DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

TED SCHWINDEN, GOVERNOR

COGSWELL BUILDING

STATE OF MONTANA

HELENA, MONTANA 59620

October 20, 1985

Montana Refining Company
1900 Tenth Street
Black Eagle, MT 59414

Attention: Mike Tramelli

Your air quality permit application dated August 14, 1985, and received in this office on September 6, 1985, for Refinery Equipment (Major) to be located in Sec. 1 T20N R3E, Cascade County is approved. The application was given permit number 2161.

Conditions:

1. Refinery sulfur dioxide emissions shall not exceed seven (7) tons per day.

2. The Fluid Catalytic Cracking (FCC) unit shall be source tested for both carbon monoxide and sulfur dioxide. Carbon monoxide emissions shall not exceed 12.9 tons per day or 4700 tons per year.

3. In addition, recipient shall also submit a plan for quantifying sulfur dioxide emissions from the following pieces of equipment:

   (a) boilers; (b) crude heater; (c) vacuum heater; (d) reformer heater; (e) NHDS heater.

4. The above test results, including a final report, shall be submitted to the Air Quality Bureau no later than May 15, 1986.

5. Applicable test methods and procedures outlined in 40 CFR, part 60 shall be followed unless recipient can demonstrate that other test methods are more appropriate or equivalent.

6. Recipient shall comply with all general conditions noted on attached page.

We appreciate your interest in this matter.

For the Department,

Harold Robbins, Chief
Air Quality Bureau

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

In the matter of the MONTANA REFINING COMPANY, Cascade County; compliance with ARM 16.8.811, ambient air quality standard for carbon monoxide	STIPULATION

The Montana Department of Health and Environmental Sciences ("DHES") and the Montana Refining Company ("MRC"), in accordance with the provisions and requirements of the Montana Clean Air Act, Title 75, Chapter 2, MCA ("Act"), hereby agree to and undertake the stipulations set forth below concerning MRC's compliance with the Montana Ambient Air Quality Standard for Carbon Monoxide adopted by the Montana Board of Health and Environmental Sciences ("BHES") at ARM 16.8.811.

1. MRC is a major stationary source of carbon monoxide as defined by ARM 16.8.921(22) and is located approximately one mile north of downtown Great Falls.
2. As a source in existence as of November 23, 1968, MRC is not subject to the permitting requirements applicable to major stationary sources pursuant to ARM 16.8.1104.
3. In accordance with the federal Clean Air Act, 42 USC 7401 et seq. part of the Great Falls AQCR was designated nonattainment for carbon monoxide by the U.S. Environmental Protection Agency ("EPA"). Such designation resulted in a 1977 emission inventory prepared by DHES' Air Quality Bureau which estimated MRC's carbon monoxide ("CO") emissions to be 11,000 tons annually, or 18% of area wide CO emissions.
4. Based upon a 1977 DHES emission inventory of CO and upon current (1985) monitored emissions of CO in the Great Falls area, the DHES has determined that compliance with both federal and state standards for CO may be achieved and maintained in the Great Falls area if MRC continues to

operate its refinery without exceeding current maximum CO emissions of approximately 4,700 tons annually.

5. With the intention of maintaining compliance with federal and state ambient air quality standards for CO in the Great Falls area, DHES and MRC, pursuant to Section 75-2-401(4), MCA, have determined that compliance by MRC with ARM 16.2.811 will be maintained and assured most appropriately by the following:

   (a) MRC expressly relinquishes and waives any right or entitlement it may have under the Montana Clean Air Act to operate its Great Falls refinery without an air quality permit for carbon monoxide issued by DHES under ARM Title 16, Chapter 8, Sub-chapter 11.

   (b) MRC agrees to subject itself to the provisions and requirements for carbon monoxide applicable to air quality permittees set forth in ARM Title 16, Chapter 8, Sub-chapter 11, and specifically has completed and submitted an application for an air quality permit and has followed the procedure for obtaining an air quality permit set forth in ARM Title 16, Chapter 8, Sub-chapter 11 as the same relates to control of carbon monoxide.

   (c) DHES reviewed MRC's permit application in accordance with the provisions of ARM Title 16, Chapter 8, Sub-chapter 11, and, with respect to the level of CO emissions from MRC's refinery to be allowed under such permit, DHES represents and agrees to establish such level in accordance with MRC's existing level of emissions, which are approximately 4,700 tons per year.

6. MRC agrees that the stipulations agreed to herein shall be

binding upon its transferees and assignees and any other persons who may become responsible for the operation of the refinery and that MRC will apprise in writing any such transferees, assignees, or persons of the stipulations agreed to herein.

7. This Stipulation shall be made an Appendix of Air Quality Permit #2161 which was issued by DHES on October 20, 1985 to MRC under ARM Title 16, Chapter 8, Sub-chapter 11.

8. MRC, by obtaining an air quality permit under ARM Title 16, Chapter 8, Sub-chapter 11 and by complying with the terms of such air quality permit concerning carbon monoxide emissions, will be deemed by DHES to be in compliance with ARM 16.8.811 as such rule exists on August 1, 1985.

