/10/2008: Ecology issues Notice of Violation No. 6061 for 12 violations of AOP Monitoring, Recordkeeping and Reporting requirements. On 11/4/2008, Ecology notified Vaagen Bros that based on corrective actions taken and the fact that the violations did not meet the criteria for High Priority Violations, Ecology would not proceed with formal enforcement action.

3/03/2009: Ecology issued Notice of Violation No. 6487 for operating the planer system without the baghouse from 12/15/2008 through 12/24/2008. Approval Condition 1 of Order No. 04AQ-E137,( incorporated into Air Operating Permit No. 03AQER-5910, 1<sup>st</sup> Revision as Approval Condition 5.2.1) requires that the planer system baghouse be online at all times the planer is operating. A decision on formal enforcement action is pending at the time of issuance of AOP No. 08AQ-E277.

## 11 OPERATIONAL FLEXIBILITY

WAC 173-401-650 applies to “reasonably anticipated operating scenarios identified by the source in its application”. *The permittee did not identify any reasonably anticipated operating scenarios in the AOP application.*

## 12 PERMIT SHIELD

12.1 Requirements to which the permit shield is granted are listed in Table 7.1 of the AOP

12.2 The following requirements were listed by the permittee as applicable in the AOP application, but have been found by Ecology to be inapplicable.

12.2.1 WAC 173-400-040(3)(b), *Emission units identified as a significant contributors to nonattainment status.* The facility is not in a nonattainment area.

12.3 The following requirements were listed by the permittee as inapplicable in the AOP application, but have been found by Ecology to be applicable and not subject to the permit shield.

12.3.1 WAC 173-425, *Open Burning.* The regulation applies at all times throughout the state, and as such is applicable to the permittee.

- 12.3.2 RCW 70.94.610, *Burning used oil fuel in land-based facilities*. The regulation applies at all times throughout the state, and as such is applicable to the permittee.
- 12.3.3 RCW 70.94.743, *Outdoor burning — Areas where prohibited*. The regulation applies at all times throughout the state, and as such is applicable to the permittee.
- 12.3.4 RCW 70.94.775, *Outdoor burning — Fires prohibited — Exceptions*. The regulation applies at all times throughout the state, and as such is applicable to the permittee.
- 13 INITIAL OR ONE-TIME NOC REQUIREMENTS: The following requirements have been met, and have not been included in the AOP as ongoing applicable requirements. The requirements listed below are subject to the permit shield
- 13.1 Order No. 04-09, Issued January 3, 1974. *The Order included a compliance schedule for modifications and installation of the boiler No. 1 (originally fired using hogged fuel). The Order included the requirement to permanently shut down the wigwam burner at the Colville mill. All the requirements of this Order have been satisfied.*
- 13.2 Order No. DE 97AQ-E137, Approval Condition 4.13, Source testing using RM 5 (filterable PM), RM 202 (condensable PM) and RM 10 (carbon monoxide) shall be conducted by August 1, 1998. *Testing was conducted on July 21-22, 1998. The test report was received by Ecology on August 19, 1998 and is located in the facility source testing file at Ecology's Eastern Regional Office in Spokane, Washington.*
- 13.3 Order No. DE 78-495, Approval Condition 1, A source test will be completed and a copy of the report sent to the Department of Ecology, Eastern Regional Office within ninety (90) days of the boiler becoming operational. *Testing was conducted on July 16, 1980. The test report was received by Ecology on August 6, 1980.*
- 13.4 Order No. DE 97AQ-E137, Approval Condition 6.2, A copy of the opacity CEMS quality assurance procedures shall be submitted to Ecology for approval within 90 days of installation of the ESP. *A copy of the QA manual for the opacity meter was received by Ecology's Eastern Regional Office in Spokane on August 31, 1998 and is on file.*
- 13.5 Order No. DE 97AQ-E137, Approval Condition 6.3, The ESP Ash Handling and Disposal Plan shall be developed and a copy sent to Ecology for review within ninety (90) days of installation of the ESP. *The ash handling and disposal plan is described in a letter dated 8/15/1998. The plan is updated in a letter dated 10/11/02 from Mr. Robert Heater of Vaagen Brothers Lumber.*
- 13.6 Order No. DE 97AQ-E137, Approval Conditions 7 (various components) and 9.3, Per the stipulation and settlement agreement, Part 6-Future Vaagen Actions, the permittee shall meet the action items and dates per the following compliance schedule:
- certified progress report submitted by 11/15/1997. *Received 11/13/1997.*
  - shop fabrication (of the ESP) completed by 5/1/1998. *Received 4/1/1998*
  - certified progress report submitted by May 15, 1998, *Received 5/15/1998*
  - field erection (of the ESP) completed by June 1, 1998, *Received 6/24/1998*

