BEFORE THE BOARD OF HEALTH AND ENVIRONMENTAL SCIENCES
OF THE STATE OF MONTANA

In the Matter of Compliance of Montana Mokko, Kalispell, Montana, with 40 CFR 50.6, National Ambient Air Quality Standard for Particulate Matter and ARM 16.8.821, Montana Ambient Air Quality Standard for PM-10	STIPULATION

The Department of Health and Environmental Sciences ("Department"), and Montana Mokko ("MT Mokko"), hereby stipulate and agree to all the following Paragraphs 1-18 inclusive, including the exhibits as referenced below, in regard to the above-captioned matter and present the same for consideration and adoption by the Board of Health and Environmental Sciences ("Board"):

A. BACKGROUND:

1. On July 1, 1987, the United States Environmental Protection Agency ("EPA") promulgated national ambient air quality standards for particulate matter (measured in the ambient air as PM-10, or particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers) ("particulate matter NAAQS"). The annual standard of 50 micrograms per cubic meter (annual arithmetic mean), and the 24-hour standard of 150 micrograms per cubic meter (24-hour average concentration), were promulgated by EPA pursuant to Section 109 of the Federal Clean Air Act, 42 U.S.C. 7401, et seq., as

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amended by the Clean Air Act Amendments of 1990 ("Act").

2. Section 110 of the Act requires each state to submit an implementation plan for the control of each air pollutant for which a national ambient air quality standard has been promulgated. Since a standard has been promulgated for particulate matter, the State of Montana is required to submit an implementation plan for particulate matter to EPA.

3. Section 75-2-202, MCA, requires the Board to establish ambient air quality standards for the state. Sections 75-2-111(3) and 75-2-401, MCA, empower the Board to issue orders upon a hearing before the Board concerning compliance with national and state ambient air quality standards.

4. On April 29, 1988, the Board adopted state ambient air quality standards for PM-10, including an annual standard of 50 micrograms per cubic meter (annual arithmetic mean), and a 24-hour standard of 150 micrograms per cubic meter (24-hour average concentration). ARM 16.8.821 ("PM-10 MAAQS").

5. On August 7, 1987, the Kalispell area was designated as a Group I area by EPA. 52 Fed. Reg. 29383. Pursuant to the Federal Clean Air Act of all Group I areas, including Kalispell, are designated by operation of law to be in nonattainment for the particulate matter NAAQS. 42 U.S.C. 7407(d)(4)(B), as amended. Further, the Act designated the Kalispell area as a "moderate" PM-10 nonattainment area. 42 U.S.C. 7513(a), as amended. For areas designated as "moderate", the state was required to submit to EPA an implementa-

tion plan no later than one year from enactment of November 15, 1990 amendments to the Act. 42 U.S.C. 7513a(a)(2). The area encompassed in the moderate nonattainment designation (hereafter "Kalispell nonattainment area") generally includes the City of Kalispell and that portion of Flathead County within the vicinity of the boundaries of the City of Kalispell. A map of the Kalispell nonattainment area is attached to the Stipulation as Exhibit A and by this reference is incorporated herein in its entirety as part of this document.

6. Results of air quality sampling and monitoring from 1986 through 1991 have demonstrated violations within the Kalispell nonattainment area of the 24-hour standard contained in both the particulate matter NAAQS and the PM-10 NAAQS.

7. On November 25, 1991, Governor Stephens submitted to EPA an implementation plan for Kalispell, Montana, demonstrating attainment of the particulate matter NAAQS. The implementation plan relied upon the receptor modeling technique known as chemical mass balance (CMB) to identify the major emission sources contributing to noncompliance. The implementation plan consisted of an emission control plan that controlled fugitive dusts emissions from roads, parking lots, construction and demolition project, and barren ground.

8. On April 29, 1992, EPA notified Governor Stephens that the Kalispell implementation plan could be conditionally approved if certain deficiencies were corrected. A major

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deficiency identified by EPA was that the emission limitations set for industrial sources (or in some cases for industrial sources where there was no emission limitation set at all) could result in significant emission increases above the emission levels occurring during the source apportionment modeling study (CMB). Furthermore, such potential emissions increases were not accounted for in the particulate matter NAAQS demonstration of attainment.

9. On June 15, 1992, Governor Stephens submitted a letter to EPA committing to additional analysis utilizing dispersion modeling technique on the Kalispell area industrial sources. If the dispersion modeling indicted that a source significantly impacted the nonattainment area, the Governor further committed to developing new emission limitations on the Kalispell area industrial sources which would demonstrate attainment of the particulate matter NAAQS.

10. The department has determined that emission limitations applicable to MT Mokko were in some cases nonexistent (no permit requirements) or significantly higher than actual emissions during the CMB modeling study.

11. Dispersion modeling analysis has been conducted by the department for the Kalispell nonattainment area. The dispersion modeling incorporates the allowable emission rates from the sources of PM-10 emissions in the Kalispell nonattainment area to determine the extent of their respective contributions to the ambient levels of PM-10. Based upon the

results of this modeling, the PM-10 emissions from MT Mokko were identified as a significant contributor to ambient levels of PM-10 in the Kalispell nonattainment area. Furthermore, both parties agree that based upon these modeling results, revised emission limitation for MT Mokko are necessary to demonstrate compliance with the particulate matter NAAQS. The department has performed additional modeling using revised emission rates for MT Mokko and other sources in the Kalispell area to determine the level of emissions which achieves the particulate matter NAAQS. Based upon these modeling results, both parties agree that revised emission limitation must be imposed upon MT Mokko.