MONTANA REFINING COMPANY

By M. C. Tramelli
Manager
Title

DATED this 5 day of DECEMBER, 1985

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

By Harold W Rollins
Chief, Air Quality Bureau
Title

DATED this 2 day of December, 1985

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

In the Matter of Compliance of A-1 Paving, 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 A-1 Paving ("A-1 Paving"), 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

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

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 A-1 Paving 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 A-1 Paving 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 A-1 Paving are necessary to demonstrate compliance with the particulate matter NAAQS. The department has performed additional modeling using revised emission rates for A-1 Paving 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 A-1 Paving.

B. BINDING EFFECT

12. The parties to this Stipulation agree that any such emission limitations placed on A-1 Paving 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 A-1 Paving. The specific conditions which comprise these limitations are contained in Exhibit B to this Stipulation (entitled "Emission Limitations and Conditions, A-1 Paving") 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 MAAQS 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 75-2-203, 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 MAAQS, the Board has jurisdiction to require the imposition of such limitations and conditions, and may adopt the same as enforceable measures applicable to A-1 Paving.

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 A-1 Paving.

A-1 PAVING

BY _____

BY _____
Attorney

DATE 11-25-93

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

BY _____
Robert J. Robinson
Director

BY _____
Timothy R. Baker
Attorney

DATE 9/15/93

EXHIBIT A

Kalispell PM-10 Nonattainment Area 6/93

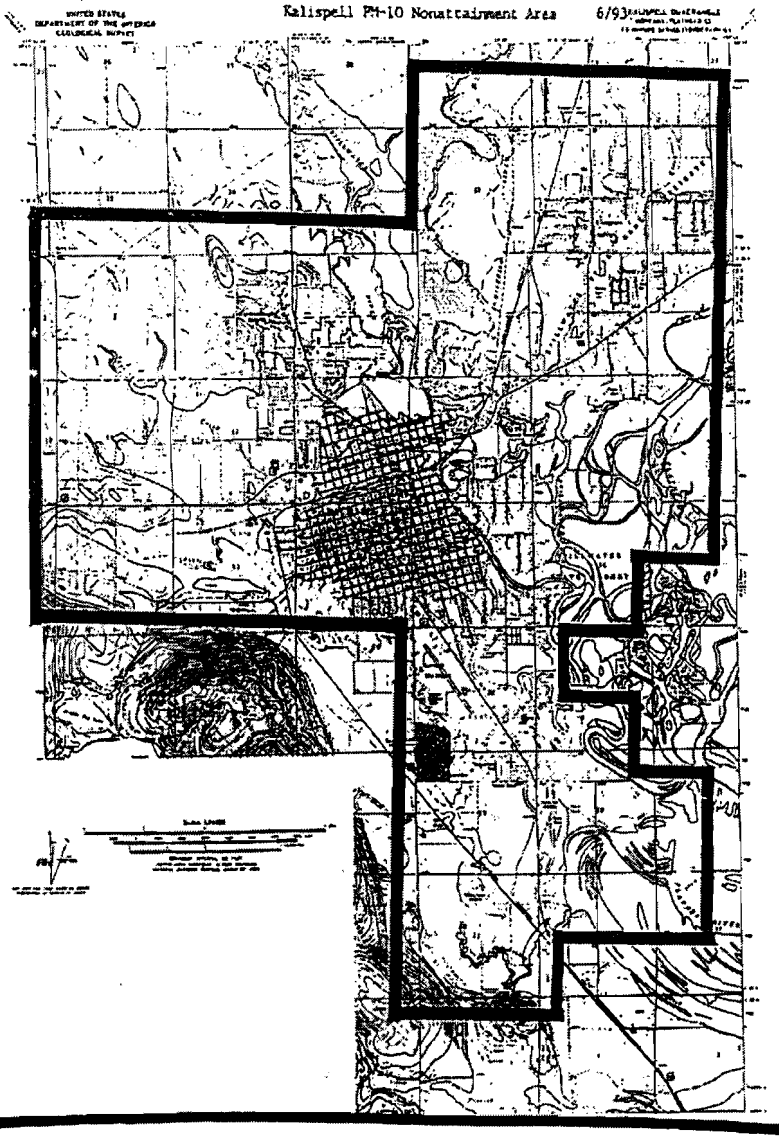

EXHIBIT B
EMISSION LIMITATIONS AND CONDITIONS

A-1 Paving, Inc.
3131 Highway 2 East
Kalispell, MT 59901

The above-named company is hereinafter referred to as "A-1."

Section I: Affected Facilities

A. Equipment: A portable 1980 CedarRapids Model 8826 Drum Mix asphalt plant (350 TPH) Serial #37455 with a wet scrubber.

B. Original Location: 3131 Highway 2 East (NW¼, Sec 22, T29N, R21W, Flathead County)

Section II: Limitations and Conditions

A. Emission Limitations

1. A-1 shall abide by all permit conditions as described in permit #2699, issued October 25, 1991.

2. A-1 shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, or the general plant area any visible fugitive emissions that exhibit opacity[1] of 5% or greater. (RACT)

3. A-1 shall treat all unpaved portions of the haul roads, access roads, and the general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 5% opacity limitation. (RACT)

B. Reporting Requirements

1. Fugitive dust information consisting of a listing of all plant vehicles including the following for each vehicle type:

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

Final Stipulation: 6/17/93

2. 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. A-1 shall comply with all other applicable state, federal, and local laws and regulations.