- start up completed by July 1, 1998, *Received 6/24/1998*
  - compliance test completed by August 1, 1998. *Testing took place on 7/21-22/1998*
- 13.7 Order No. DE 88-E172, Approval Condition 4, The permittee shall submit any ESP voltage-current curves conducted by the vendor during startup testing. *The air load curves are included in the source test report received by Ecology on August 19, 1998.*
- 13.8 Order No. DE 98AQ-E132, Approval Conditions 5, 5.1, 5.1.1, 5.1.2, Within 60 days of achieving the maximum (steam) production rate at which the boiler will be operated following conversion to a low-NO<sub>x</sub> burner, conduct testing for CO and NO<sub>x</sub> emissions. *Ecology received the test report on 3/31/1999.*
- 13.9 Order No. DE 98AQ-E132, Approval Condition 4, A site specific O&M manual shall be developed for the natural gas fired boiler and completed within 180 days of issuance of the Order. *Ecology received the O&M manual on 3/31/1999.*
- 13.10 Order No. DE 98AQ-E132, Approval Condition 6.5, The permittee must notify Ecology prior to the startup of the converted natural gas boiler. *Notification was sent to Ecology on 3/25/1999.*
- 13.11 Order No. 04AQ-E137, Approval Condition 6.1, The Order becomes invalid if: construction does not commence within eighteen (18) months of receipt of the final renewal permit, construction is discontinued for eighteen (18) months or more, or construction is not completed within a reasonable time. *All construction requirements were completed within 18 months.*
- 13.12 Order No. 04AQ-E137, Approval Condition 9.4 required submittal of ESP voltage-current curves generated during startup testing. *The curves were submitted, and are in Ecology files.*
- 13.13 Order No. 05AQ-E139, Approval Condition 4.1, The Order becomes invalid if: construction does not commence within eighteen (18) months of receipt of the final renewal permit, construction is discontinued for eighteen (18) months or more, or construction is not completed within a reasonable time. *The order was issued on January 3, 2005. Vaagen reported startup of the kiln in March 2005.*

14 STREAMLINING: No applicable requirements underwent streamlining for purposes of this AOP.

#### 15 ENFORCEABILITY

Unless specifically designated otherwise, all terms and conditions of the Air Operating Permit, including any provisions designed to limit the source's potential to emit, are enforceable by EPA, and citizens, under the Federal Clean Air Act.

Those terms and conditions which are designated as state-only enforceable (S); are not included in the current State Implementation Plan (SIP) and are enforceable only by Ecology. All terms and conditions of the Air Operating Permit are enforceable by Ecology.

For permit conditions that have been included in the SIP, two dates are given. The first date is the date for the regulation that was adopted into the SIP. The second date is for the current version of the regulation. If a regulation is cited with no reference to enforceability, it is federally enforceable. For example, Standard condition 2.9.1 is followed by the notation "[WAC 173-400-107, 9/20/93, 9/6/07 (S)]". In this case, the 9/20/93 version of WAC 173-400-107(3) is included in the SIP and is federally enforceable. The 9/6/07 version of WAC 173-400-107 is State-only enforceable.

## 16 EXPLANATION OF MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS (MRRR)

### **No additional MRRR Required**

No specific monitoring can reasonably be required for these conditions. The permittee is required to certify compliance with these conditions annually. Determination of compliance may be based on a reasonable and good faith effort to identify any deviations during the reporting period.

### **1M: Complaint Response**

This MRRR was designed to ensure that complaints from the public are recognized, investigated and any appropriate corrective action taken. Recordkeeping provides documentation of all complaints and the facility response to each.

### **2M: Visible emissions walk-around**

Periodic walk-around surveys are a simple and direct method of detecting the presence of visible emissions. The use of visible emission surveys as monitoring for particulate matter standards is appropriate for general process units which are not large enough to justify performance testing by EPA reference methods 5 and/or 202. An increase in visible emissions is also a general indication that good air pollution control practices are not being used. Ecology believes that a visible emissions/no visible emissions evaluation is acceptable monitoring for particulate emissions because visible emissions should appear before there is a compliance problem.