B. BINDING EFFECT

12. The parties to this Stipulation agree that any such emission limitations placed on MT Mokko must be enforceable by both the department and EPA. To this end, the parties have negotiated specific limitations and conditions that are to be applicable to MT Mokko. The specific conditions which comprise these limitations are contained in Exhibit B to this Stipulation (entitled "Emission Limitations and Conditions, Montana Mokko") which is attached hereto and by this reference is incorporated herein in its entirety as part of this document.

13. Both parties understand and agree that if EPA finds the Kalispell implementation plan incomplete or disapproves

it or if future violations of the particulate matter NAAQS or PM-10 standard NAAQS occur, this Stipulation may be renegotiated and made enforceable through an associated Board Order or simply superseded by a subsequent order of the Board upon notice of hearing.

14. The Board is the state agency that is primarily responsible for the development and implementation of the State Implementation Plan under the Federal Clean Air Act. Under Sections 75-2-101, et seq., the Board is required to protect public health and welfare by limiting the levels and concentrations of air pollutants within the state and such responsibility includes the adoption of emission standards (Section 75-2-201, MCA) and the issuance of orders (Sections 75-2-111(3), 75-2-401, MCA) to effectuate compliance with national and state ambient air quality standards.

15. The parties to this Stipulation agree that upon finding the limitations and conditions contained in Exhibit B to this Stipulation to be necessary for the Kalispell non-attainment area to meet the particulate matter NAAQS and the PM-10 NAAQS, the Board has jurisdiction to require the imposition of such limitations and conditions, and may adopt the same as enforceable measures applicable to MT Mokko.

16. The conditions and limitations contained in Exhibit B to this Stipulation are consistent with the provisions of the Montana Clean Air Act, Title 75, Chapter 2, MCA, and rules promulgated pursuant to statute.

17. Any obligations in this Stipulation and attached Exhibit B that are more stringent than conditions set forth in the permit issued to the air source/party to this agreement (if issued), supersede the less stringent permit conditions.

18. Accordingly, the parties to this Stipulation agree that it would be consistent with the terms and intent of this Stipulation for the Board to issue an Order which requires the imposition of the terms in this Stipulation and the limitations and conditions contained in Exhibit B of this Stipulation, and adopts the same as enforceable measures applicable to MT Mokko.

MONTANA MOKKO

BY _____

BY _____
Attorney

DATE 9/9/93

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

BY _____
Robert J. Robinson
Director

BY _____
Timothy R. Baker
Attorney

DATE 9/17/93

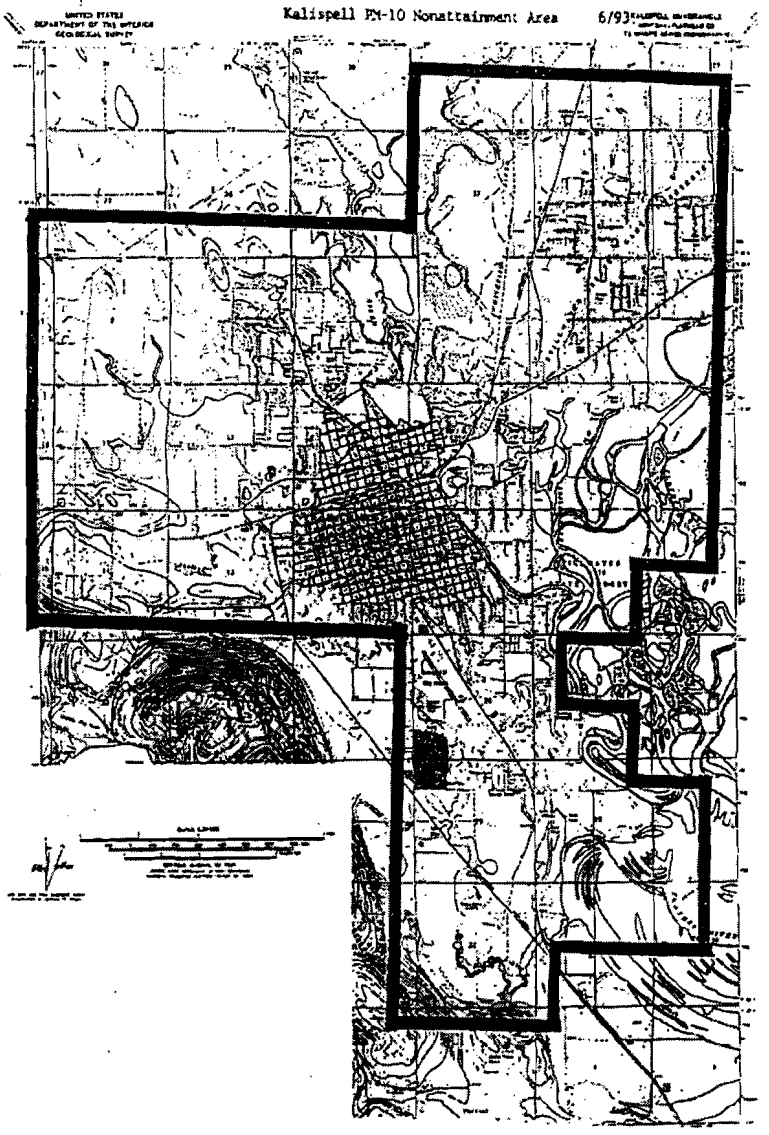
Kalispell PM-10 Nonattainment Area
6/93

EXHIBIT E

Montana Mokko
P.O. Box 2820
Kalispell, MT 59901

The above-named company is hereinafter referred to as "MT Mokko."

SECTION I: Affected Facilities

A. Plant Location:

A 54 MMBF/yr lumber mill located at 555 Whitefish Stage Road, in Kalispell, Montana (Section 22, Township 29 North, Range 21 West, Flathead County).