D. A-1 must maintain a copy of the air quality stipulation at the Kalispell asphalt plant site and make that copy available for inspection by department personnel upon request.

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
A-1 Paving, Inc.

I. Introduction

A. Equipment

A portable 1980 CedarRapids Model 8828 Drum Mix asphalt plant (350 TPH) Serial #37455 with a wet scrubber.

B. Process Description

This plant produces asphalt for use in construction, repair, and maintenance of roads and highways.

C. Facility Location

A-1 operates a portable asphalt plant and a ready mix concrete batch plant in a gravel pit at 3131 Highway 2 East (NW¼, Sec 22, T29N, R21W, Flathead County) near the Kalispell nonattainment area.

II. Applicable Rules and Regulations

A. ARM 16.8, Subchapter 8, Ambient Air Quality, including but not limited to:

ARM 16.8.821 Ambient Air Quality Standard for PM-10. This section states that no person may cause or contribute to concentrations of PM-10 in the ambient air which exceed the set standards. (See Section V)

B. ARM 16.8, Subchapter 9, Prevention of Significant Deterioration - This facility is not a PSD source since this facility is not a listed source and the potential to emit is below 250 tons per year of any pollutant.

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

1. ARM 16.8.1401 Particulate Matter, Airborne. This section requires an opacity limitation of 20% for all fugitive emission sources.

2. ARM 16.8.1403 Particulate Matter, Industrial Process. This section states that no person shall cause, allow, or permit to be discharged into the outdoor atmosphere from any operation, process, or activity, particulate matter in excess of the amount determined by using the following equation:

Allowable Emissions = $55 (350 \text{ tons/hr})^{.11} - 40 = 64.76$ lbs/hr.

The enforceable total particulate matter emission limit is 14.00 lbs/hr, therefore the source is in compliance.

3. ARM 16.8.1404 Visible Air Contaminants. This section requires an opacity limitation of 20% from all stacks constructed or altered since November 23, 1968.

4. 16.8.1423 Standards of Performance for New Stationary Sources (NSPS). This plant was constructed in 1980 so NSPS (40 CFR Part 60, general provisions, and Subpart I Hot Mix Asphalt Facilities) applies to this facility.

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 a 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. Asphalt Plant Stack Emissions

A-1's asphalt plant was constructed in 1980, and therefore, NSPS does apply. The department has determined that BACT for NSPS asphalt plants is an emission limitation of 0.04 gr/dscf and 20% opacity. The plant was tested in 1992 and the results showed emissions at 0.0381 gr/dscf. Since BACT is more stringent than RACT and this asphalt plant meets BACT, the RACT requirement is met.

B. Material Transfer Fugitive Emissions

RACT for material transfer points for sources of this type has been determined by the department to be the use of water or chemical stabilization so as to maintain compliance with a 20% opacity limitation.

C. Fugitive Road Dust Emissions

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

IV. Emission Inventory

1980 Cedar Rapids Model 6825
Drum Mix Portable Asphalt Plant #37-55

Annual Emission Rates (Allowable) *

Source	Tons/Year TSP	PM-10	NOX	VOC	CO	SOX
Asphalt Plant Drum Dryer	14.70	14.70	13.23	10.29	11.47	26.83
Elevator, Screens, Bins, and Mixer	73.50	11.03				
Cold Aggregate Handling	36.75	14.70				
Haul Roads	0.15	0.06				
Total Emissions	125.10	40.48	13.23	10.29	11.47	26.83

* Based on operating 2100 hours/year.

Daily Emission Rates (Allowable) **

Source	lbs/day TSP	PM-10	NOX	VOC	CO	SOX
Asphalt Plant Drum Dryer	336.00	336.00	302.40	235.20	262.20	613.20
Elevator, Screens, Bins, and Mixer	1680.00	252.00				
Cold Aggregate Handling	840.00	336.00				
Haul Roads (Daily)	1.31	0.47				
Total Emissions	2857.31	924.47	302.40	235.20	262.20	613.20

** Based on operating 24 hours/day.

Asphalt Plant Drum Dryer with Wet Scrubber

Process Rate: 350 tons/hr (Maximum production rate)
Hours of operation: 2100 hr/yr (Maximum Allowable) 24 hrs/day

TSP Emissions:

Emission Factor: 0.04 lbs/ton (AP-42, 8.1-1)
Calculations: 0.04 lbs/ton * 350.0 tons/hr = 14.00 lbs/hr
14.00 lbs/hr * 2100 hr/yr * 0.0005 tons/lb = 14.7 tons/yr
14.00 lbs/hr * 24 hrs/day = 336 lbs/day

PM-10 Emissions:

Emission Factor: 0.04 lbs/ton (AP-42, 8.1-1)
Calculations: 0.04 lbs/ton * 350.0 tons/hr = 14.00 lbs/hr *
14.00 lbs/hr * 2100 hr/yr * 0.0005 tons/lb = 14.7 tons/yr
14.00 lbs/hr * 24 hrs/day = 336 lbs/day

NOx Emissions:

Emission Factor: 0.036 (lbs/ton (AFSSC 3-05-002-01, page 116)
Calculations: 0.036 lbs/ton * 350.0 tons/hr = 12.60 lbs/hr
12.60 lbs/hr * 2100 hr/yr * 0.0005 tons/lb = 13.23 tons/yr
12.60 lbs/hr * 24 hrs/day = 302.4 lbs/day

VOC Emissions:

Emission Factor: 0.028 (lbs/ton (AFSSC 3-05-002-01, page 116)
Calculations: 0.028 lbs/ton * 350.0 tons/hr = 9.80 lbs/hr
9.80 lbs/hr * 2100 hr/yr * 0.0005 tons/lb = 10.29 tons/yr
9.80 lbs/hr * 24 hrs/day = 235.2 lbs/day

CO Emissions:

Emission Factor: 0.038 lbs/ton (AFSSC 3-05-002-01, page 116)
Calculations: 0.038 lbs/ton * 350.0 tons/hr = 13.30 lbs/hr
13.30 lbs/hr * 2100 hr/yr * 0.0005 tons/lb = 13.97 tons/yr
13.30 lbs/hr * 24 hrs/day = 319.2 lbs/day

SOx Emissions:

Emission Factor: 0.073 lbs/ton (AFSSC 3-05-002-01, page 116)
Calculations: 0.073 lbs/ton * 350.0 tons/hr = 25.55 lbs/hr
25.55 lbs/hr * 2100 hr/yr * 0.0005 tons/lb = 26.83 tons/yr
25.55 lbs/hr * 24 hrs/day = 613.2 lbs/day

Elevator, Screens, Bins, and Mixer

Process Rate: 350 tons/hr (Maximum production rate)
Hours of operation: 2100 hr/yr (Maximum Allowable) 24 hrs/day

TSP Emissions:

Emission Factor: 0.2 lbs/ton (AFSSC 3-05-002-02, page 116)
Calculations: 0.20 lbs/ton * 350.0 tons/hr = 70.00 lbs/hr
70.00 lbs/hr * 2100 hr/yr * 0.0005 tons/lb = 73.50 tons/yr
70.00 lbs/hr * 24 hrs/day = 1680 lbs/day

PM-10 Emissions:

Emission Factor: 0.03 lbs/ton (AFSSC 3-05-002-02, page 116)
Calculations: 0.03 lbs/ton * 350.0 tons/hr = 10.50 lbs/hr
10.50 lbs/hr * 2100 hr/yr * 0.0005 tons/lb = 11.03 tons/yr
10.50 lbs/hr * 24 hrs/day = 252 lbs/day

Cold Aggregate Handling

Process Rate: 350 tons/hr (Maximum production rate)
Hours of operation: 2100 hr/yr (Maximum Allowable) 24 hrs/day

TSP Emissions:

Emission Factor: 0.10 lbs/ton (AFSSC 3-05-002-04, page 116)
Calculations: 0.10 lbs/ton * 350.0 tons/hr = 35.00 lbs/hr
35.00 lbs/hr * 2100 hr/yr * 0.0005 tons/lb = 36.75 tons/yr
35.00 lbs/hr * 24 hrs/day = 840 lbs/day

PM-10 Emissions:

Emission Factor: 0.04 lbs/ton (AFSSC 3-05-002-04, page 116)
Calculations: 0.04 lbs/ton * 350.0 tons/hr = 14.00 lbs/hr
14.00 lbs/hr * 2100 hr/yr * 0.0005 tons/lb = 14.70 tons/yr
14.00 lbs/hr * 24 hrs/day = 336 lbs/day

Haul Roads

Operating Hours: 2100 Hours/Yr
Vehicle Miles Traveled: 346 VMT/Yr
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	8.7 %
S=	Average Speed of vehicles in mph	5.0 mph
W=	Average weight of vehicles in Tons	20.8 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: 1.78 lbs/VMT

E(TSP)= (346 VMT/Yr)(1.78 Lbs/VMT)(0.5)
E(TSP)= 308 Lbs/Yr or 0.15 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	8.7 %
S= Average Speed of vehicles in mph	5.0 mph
W= Average weight of vehicles in Tons	20.8 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

PM10 Emissions:

PM10 Emission Factor: 0.66 Lbs/VMT

E(PM10)= (346 VMT/Yr)(0.64 Lbs/VMT)(0.5)
E(PM10)= 111 Lbs/Yr or 0.06 Tons/Yr

Haul Roads (Daily)

Operating Hours: 2100 Hours/Yr
Vehicle Miles Traveled: 346 VMT/Yr
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	8.7 %
S= Average Speed of vehicles in mph	5.0 mph
W= Average weight of vehicles in Tons	20.8 Tons
w= Average number of wheels on vehicles	4 Wheels
PR= Assumes no precipitation	1.0000