### **3M: Visible Emissions surveys for sources with opacity standards**

This MRRR is applied to emission units that are subject to an opacity standard, but are not equipped with continuous opacity monitoring systems (COMS). A monthly visible emission observation is considered to be sufficient monitoring for the emission units at the source. The monitoring provides periodic evaluation of each emission point, while requiring visible emission testing using EPA Method 9 or Department of Ecology Method 9A only when excess visible emissions are observed and cannot be eliminated quickly.

### **4M: Annual Review of Documents**

The monitoring has been designed to require periodic reviews of Operation and Maintenance manuals and other documents in order to evaluate whether current operational practices are being conducted in a manner consistent with the information upon which permitting has been based. The recordkeeping and reporting required ensure that practices which are not consistent with the submitted information will be addressed in a timely manner.

### **5M: Fuel type**

WAC 1730-400-040 (6) limits SO<sub>2</sub> emissions from combustion sources to 1,000 ppm, corrected to 7% oxygen. Based on stoichiometric analysis, the exhaust from boiler #1 or boiler #2 will not exceed 1,000 ppm while burning low-sulfur fuels.

WAC 1730-400-050(1) limits emissions of particulate material from combustion and incineration units to less than 0.2 grains/dscf of exhaust gas. Based on stoichiometric analysis, the exhaust from boiler #1 will not exceed 0.01 grains/dscf while combusting natural gas.

### **6M: Hog fuel boiler stack testing**

This monitoring has been specified to rely on periodic source testing in order to gain a reasonable assurance of compliance with the various pollutant limits that apply to the hog fuel boiler. The monitoring includes requirements from Order No.DE97AQ-E137

**7M: CAM monitoring, recordkeeping and reporting**

This monitoring has been specified to apply generally to units subject to Compliance Assurance Monitoring (CAM). The monitoring is included specifically as required by 40 CFR 64.

**8M: Continuous Opacity Monitoring System (COMS)**

Order No. DE97AQ-E137 includes requirements for installation, operation and maintenance of a COMS. Additional recordkeeping requirements have been included as gap-filling.

**9M: Hog fuel boiler monitoring, recordkeeping and reporting**

Includes specific monitoring, recordkeeping and reporting requirements from Order No. DE97AQ-E137. Additional recordkeeping requirements have been included as gap-filling.

**10M: Hog fuel boiler O&M Manual**

Includes specific O&M Manual requirements from Section 6 of Order No. DE97AQ-E137.

**11M: CAM monitoring, recordkeeping and reporting**

Includes specific actions required by 40 CFR 64.3, 64.4(d), 64.7(d), 64.7(e) and 64.8.

**12M: Natural gas boiler monitoring, recordkeeping and reporting**

Includes specific monitoring, recordkeeping and reporting requirements from Order No. 98AQ-E132.

**13M: Natural gas boiler testing requirements**

Includes specific testing requirements from Order No. 98AQ-E132.

Approval Condition 5.2 of Order No. DE 98AQ-E132 allows for lengthening the frequency of source tests if satisfactory performance is proven by source testing and a written request is submitted to Ecology, and approved by Ecology in writing.

MRRR 16M 4) of the “pre-draft” AOP 03AQER-5910 sent to Vaagen Bros. on 01/07/2003 required stack testing at least once every five years

The Vaagen Bros. response to the “pre-draft” (2/14/03) included a request to modify the testing frequency to once every 10 years.

Ecology’s response on 2/26/03 included a change in testing frequency to once every 10 years

**14M: Natural gas boiler O&M Manual**

Includes specific O&M Manual requirements from Section 4 of Order No. DE 98AQ-E132.

**15M: Dry Kiln #4 recordkeeping**

Includes specific recordkeeping requirements from Order No. 05AQ-E139 2<sup>nd</sup> Amendment.

**16M : Planer monitoring, recordkeeping and reporting**

Includes specific monitoring, recordkeeping and reporting requirements from Order No. 04AQ-E137.