B. Affected Equipment and Facilities:

1. One (1) 6 MMBTU/hr natural gas boiler (1970);
2. Dry kiln;
3. Log debarker;
4. Log sawing deck;
5. Slab chipper;
6. Chip bin rail loadout with large box;
7. Lumber planer with cyclone;
8. Finger jointer with cyclone;
9. Shaving bin truck loadout with two (2) cyclones;
10. Fugitive emission from haul trucks and log handling.

SECTION II: Limitations and Conditions

A. Emission Limitations and Conditions:

1. MT Mokko shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968 that exhibit an opacity[1] of twenty percent (20%) or greater averaged over six (6) consecutive minutes. This applies to stack emissions from the slab chipper, planer cyclone, finger jointer cyclone, two (2) shaving bin cyclones and the natural gas boiler. (ARM 16.8.1404)

2. MT Mokko shall not cause or authorize emissions to be discharged into the atmosphere from access roads, parking lots, log decks, or the

[1] Opacity shall be determined according to 40 CFR, Part 60, Appendix A, Method 9 Visual Determination of Opacity of Emissions from Stationary Sources.

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general plant property any visible fugitive emissions that exhibit opacity[2] of 5% or greater averaged over six (6) consecutive minutes. This applies to fugitive emissions from any hauling, handling, loading, and unloading operation. (RACT)

3. MT Mokko shall treat all unpaved portions of the haul roads, access roads, parking lots, log decks, and the general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 5% opacity[2] limitation. (RACT)

4. MT Mokko shall operate and maintain all emission control equipment, identified in Section I.B, as designed to provide the maximum control of air pollutants.

B. Operational Reporting Requirement:

MT Mokko shall supply the Department of Health and Environmental Sciences Air Quality Bureau with an annual emission inventory for the listed emission points. The annual emission inventory report must be submitted in writing to the department by March 1 of the following calendar year. The emissions inventory shall include the following production and emission inventory information:

1. Sawmill: - total hours of operation.
   - total mill cut for the year.

2. Planer: - total hours of operation.
   - total mill cut for the year.

3. Finger Jointer: - total hours of operation.
   - total mill cut for the year.

4. Slab Chipper: - total hours of operation.

5. Million cubic feet of natural gas burned in the natural gas boiler.

6. Hours of operation and flow rate for each of the following cyclones:

   a. Planer cyclone;
   b. Finger jointer cyclone;
   c. Shaving bin cyclones from the planer;
   d. Shaving bin cyclones from the finger jointer.

7. Fugitive dust information consisting of a listing of all plant vehicles including:

[2] Opacity shall be determined according to 40 CFR, Part 60, Appendix A, Method 9 Visual Determination of Opacity of Emissions from Stationary Sources.

a. Vehicle type;
b. Vehicle weight loaded;
c. Vehicle weight unloaded;
d. Number of tires on vehicles;
e. Average trip length;
f. Number of trips per day;
g. Average vehicle speed;
h. Area of activity; and
i. Vehicle fuel usage (gasoline or diesel in gallons) - annual total.

8. Fugitive dust control for haul roads and general plant area.

a. Hours of operation of water trucks.
b. Application schedule for chemical dust suppressant if applicable.

C. The department may require additional emissions testing on sources in the plant per ARM 16.8.704 Testing Requirements.

D. MT Mokko must maintain a copy of the air quality stipulation at the Kalispell planer mill and make that copy available for inspection by department personnel upon request.

E. MT Mokko shall comply with all other applicable state, federal and local laws and regulations.

Section III: General Conditions

A. Inspection - The recipient shall allow the department's representatives access to the source at all reasonable times for the purpose of making inspections, surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this stipulation.

B. Compliance with Statutes and Regulations - Specific listing of requirements, limitations, and conditions contained herein does not relieve the applicant from compliance with all applicable statutes and administrative regulations including amendments thereto, nor waive the right of the department to require compliance with all applicable statutes and administrative regulations, including amendments thereto.

C. Enforcement - Violations of limitations, conditions and requirements contained herein may constitute grounds for penalties.

Analysis of Conditions
Montana Mokko

I. Introduction/Process Description

Montana Mokko operates an existing lumber mill located at 955 Whitefish Stage Road, in Kalispell, Montana. The mill receives logs from area forest product companies and stockpiles them in the log deck prior to processing them in the lumber mill. Montana Mokko is currently leasing the Kalispell Pole and Timber site to expand their log storage area.

The logs are debarked, cut into rough lumber, and stacked in bundles to be dried. The sawmill uses conveyor belts to transfer the bark and sawdust to their respective bins. The emissions from these sources are negligible. The rough lumber is then air dried or dried in the dry kiln to reduce shrinkage in the final dimension cut lumber. The dry kiln is heated by a natural gas boiler. The log slabs are run through a chipper and the wood chips are collected and transferred pneumatically to a target box and loaded into rail cars.

Once the lumber is dry it is run through a thickness planer where the rough cut lumber is planed to the proper dimensions. The planed lumber is then cut to the proper length using a trim saw. The final dimension lumber is then inspected and shipped. The planer shavings and saw dust from this process are collected and transferred pneumatically to the wood shavings bin and loaded into trucks.

In 1991, Montana Mokko constructed a new building for a finger jointer process. This process takes trim blocks and off-grade lumber and cuts out knots and joins the pieces to make door and window moldings. Montana Mokko receives the lumber supplies for the finger jointer from their own lumber mill and trim blocks and off-grade lumber from other area lumber mills. The sawdust and shavings from this process are collected and transferred pneumatically to the wood shavings bin and loaded into trucks.