TSP Emissions:

TSP Emission Factor: 2.77 Lbs/VMT

E(TSP)= (346 VMT/Yr)(2.77 Lbs/VMT)(0.5)
E(TSP)= 478 Lbs/Yr or 0.24 Tons/Yr or 1.31 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	8.7 %
S= Average Speed of vehicles in mph	5.0 mph
W= Average weight of vehicles in Tons	20.8 Tons
w= Average number of wheels on vehicles	4 Wheels
PR= Assumes no precipitation	1.0000

PM10 Emissions:

PM10 Emission Factor 1.00 Lbs/VMT

E(PM10)= (346 VMT/Yr)(1.00 Lbs/VMT)(0.5)
E(PM10)= 172 Lbs/Yr or 0.09 Tons/Yr or 0.47 Lbs/day

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 the A-1 facility 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 A-1 facility at its potential to emit (emissions associated with maximum design capacity or as limited by ARM 16.8.1403) indicated that the facility 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 A-1 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 application of reasonable control techniques (watering or application of dust suppressant) for haul road dust the department has determined that the A-1 facility can 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: A-1 Paving, Inc., Air Quality Stipulation for Kalispell SIP.

Description of Project: This stipulation is for the operation of a portable 1980 CedarRapids Model 3023 Drum Mix asphalt plant (350 TPH) Serial #37455 with a wet scrubber. This plant produces asphalt for use in construction, repair, and maintenance of roads and highways.

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 available.

A listing and appropriate evaluation of mitigation, stipulations and other controls enforceable by the agency or another government agency: A list of enforceable conditions and an analysis of conditions are contained in permit #2699 and in a signed stipulation.

Recommendation: No EIS is 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: August 10, 1993

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			

9 Final Stipulation: 9/17/93

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

In the Matter of Compliance of Equity Supply Company, 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 Equity Supply Company ("Equity Supply"), 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

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

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 Equity Supply 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 Equity Supply 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 Equity Supply are necessary to demonstrate compliance with the particulate matter NAAQS. The department has performed additional modeling using revised emission rates for Equity Supply 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 Equity Supply.

B. BINDING EFFECT

12. The parties to this Stipulation agree that any such emission limitations placed on Equity Supply 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 Equity Supply. The specific conditions which comprise these limitations are contained in Exhibit B to this Stipulation (entitled "Emission Limitations and Conditions, Equity Supply Company") 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 75-2-203, 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 Equity Supply.

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 Equity Supply.

EQUITY SUPPLY COMPANY	MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
BY _____	BY _____ Robert J. Robinson, Director
BY _____ Attorney	BY _____ Timothy R. Baker, Attorney
DATE 9-15-93	DATE 9/15/93

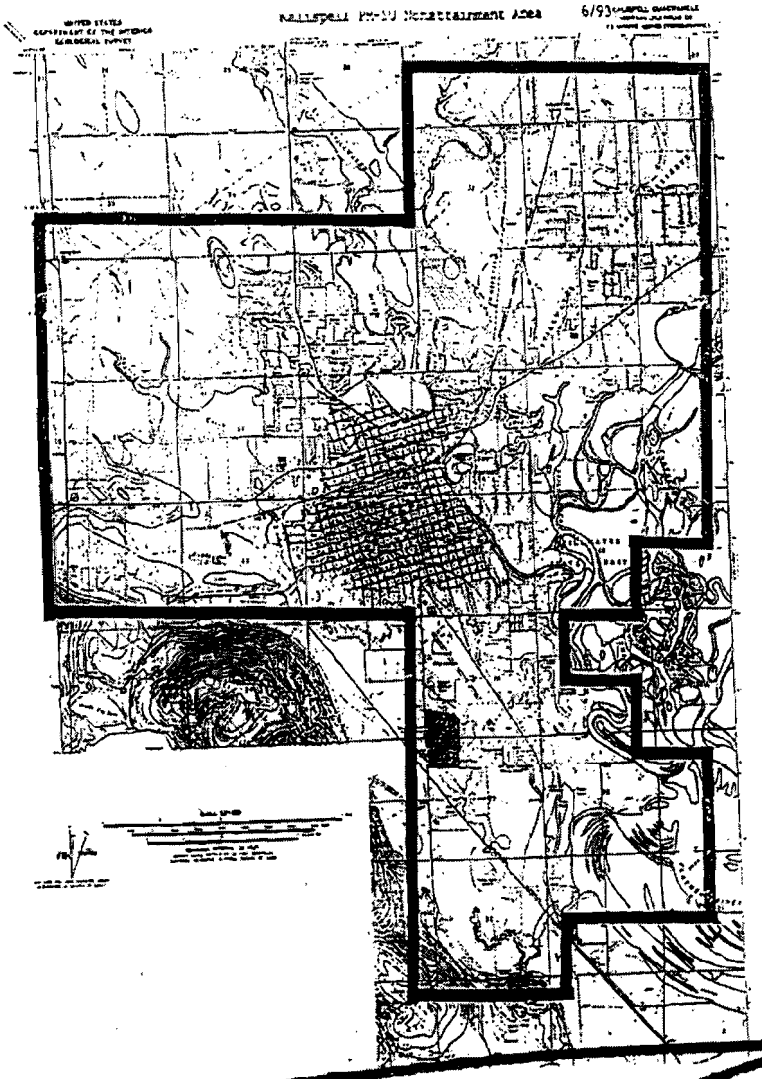

EXHIBIT B
EMISSION LIMITATIONS AND CONDITIONS

Equity Supply Company
P.O. Box 579
Kalispell, MT 59901

The above-named company is hereinafter referred to as "Equity Supply."