**17M: GAP-FILLING**

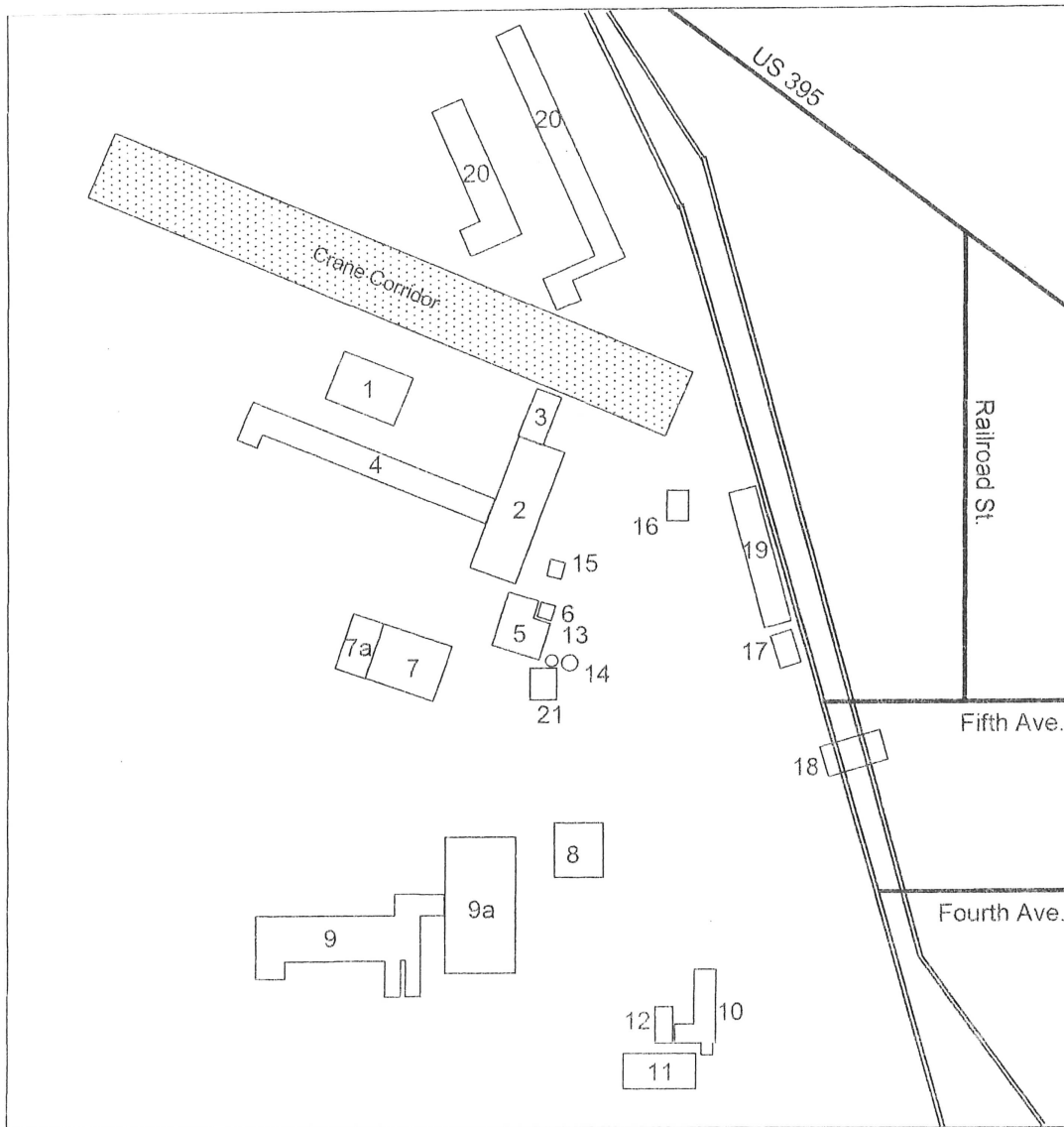
Where an applicable requirement does not include sufficient monitoring, recordkeeping and reporting to satisfy WAC 173-401-615(1) & (2), the permit will establish adequate monitoring, recordkeeping and reporting. This is known as gap-filling. Applicable requirements for which gap-filling is proposed can be identified by the note following the MRRR citation, indicating that at least a portion of the MRRR is from gap-filling.

## 17 PUBLIC PARTICIPATION

No comments were received during the public comment period and EPA review period. Any comments received are kept on file at Ecology's Eastern Region Office in Spokane, along with Ecology's response to the comments.