Montana Mokko originally had a permit to operate a tepee burner (Permit #460), which is used for the disposal of the wood wastes generated from the saw mill and planing processes. In 1976 a new shavings bin was installed for the collection, storing, and shipping of marketable wood wastes. From 1976 until June 1992, the tepee burner was limited to cleanup and overflow of shavings when the bin is full. In June 1992, the tepee burner was dismantled and alternate means of disposing of the unmarketable wood wastes are now being used.

In 1992, Montana Mokko laid approximately 20,000 sq. ft. of asphalt in the lumber yard in order to control fugitive dust from the use of forklifts. Also, the main runways in the log deck were graveled with large rock.

II. Applicable Rules and Regulations

A. ARM 16.8.821, Ambient Air Quality Standards for PM-10:

This section requires that the hourly and annual average concentrations of PM-10 in the ambient air not exceed the set standards. (See Existing Air Quality and Monitoring Requirements, Section III)

B. ARM 16.8, Subchapter 9, Prevention of Significant Deterioration of Air Quality (PSD):

ARM 16.8.921 Definitions. MT Mokko's lumber mill is not a "major stationary source" because it is not a listed source and does not have the potential to emit more than 250 tons of any pollutant.

C. ARM 16.8, Subchapter 14, Emission Standards, including but not limited to:

1. ARM 16.8.1401 Particulate Matter, Airborne. This section requires reasonable precautions for fugitive emissions sources and Reasonably Available Control Technology (RACT) for existing fugitive sources located in a nonattainment area. The department, in consultation with EPA, has determined that the use of chemical stabilization or paving on major haul roads will satisfy these requirements.

2. ARM 16.8.1404 Visible Air Contaminants. This section requires an opacity limitation of 20% for all stacks or vents installed after November 23, 1968.

III. RACM/RACT Determination

Under section 189(a)(1)(C) of the amended Clean Air Act of 1990, moderate area State Implementation Plans (SIP's) must contain "reasonably available control measures" (RACM) for the control of PM-10 emissions. RACM for stationary sources is the application of reasonably available control technology (RACT). Since the Kalispell area has been designated as nonattainment for PM-10 by EPA, RACT must be applied to those stationary sources which cause or contribute to the nonattainment area.

A RACT determination is required for:

A. Natural Gas Boiler

The natural gas boiler was installed in 1970 and is therefore limited to 20% opacity as per ARM 16.8.1404. Since natural gas is a clean burning fuel with negligible PM-10 emissions, the department has determined that RACT for this source is no controls.

B. Wood Waste Collection Cyclones

The planer cyclone, finger jointer cyclone, and two (2) shaving bin cyclones were installed after 1968 and are therefore limited to 20% opacity as per ARM 16.8.1404. A cyclone would provide the best level of particulate control (85%). MT Mokko currently uses a cyclone for particulate control from the slab chipper, planer, finger jointer, and two cyclones on the shaving bin. The department has determined that the cyclones will constitute RACT for these sources.

C. Fugitive Road Dust Emissions

RACT for fugitive road dust emissions for sources of this type has been determined by the department to be use of water or chemical stabilization so as to maintain compliance with a 5% opacity limitation.

IV. Emissions Inventory

Lumber & Planer Mill

Annual Emission Rates (Potential) *

Source	TSP	PM-10	NOX	VOC	CO	SOX
	tons/year					
Natural Gas Boiler	0.36	0.36	3.62	0.15	0.92	0.02
Log Debarking	2.25	1.24				
Log Sawing	4.50	2.47				
Chipper Cyclone	8.76	3.50				
Chip Bin Rail Loadout	2.00	0.71				
Planer Cyclone	8.76	3.50				
Finger Jointer Cyclone	8.76	3.50				
Shaving Bin Cyclone from Planer	8.76	3.50				
Shaving Bin Cyclone from Jointer	8.76	3.50				
Shaving Bin Truck Loadout	54.86	32.92				
Hog Fuel Bin Truck Loadout	12.72	4.58				
Haul Roads - Fugitives	0.32	0.11				
Log Deck - Fugitives	3.61	1.30				
Total Emissions	126.43	61.21	3.62	0.15	0.92	0.02

* Based on operating 8760 hours/year.

Daily Emission Rates (Potential) **

Source	TSP	PM-10	NOX	VOC	CO	SOX
	lbs/day					
Natural Gas Boiler	1.97	1.97	20.16	0.84	5.04	0.09
Log Debarking	12.32	6.78				
Log Sawing	24.64	13.55				
Chipper Cyclone	48.00	19.20				
Chip Bin Rail Loadout	10.94	3.89				
Planer Cyclone	48.00	19.20				
Finger Jointer Cyclone	48.00	19.20				
Shaving Bin Cyclone from Planer	48.00	19.20				
Shaving Bin Cyclone from Jointer	48.00	19.20				
Shaving Bin Truck Loadout	300.62	180.37				
Hog Fuel Bin Truck Loadout	69.68	25.09				
Haul Roads - Fugitives (Daily)	2.71	0.97				
Log Deck - Fugitives (Daily)	30.70	11.05				
Total Emissions	693.60	339.68	20.16	0.84	5.04	0.09

** Based on operating 24 hours/day.

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Emission Factor: 13.7 lbs/10^6 ft^3 gas (AP-42, 1.4-1, Revised Oct 92)
Control Efficiency: 0.0%
Fuel Consumption: 52.56 10^6 ft^3/yr (Maximum Design)
Calculations: 52.56 * 10^6 ft^3/yr * 13.7 lbs/10^6 ft^3 gas * 0.0005 tons/lb = 0.36 tons/yr

PM-10 Emissions:

Emission Factor: 13.7 lbs/10^6 ft^3 gas (AP-42, 1.4-1, Revised Oct 92)
Control Efficiency: 0.0%
Fuel Consumption: 52.56 10^6 ft^3/yr (Maximum Design)
Calculations: 52.56 * 10^6 ft^3/yr * 13.7 lbs/10^6 ft^3 gas * 0.0005 tons/lb = 0.36 tons/yr

NOx Emissions:

Emission Factor: 140 lbs/10^6 ft^3 gas (AP-42, 1.4-1, Revised Oct 92)
Control Efficiency: 0.0%
Fuel Consumption: 52.56 10^6 ft^3/yr (Maximum Design)
Calculations: 52.56 * 10^6 ft^3/yr * 140 lbs/10^6 ft^3 gas * 0.0005 tons/lb = 3.68 tons/yr

VOC Emissions:

Emission Factor: 5.8 lbs/10^6 ft^3 gas (AP-42, 1.4-1, Revised Oct 92)
Control Efficiency: 0.0%
Fuel Consumption: 52.56 10^6 ft^3/yr (Maximum Design)
Calculations: 52.56 * 10^6 ft^3/yr * 5.8 lbs/10^6 ft^3 gas * 0.0005 tons/lb = 0.15 tons/yr

CO Emissions:

Emission Factor: 35 lbs/10^6 ft^3 gas (AP-42, 1.4-1, Revised Oct 92)
Control Efficiency: 0.0%
Fuel Consumption: 52.56 10^6 ft^3/yr (Maximum Design)
Calculations: 52.56 * 10^6 ft^3/yr * 35 lbs/10^6 ft^3 gas * 0.0005 tons/lb = 0.92 tons/yr

SOx Emissions:

Emission Factor: 0.6 lbs/10^6 ft^3 gas (AP-42, 1.4-1, Revised Oct 92)
Control Efficiency: 0.0%
Fuel Consumption: 52.56 10^6 ft^3/yr (Maximum Design)
Calculations: 52.56 * 10^6 ft^3/yr * 0.6 lbs/10^6 ft^3 gas * 0.0005 tons/lb = 0.02 tons/yr

Log Debarking

Lumber Production: 54.00 MMBF/yr (Based on Maximum Production Rate)
Tons of logs processed: 54.00 MMBF/yr * 4164 tons/MMBF = 224,856 tons/yr (ACB Estimate)

TSP Emissions:

Emission Factor: 0.02 lbs/ton (3-07-008-01, AFSSCC page 143)
Calculations: 224,856 tons/yr * 0.02 lbs/ton * 0.0005 tons/lb = 2.25 tons/yr

PM-10 Emissions:

Emission Factor: 0.011 lbs/ton (3-07-008-01, AFSSCC page 143)
Calculations: 224,856 * tons/yr * 0.011 lbs/ton * 0.0005 tons/lb = 1.24 tons/yr

Log Sawing

Lumber Production: 54.00 MMBF/yr (Based on Maximum Production Rate)
Tons of logs processed: 54.00 MMBF/yr * 4164 tons/MMBF = 224,856 tons/yr (ACB Estimate)

TSP Emissions:

Emission Factor: 0.04 lbs/ton (Based on knowledge of the process)
Calculations: 224,856 tons/yr * 0.04 lbs/ton * 0.0005 tons/lb = [illegible] tons/yr

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Chipper Cyclone

Hours of operation: 8760 hrs

TSP Emissions:

Emission Factor: 2.00 lbs/hr (3-07-008-08, AFSSCC page 144)
Calculations: 8760 * hrs * 2.00 lbs/hr * 0.0005 tons/lb = 8.76 tons/yr

PM-10 Emissions:

Emission Factor: 0.80 lbs/hr (3-07-008-08, AFSSCC page 144)
Calculations: 8760 * hrs * 0.80 lbs/hr * 0.0005 tons/lb = 3.50 tons/yr

Chip Bin Rail Loadout

Lumber Production: 54.00 MMBF/yr (Based on Maximum Production Rate)
Chip Production: 411 tons/MMBF (AOB Estimate)

TSP Emissions:

Emission Factor: 0.18 lbs/ton (Estimate based on knowledge of process & size of material)
Calculations: 54.00 * MMBF/yr * 411 tons/MMBF * 0.18 lbs/ton * 0.0005 tons/lb = 2.00 tons/yr

PM-10 Emissions:

Emission Factor: 0.064 lbs/ton (Estimate based on knowledge of process & size of material)
Calculations: 54.00 * MMBF/yr * 411 tons/MMBF * 0.06 lbs/ton * 0.0005 tons/lb = 0.71 tons/yr

Planer Cyclone

Hours of operation: 8760 hrs

TSP Emissions:

Emission factor: 2.00 lbs/hr (3-07-008-08, AFSSCC page 144)
Calculations: 8760 * hrs * 2.00 lbs/hr * 0.0005 tons/lb = 8.76 tons/yr

PM-10 Emissions:

Emission Factor: 0.80 lbs/hr (3-07-008-08, AFSSCC page 144)
Calculations: 8760 * hrs * 0.80 lbs/hr * 0.0005 tons/lb = 3.50 tons/yr

Finger Jointer Cyclone

Hours of operation: 8760 hrs

TSP Emissions:

Emission Factor: 2.00 lbs/hr (3-07-008-08, AFSSCC page 144)
Calculations: 8760 * hrs * 2.00 lbs/hr * 0.0005 tons/lb = 8.76 tons/yr

PM-10 Emissions:

Emission Factor: 0.80 lbs/hr (3-07-008-08, AFSSCC page 144)
Calculations: 8760 * hrs * 0.80 lbs/hr * 0.0005 tons/lb = 3.50 tons/yr

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Shaving Bin Cyclone from Planer

Hours of operation: 8760 hrs

TSP Emissions:

Emission Factor: 2.00 lbs/hr (3-07-003-08, AFSSCC page 144)
Calculations: 8760 * hrs * 2.00 lbs/hr * 0.0005 tons/lb = 8.76 tons/yr

PM-10 Emissions:

Emission Factor: 0.80 lbs/hr (3-07-008-08, AFSSCC page 144)
Calculations: 8760 * hrs * 0.80 lbs/hr * 0.0005 tons/lb = 3.50 tons/yr

Shaving Bin Cyclone from Jointer

Hours of operation: 8760 hrs

TSP Emissions:

Emission Factor: 2.00 lbs/hr (3-07-008-08, AFSSCC page 144)
Calculations: 8760 * hrs * 2.00 lbs/hr * 0.0005 tons/lb = 8.76 tons/yr

PM-10 Emissions:

Emission Factor: 0.80 lbs/hr (3-07-008-08, AFSSCC page 144)
Calculations: 8760 * hrs * 0.80 lbs/hr * 0.0005 tons/lb = 3.50 tons/yr

Shaving Bin Truck Loadout

Lumber Production: 54.00 MMBF/yr (Based on Maximum Production Rate)

Planer Shavings Production:	621 tons/MMBF	
Finger Jointer Shavings Production:	395 tons/MMBF	
Total Shavings Production:	1016 tons/MMBF	(AOS Estimate)

TSP Emissions:

Emission Factor: 2.00 lbs/ton (3-07-030-02, AFSSCC page 144)
Calculations: 54.00 * MMBF/yr * 1016 tons/MMBF * 2.00 lbs/ton * 0.0005 tons/lb = 54.86 tons/yr

PM-10 Emissions:

Emission Factor: 1.20 lbs/ton (3-07-030-02, AFSSCC page 144)
Calculations: 54.00 * MMBF/yr * 1016 tons/MMBF * 1.20 lbs/ton * 0.0005 tons/lb = 32.92 tons/yr

Hog Fuel Bin Truck Loadout

Lumber Production: 54.00 MMBF/yr (Based on Maximum Production Rate)

Sawdust Production:	395 tons/MMBF	
Bark Production:	76 tons/MMBF	
Total Hog Fuel Production:	471 tons/MMBF	(AOS Estimate)

TSP Emissions:

Emission Factor: 1.00 lbs/ton (Estimate based on knowledge of process & size of material)
Calculations: 54.00 * MMBF/yr * 471 tons/MMBF * 1.00 lbs/ton * 0.0005 tons/lb = 12.72 tons/yr

PM-10 Emissions:

Emission Factor: 0.36 lbs/ton (Estimate based on knowledge of process & size of material)
Calculations: 54.00 * MMBF/yr * 471 tons/MMBF * 0.36 lbs/ton * 0.0005 tons/lb = 4.58 tons/yr

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Haul Roads - Fugitives

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 303 VMT/Yr (Based on Maximum Production Rate)
Control Efficiency is 50% for watering.

TSP Emission Factor is determined by the following equation:

E= 5.9*k*(s/12)*(S/30)*(W/3)**0.7*(w/4)**0.5*PR
Where:
E= TSP Emission Factor in Lbs/Vehicle Mile Traveled (VMT)
k= Particle sizing constant for TSP 1.0
s= Silt Content in percent 6.2 %
S= Average Speed of vehicles in mph 6.5 mph
W= Average weight of vehicles in Tons 27.0 Tons
w= Average number of wheels on vehicles 18 wheels
PR= Precipitation Ratio based on the following:
130 Days with more than .01" of Precipitation
PR= (365 days - 130 days)/365 Days = 0.6438

TSP Emissions:

TSP Emission Factor: 4.20 Lbs/VMT

E(TSP)= (303 VMT/Yr)(4.20 Lbs/VMT)(0.5)
E(TSP)= 636 Lbs/Yr or 0.32 Tons/Yr

PM10 Emission Factor is determined by the following equation:

E= 5.9*k*(s/12)*(S/30)*(W/3)**0.7*(w/4)**0.5*PR
Where:
E= PM10 Emission Factor in Lbs/Vehicle Mile Traveled (VMT)
k= Particle sizing constant for PM10 0.36
s= Silt Content in percent 6.2 %
S= Average Speed of vehicles in mph 6.5 mph
W= Average weight of vehicles in Tons 27.0 Tons
w= Average number of wheels on vehicles 18 wheels
PR= Precipitation Ratio based on the following:
130 Days with more than .01" of Precipitation
PR= (365 days - 130 days)/365 Days = 0.6438

PM10 Emissions:

PM10 Emission Factor: 1.51 Lbs/VMT

E(PM10)= (303 VMT/Yr)(1.51 Lbs/VMT)(0.5)
E(PM10)= 229 Lbs/Yr or 0.11 Tons/Yr

Haul Roads - Fugitives (Daily)

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 303 VMT/Yr (Based on Maximum Production Rate)
Control Efficiency is 50% for watering.