SECTION I: Affected Facilities

A. Plant Location:

1. A feed mill and seed cleaning plant known as Equity #1, located on West Montana and 3rd Avenue North in the city limits of Kalispell, Montana. (Section 22, Township 29 North, Range 21 West, Flathead County)

2. A grain and fertilizer elevator known as Equity #2, located on Center Street and 5th Avenue West in the city limits of Kalispell, Montana. (Section 22, Township 29 North, Range 21 West, Flathead County)

B. Affected Equipment and Facilities:

Equity #1 - Feed Mill and Seed Cleaning Plant

	Process/Equipment	Maximum Process Rate	Control Equipment
1.	Bulk Unloading (Grain Receiving)	60 tons/hr	Stationary chute
2.	Bulk Unloading (Seed Grain)	10 tons/hr	Cyclone (2494 cfm) w/telescoping chute
3.	Natural Gas Boiler/York Shipley	7.7 MMBTU/hr	None
4.	Grain Drying/Shanzer Model M20	11 tons/hr	Stationary chute/closed
5.	Grain Cleaning	8 tons/hr	Cyclone (3690 cfm)
6.	Grain Milling		
	- Roller mill Memco 18" x 30"	5 tons/hr	Cyclone (1500 cfm)
	- Hammer mill Prater Blue Streak 6AL	6 tons/hr	Cyclone (1000 cfm)
7.	Pellet Cooler/California Pellet Mill	4 tons/hr	Cyclone (1000 cfm)
8.	Bulk Loading (Grain Shipping)	50 tons/hr	Telescoping chute
9.	Bulk Loading (Feed Shipping)	5 tons/hr	Telescoping chute

Equity #2 - Grain and Fertilizer Elevator

	Process/Equipment	Maximum Process Rate	Control Equipment
1.	Bulk Unloading (Grain Receiving)	90 tons/hr	Stationary chute
2.	Grain Drying/Hurne Model 2110	20 tons/hr	Stationary chute
3.	Bulk Loading (Grain Shipping)	90 tons/hr	Telescoping chute
4.	Bulk Unloading (Fertilizer)	30 tons/hr	Stationary chute/closed system
5.	Bulk Loading (Fertilizer)	15 tons/hr	Stationary chute with dust sock

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SECTION II: Limitations and Conditions

A. Emission Limitations and Conditions:

1. Equity Supply 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 of twenty percent[1] (20%) or greater averaged over six (6) consecutive minutes. This applies to the cyclone stack emissions from the seed grain unloading, seed cleaning, roller mill, hammer mill, and pellet cooler. (ARM 16.8.1404)

2. Equity Supply shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed prior to November 23, 1968 that exhibit an opacity of forty percent[1] (40%) or greater averaged over six (6) consecutive minutes. This applies to, but is not limited to, the building vents, loading and unloading chutes. (ARM 16.8.1404)

3. Equity Supply shall operate the Equity #1 and Equity #2 facilities so as not to cause or authorize emissions to be discharged into the atmosphere from access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit opacity of five percent[1] (5%) or greater averaged over six (6) consecutive minutes. This applies to fugitive emissions from any hauling, handling, loading, and unloading operation. (RACT)

4. Equity Supply shall treat all unpaved portions of the haul roads, access roads, parking lots, and the general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 5% opacity[1] limitation.

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

6. The hours of operation of the feed mill and seed cleaning plant (Equity #1) shall be limited to 20 hours per day and 1200 tons per day of grain throughput for all processes except for the grain drying process. The grain drying process shall be limited to 24 hours per day and 4000 hours per year.

7. The hours of operation of the feed mill, seed cleaning plant and grain dryer (Equity #1) shall be limited to 4000 hours per year.

8. The hours of operation of the grain and fertilizer elevator (Equity #2) shall be limited to 16 hours per day and 1440 tons per day of grain throughput and 480 tons per day of fertilizer throughput. The grain drying process shall be limited to 24 hours per day and 3200 hours per year.

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

9. The hours of operation of the grain and fertilizer elevator and grain drying process (Equity #2) shall be limited to 3200 hours per year.