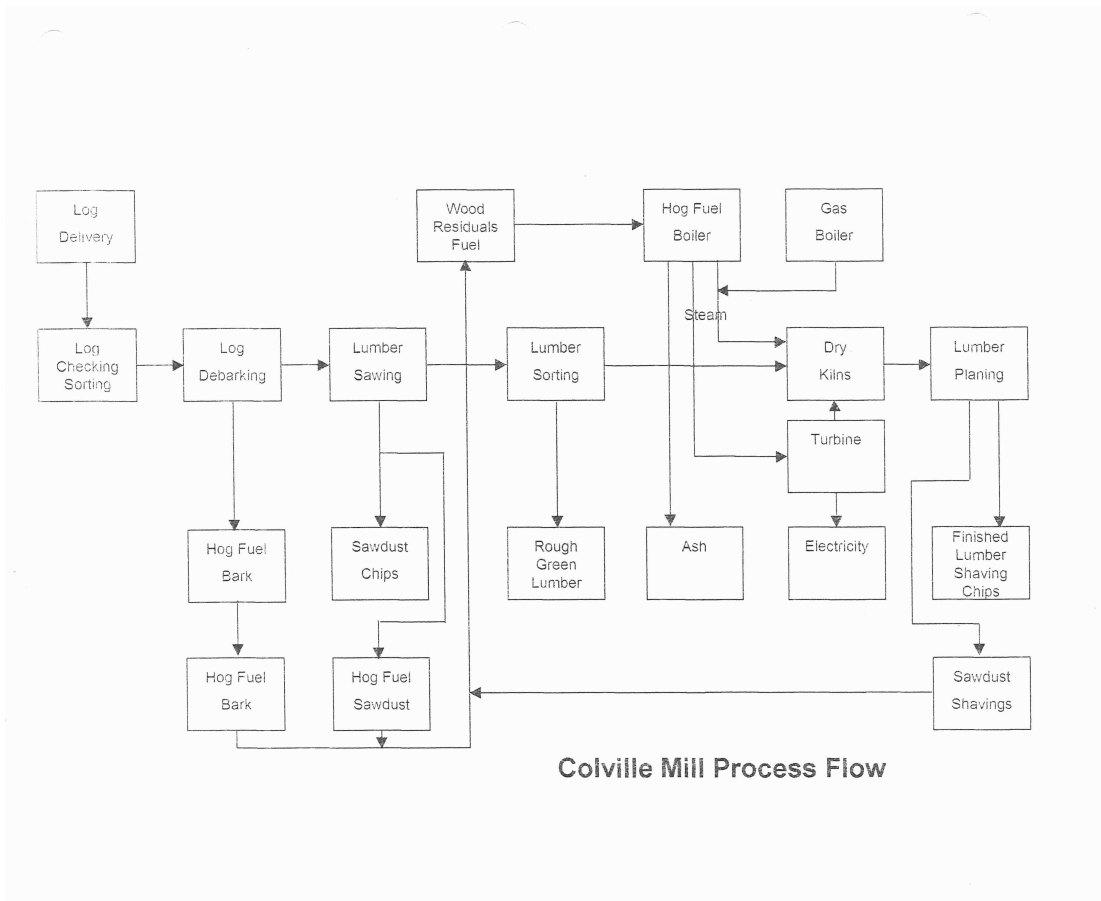
Attachment 1: Vaagen Bros. Lumber site plan



- |   |                              |
|---|------------------------------|
| 1. Debarker and Whole Log Chipper       | 11. Vehicle Maintenance Shop |
| 2. Hewsaw and Doublecut Saw             | 12. Storage                  |
| 3. Debarking Area                       | 13. Small Silo (Shavings)    |
| 4. Lumber Sorter                        | 14. Hog Fuel Silo            |
| 5. Boilers and Electricity Cogeneration | 15. Hog Fuel Prep            |
| 6. ESP                                  | 16. Storage Bins             |
| 7. Dry Kilns                            | 17. Chip Pit                 |
| 7a. New Dry Kiln                        | 18. Railcar Loading Hopper   |
| 8. Dry Shed                             | 19. Chip Bunker              |
| 9. Old Planer                           | 20. Log Processing           |
| 9a. New Planer Addition                 | 21. New Baghouse             |
| 10. Fabrication Shop                    |                              |

**Site Map**  
**Colville Mill**  
**Vaagen Brothers Lumber**

Attachment 2: Vaagen Bros. Lumber process flow



Attachment 3: Vaagen Bros. Lumber Location Map.