TSP Emission Factor is determined by the following equation:

E= 5.9*k*(s/12)*(S/30)*(W/3)**0.7*(w/4)**0.5*PR
Where:
E= TSP Emission Factor in Lbs/Vehicle Mile Traveled (VMT)
k= Particle sizing constant for TSP 1.0
s= Silt Content in percent 6.2 %
S= Average Speed of vehicles in mph 6.5 mph
W= Average weight of vehicles in Tons 27.0 Tons
w= Average number of wheels on vehicles 18 wheels
PR= Assumes no precipitation 1.0000

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TSP Emissions:

TSP Emission Factor: 6.52 Lbs/VMT

E(TSP)= (303 VMT/Yr)(6.52 Lbs/VMT)(0.5)
E(TSP)= 988 Lbs/Yr or 0.49 Tons/Yr or 2.71 lbs/day

PM10 Emission Factor is determined by the following equation:

E= 5.9*k*(s/12)*(S/30)*(W/3)**0.7*(w/4)**0.5*PR
Where:

E= PM10 Emission Factor in Lbs/Vehicle Mile Traveled (VMT)	
k= Particle sizing constant for PM10	0.36
s= Silt Content in percent	6.2 %
S= Average Speed of vehicles in mph	6.5 mph
W= Average weight of vehicles in Tons	27.0 Tons
w= Average number of wheels on vehicles	18 wheels
PR= Assumes no precipitation	1.0000

PM10 Emissions:

PM10 Emission Factor: 2.35 Lbs/VMT

E(PM10)= (303 VMT/Yr)(2.35 Lbs/VMT)(0.5)
E(PM10)= 356 Lbs/Yr or 0.18 Tons/Yr or 0.97 lbs/day

Log Deck - Fugitives

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 10000 VMT/Yr (Based on Maximum Production Rate)
Control Efficiency is 50% for watering.

TSP Emission Factor is determined by the following equation:

E= 5.9*k*(s/12)*(S/30)*(W/3)**0.7*(w/4)**0.5*PR
Where:

E= TSP Emission Factor in Lbs/Vehicle Mile Traveled (VMT)	
k= Particle sizing constant for TSP	1.0
s= Silt Content in percent	6.2 %
S= Average Speed of vehicles in mph	5.0 mph
W= Average weight of vehicles in Tons	25.0 Tons
w= Average number of wheels on vehicles	4 wheels

PR= Precipitation Ratio based on the following:
130 Days with more than .01" of Precipitation
PR= (365 days - 130 days)/365 Days = 0.6438

TSP Emissions:

TSP Emission Factor: 1.44 Lbs/VMT

E(TSP)= (10000 VMT/Yr)(1.44 Lbs/VMT)(0.5)
E(TSP)= 7215 Lbs/Yr or 3.61 Tons/Yr

PM10 Emission Factor is determined by the following equation:

E= 5.9*k*(s/12)*(S/30)*(W/3)**0.7*(w/4)**0.5*PR
Where:

E= PM10 Emission Factor in Lbs/Vehicle Mile Traveled (VMT)	
k= Particle sizing constant for PM10	0.36
s= Silt Content in percent	6.2 %
S= Average Speed of vehicles in mph	5.0 mph
W= Average weight of vehicles in Tons	25.0 Tons
w= Average number of wheels on vehicles	4 wheels

PR= Precipitation Ratio based on the following:
130 Days with more than .01" of Precipitation
PR= (365 days - 130 days)/365 Days = 0.6438

Final Stipulation: 9/17/93

PM10 Emissions:

PM10 Emission Factor: 0.52 Lbs/VMT

E(PM10)= (10000 VMT/Yr)(0.52 Lbs/VMT)(0.5)
E(PM10)= 2597 Lbs/Yr or 1.30 Tons/Yr

Log Deck Fugitives (Daily)

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 10000 VMT/Yr (Based on Maximum Production Rate)
Control Efficiency is 50% for watering.

TSP Emission Factor is determined by the following equation:

E= 5.9*k*(s/12)*(S/30)*(W/3)**0.7*(w/4)**0.5*P1

Where:

E=	TSP Emission Factor in Lbs/Vehicle Mile Traveled (VMT)	
k=	Particle sizing constant for TSP	1.0
s=	Silt Content in percent	6.2 %
S=	Average Speed of vehicles in mph	5.0 mph
W=	Average weight of vehicles in Tons	25.0 Tons
w=	Average number of wheels on vehicles	6 wheels
P1=	Assumes no precipitation	1.0000

TSP Emissions:

TSP Emission Factor 2.24 Lbs/VMT

E(TSP)= (10000 VMT/Yr)(2.24 Lbs/VMT)(0.5)
E(TSP)= 11206 Lbs/Yr or 5.60 Tons/Yr or 30.70 Lbs/day

PM10 Emission Factor is determined by the following equation:

E= 5.9*k*(s/12)*(S/30)*(W/3)**0.7*(w/4)**0.5*P1

Where:

E=	PM10 Emission Factor in Lbs/Vehicle Mile Traveled (VMT)	
k=	Particle sizing constant for PM10	0.36
s=	Silt Content in percent	6.2 %
S=	Average Speed of vehicles in mph	5.0 mph
W=	Average weight of vehicles in Tons	25.0 Tons
w=	Average number of wheels on vehicles	6 wheels
P1=	Assumes no precipitation	1.0000

PM10 Emissions:

PM10 Emission Factor 0.81 Lbs/VMT

E(PM10)= (10000 VMT/Yr)(0.81 Lbs/VMT)(0.5)
E(PM10)= 4034 Lbs/Yr or 2.02 Tons/Yr or 11.05 Lbs/day *

Final Stipulation: 8/17/83

V. Existing Air Quality and Impacts

On July 1, 1987 the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for particulate matter with an aerodynamic diameter of 10 microns or less (PM-10). Due to exceedances of the national standards for PM-10, the city of Kalispell and the nearby Evergreen area have been designated by EPA as nonattainment for PM-10. As a result of this designation, EPA required the Department of Health and Environmental Sciences and the Flathead City-County Health Department to submit the Kalispell PM-10 State Implementation Plan (SIP) to EPA in November, 1991. The SIP consisted of an emission control plan that controlled fugitive dust emissions from roads, parking lots, construction, and demolition, since technical studies determined these sources to be the major contributors of PM-10 emissions.