B. Operational Reporting Requirement:

a. Annual

Equity Supply shall supply the Department of Health and Environmental Sciences Air Quality Bureau with an annual emission inventory for the following 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 emission inventories shall include the following production and emission inventory information:

Equity #1

1.	Bulk Unloading (Grain)	- Tons of grain received. - Total hours of unloading operation.
2.	Bulk Unloading (Seed)	- Tons of seed grain received. - Total hours of unloading operation.
3.	Grain Drying	- Total hours of drying operation.
4.	Grain Cleaning	- Total hours of cleaning operation.
5.	Grain Milling (Roller mill)	- Total hours of milling operation.
6.	Grain Milling (Hammer mill)	- Total hours of milling operation.
7.	Pellet Cooler	- Total hours of pellet cooler operation.
8.	Bulk Loading (Grain)	- Tons of grain shipped. - Total hours of loading operation.
9.	Bulk Loading (Feed)	- Tons of feed shipped. - Total hours of loading operation.

Equity #2

1.	Bulk Unloading (Grain)	- Tons of grain received. - Total hours of unloading operation.
2.	Grain Drying	- Total hours of drying operation.
3.	Truck Bulk Loading (Grain)	- Tons of grain shipped. - Total hours of loading operation.
4.	Rail Bulk Loading (Grain)	- Tons of grain shipped. - Total hours of loading operation.
5.	Bulk Unloading (Fertilizer)	- Tons of fertilizer received. - Total hours of unloading operation.
6.	Bulk Loading (Fertilizer)	- Tons of grain shipped. - Total hours of loading operation.

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b. Daily

1. Equity Supply shall maintain records of daily production rates and daily hours of operation for the following items listed in Section II.B.a:

Equity #1: Items 1, 2, 8, and 9.
Equity #2: Items 1, 3, 4, 5, and 6.

These records shall be available for inspection by the department and will be submitted to the department upon request.

2. Equity Supply shall maintain records of daily hours of operation for the following items listed in Section II.B.a.:

Equity #1: Items 3, 4, 5, 6, and 7.
Equity #2: Item 2.

These records shall be available for inspection by the department and will be submitted to the department upon request.

3. Equity Supply shall keep these records as permanent business records for a minimum of five (5) years.

4. Equity Supply shall provide an annual report identifying any days in which the limitations in Section I.A.6, 7 and 8 are exceeded. The report shall be submitted by March 1 of each year.

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

D. Equity Supply must maintain a copy of the air quality stipulation at the Kalispell Equity Supply main office and make that copy available for inspection by department personnel upon request.

E. Equity Supply 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.

Final Stipulation 3/17/93

Analysis of Conditions

Equity Supply Company

I. Introduction/Process Description

Equity Supply operates an existing feed mill and seed cleaning plant known as Equity #1, located on West Montana and 3rd Avenue North and a grain and fertilizer elevator known as Equity #2, located on Center Street and 5th Avenue West, both located in the city limits of Kalispell, Montana.

The Equity #1 facility receives and ships grain and also manufactures feed. At this facility, grain is received from the grower in trucks. The grain is either back dumped or bottom dumped into a hopper and the grain then gravity flows into the boot of the bucket elevator. Once the grain has been dumped it is handled within a closed system. The grain is then elevated by a bucket type elevator and directed into a storage bin. If the grain has a high moisture content it is dried to prevent mold. If the grain is shipped, it is re-elevated and then gravity feed into rail cars. A telescoping chute is used to reduce particulate emissions and damage to the grain as it flows into the rail car.

Grain used for the manufacturing of feed is gravity fed directly from the overhead bins to processing equipment, mixer then bagging or bulk loaded. The equipment used in the manufacturing of the feed are the Memco 18" x 30" Roller Mill, Prater Blue Streak 6AL Hammer Mill, and a California Pellet Mill Model 2GA. The emissions from these processes are controlled by three separate cyclones.

Equity #1 also receives seed grain from the grower for cleaning. The seed grain is vacuumed out of the truck using a telescoping chute and cyclone. The seed is then cleaned using a separate cyclone and stored in a bin until the entire load has been unloaded and cleaned. The storage bin of clean seed is then loaded back into the truck through a telescoping chute.

The Equity #2 facility receives and ships grain and fertilizer. At this facility, grain is received from the grower in trucks. The grain is either back dumped or bottom dumped into a hopper and the grain then gravity flows into the boot of the bucket elevator. Once the grain has been dumped it is handled within a closed system. The grain is then elevated by a bucket type elevator and directed into a storage bin. If the grain has a high moisture content it is dried to prevent mold. When the grain is shipped, it is re-elevated and then gravity feed into rail cars. A telescoping chute is used to reduce particulate emissions and damage to the grain as it flows into the rail car.

At the fertilizer plant, bulk granular fertilizer is off-loaded from rail cars, elevated and stored in flat bins. When needed it is removed from the bins by a Bobcat, put in a scale, transferred by conveyor to the blender, re-elevated and gravity fed into the truck or trailer. The fertilizer is loaded through a stationary chute with a sock to reduce particulate emissions.

II. Applicable Rules and Regulations

A. ARM 16.8.821, Ambient Air Quality Standards for PM-10: This section requires that the 24-hour and annual average concentrations of PM-10 in the ambient air not exceed the set standards. (See Section V)

B. 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 and 40% for all stacks or vents installed prior to 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 a 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. Process Particulate Stack Emissions

A cyclone would provide the reasonable level of particulate control (90%). Equity Supply currently uses a cyclone for particulate control from the seed grain unloading, seed cleaning, roller mill, hammer mill, and pellet cooler. The department has determined that the cyclones will constitute RACT for these sources.