Receptor modeling (a model which identifies contributors based on actual area and industrial emissions and ambient data) was originally used to demonstrate attainment of the federal PM-10 standards in the SIP. The EPA required the department to use a dispersion model (a model which incorporates allowable emission rates from facilities) to assure that attainment can still be demonstrated if individual sources are operating at their maximum allowable emission rates.

After an analysis, the department determined that emission limitations applicable to MT Mokko were in some cases nonexistent (no permit required) or several times higher than actual emissions (ARM 16.8.1403). Dispersion modelling conducted using emissions from the MT Mokko facility at its potential to emit (emissions associated with maximum design capacity or as limited by ARM 16.8.1403) indicated that MT Mokko contributed significantly to the PM-10 concentrations in the Kalispell nonattainment area.

In order to demonstrate compliance (through dispersion modeling) with the PM-10 NAAQS in the Kalispell nonattainment area, it is necessary to reduce or establish new emission limitations for the MT Mokko facility. The new emission limitations in this document, in conjunction with similar limitations on other Kalispell area facilities, demonstrates through dispersion modeling that compliance with the NAAQS for PM-10 will be attained. These reductions in allowable emissions will be enforced through a signed stipulation.

With the proper utilization of existing control equipment and reasonable control techniques (watering or application of dust suppressant) for haul road dust, the MT Mokko facility should be able to operate at maximum design rates and remain in compliance with the stipulated emission limitations.

Kalispell and Evergreen Nonattainment Boundaries

The area is bounded by lines from UTM Coordinate 700000mE, 5347000mN, east to 704000mE, 5346000mN, south to 704000mE, 5341000mN, west to 703000mE, 5341000mN, south to 703000mE, 5340000mN, west to 702000mE, 5340000mN, south to 702000mE, 5339000mN, east to 703000mE, 5339000N, south to 703000mE, 5338000mN, east to 704000mE, 5338000mN, south to 704000mE, 5336000mN, west to 702000mE, 5336000mN, west to 702000mE, 5336000mN, south to 702000mE, 5335000mN, west to 700000mE, 5335000mN, north to 700000mE, 5340000mN, west to 695000mE, 5340000mN, north to 695000mE, 5345000mN, east to 700000mE, 5345000mN, north to 700000mE, 5347000mN.

VI Environmental Assessment

An environmental assessment, required by the Montana Environmental Protection Act, was completed for this project. A copy is attached.

DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
Air Quality Bureau
Cogswell Building, Helena, Montana 59620
(406) 444-3454

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Project or Application: Montana Mokko, Air Quality Stipulation for Kalispell SIP.

Description of Project: Montana Mokko operates an existing lumber mill located at 955 Whitefish Stage Road, in Kalispell, Montana. This facility manufacturers dimension lumber for use in the construction industry. The wood wastes that this facility generates is sold as a by-product which is used in the manufacture of other wood products.

Benefits and Purpose of Proposal: On July 1, 1987 the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for particulate matter with an aerodynamic diameter of 10 microns or less (PM-10). Due to exceedances of the national standards for PM-10, the city of Kalispell and the nearby Evergreen area have been designated by EPA as nonattainment for PM-10. As a result of this designation, EPA required the Department of Health and Environmental Sciences and the Flathead City-County Health Department to submit the Kalispell PM-10 State Implementation Plan (SIP) to EPA in November, 1991. The stipulation identifies the emission sources and makes enforceable emission limitations and the operation of control equipment and techniques which when considered with similar limitations on other Kalispell area sources will achieve the PM-10 NAAQS.

Description and analysis of reasonable alternatives whenever alternatives are reasonably available and prudent to consider: No reasonable alternatives exist.

A listing and appropriate evaluation of mitigation, stipulations and other controls enforceable by the agency or another government agency: A list of enforceable conditions are contained in the signed air quality stipulation.

Recommendation: An EIS is not required.

If an EIS is needed, and if appropriate, explain the reasons for preparing the EA:

If an EIS is not required, explain why the EA is an appropriate level of analysis: The emissions from this plant will not change. This action makes the control equipment and control techniques at the plant enforceable and assures that the emissions from this facility when considered with similar emission limitations at other sources will attain the PM-10 NAAQS.

Other groups or agencies contacted or which may have overlapping jurisdiction: None.

Individuals or groups contributing to this EA: Department of Health and Environmental Sciences, Air Quality Bureau.

EA prepared by: Michael Glavin
Date: July 22, 1993

Final Stipulation: 9/17/93

Potential Impact on Physical Environment

		Major	Moderate	Minor	None	Unknown	Comments Attached
1	Terrestrial and Aquatic Life and Habitats				X		
2	Water Quality, Quantity and Distribution				X		
3	Geology and Soil Quality, Stability and Moisture				X		
4	Vegetation Cover, Quantity and Quality				X		
5	Aesthetics				X		
6	Air Quality			X			
7	Unique Endangered, Fragile or Limited Environmental Resource					X	
8	Demands on Environmental Resource of Water, Air and Energy				X		
9	Historical and Archaeological Sites					X	
10	Cumulative and Secondary Impacts			X			

Potential Impact on Human Environment

		Major	Moderate	Minor	None	Unknown	Comments Attached
1	Social Structures and Mores				X		
2	Cultural Uniqueness and Diversity				X		
3	Local and State Tax Base and Tax Revenue				X		
4	Agricultural or Industrial Production				X		
5	Human Health			X			
6	Access to and Quality of Recreational and Wilderness Activities				X		
7	Quantity and Distribution of Employment				X		
8	Distribution of Population				X		
9	Demands for Government Services			X			
10	Industrial and Commercial Activity				X		
11	Locally Adopted Environmental Plans and Goals			X			
12	Cumulative and Secondary Impacts			X			

Final Stipulation: 9/17/93