B. Process Fugitive Emissions

The only process emission points not controlled by the cyclone control system will be the grain and fertilizer unloading and loading. The fugitive particulate emissions from these point sources will be controlled through the use of telescoping loading chutes, stationary chutes with a dust sock, or by minimizing the product drop height during product loadout. The department has determined that these control measures constitute RACT for these sources in this case.

C. Fugitive Road Dust Emissions

RACT for fugitive road dust emissions for sources of this type has been determined by the department to be the use of water or chemical stabilization.

IV. Emissions Inventory

Total Facility Emissions

Annual Emission Rates (Allowable)

Source	TSP	PM-10	NOx	VOC	CO	SOx
	tons/year					
Equity #1(4000 hrs/yr)	294.14	77.18	3.38	0.27	0.68	0.02
Equity #2(3200 hrs/yr)	336.68	85.06	0.00	0.00	0.00	0.00
Total Emissions	630.82	162.24	3.38	0.27	0.68	0.02

Daily Emission Rates (Allowable)

Source	TSP	PM-10	NOx	VOC	CO	SOx
	lbs/day					
Equity #1	2870.07	774.51	18.49	1.48	3.70	0.11
Equity #2	3478.80	868.20	0.00	0.00	0.00	0.00
Total Emissions	6448.87	1642.71	18.49	1.48	3.70	0.11

Equity #1
Feed Mill and Seed Cleaning Plant

Annual Emission Rates (Allowable) *

Source	TSP	PM-10	NOx	VOC	CO	SOx
	tons/year					
Bulk Unloading (Grain Receiving)	72.00	36.00				
Bulk Unloading (Seed Grain)	12.00	6.00				
Natural Gas Boiler	0.47	0.47	3.38	0.27	0.68	0.02
Grain Drying	15.40	2.42				
Grain Cleaning	5.40	0.81				
Grain Milling	0.46	0.23				
Pellet Coolers	0.16	0.08				
Elevator Legs (Headhouse)	180.00	27.60				
Bulk Loading (Grain Shipping)	7.50	3.25				
Bulk Loading (Feed Shipping)	0.75	0.33				
Total Emissions	294.14	77.18	3.38*	0.27	0.68	0.02

* Based on operating 4000 hours/year.

Daily Emission Rates (Allowable) **

Source	TSP	PM-10	NOx	VOC	CO	SOx
	lbs/day					
Bulk Unloading (Grain Receiving)	720.00	360.00				
Bulk Unloading (Seed Grain)	120.00	60.00				
Natural Gas Boiler	2.55	2.55	18.49	1.48	3.70	0.11
Grain Drying	184.80	29.00				
Grain Cleaning	54.00	8.10				
Grain Milling	4.62	2.31				
Pellet Coolers	1.60	0.80				
Elevator Legs (Headhouse)	1800.00	276.00				
Bulk Loading (Grain Shipping)	75.00	32.50				
Bulk Loading (Feed Shipping)	7.50	3.25				
Total Emissions	2970.07	774.51	18.49	1.48	3.70	0.11

** Based on all processes except grain dryer operating 20 hours/day.
Based on grain dryer operating 24 hours/day.

Final Stipulation: 9/17/93

Bulk Unloading (Grain Receiving)

Process Rate: 60 tons/hr
Hours of operation: 4000 hr/yr 20 hrs/day

TSP Emissions:

Emission Factor: 0.6 lbs/ton (AFSEEC 3-02-006-05, page 80)
Control Efficiency: 0%
Calculations: 0.60 lbs/ton * 60.00 tons/hr = 36.00 lbs/hr
36.00 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 72.00 tons/yr
72.00 tons/yr * (1.00 - 0.000) = 72.00 tons/yr
36.00 lbs/hr * 20 hrs/day * (1.00 - 0.00) = 720.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.3 lbs/ton (AFSEEC 3-02-006-05, page 80)
Control Efficiency: 0%
Calculations: 0.300 lbs/ton * 60.00 tons/hr = 18.00 lbs/hr
18.00 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 36.00 tons/yr
36.00 tons/yr * (1.00 - 0.000) = 36.00 tons/yr
18.00 lbs/hr * 20 hrs/day * (1.00 - 0.00) = 360.00 lbs/day

Bulk Unloading (Seed Grain)

Process Rate: 10 tons/hr
Hours of operation: 4000 hr/yr 20 hrs/day

TSP Emissions:

Emission Factor: 0.6 lbs/ton (AFSEEC 3-02-006-05, page 80)
Control Efficiency: 0% (Transfer cyclone)
Calculations: 0.60 lbs/ton * 10.00 tons/hr = 6.00 lbs/hr
6.00 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 12.00 tons/yr
12.00 tons/yr * (1.00 - 0.000) = 12.00 tons/yr
6.00 lbs/hr * 20 hrs/day * (1.00 - 0.00) = 120.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.3 lbs/ton (AFSEEC 3-02-006-05, page 80)
Control Efficiency: 0% (Transfer cyclone)
Calculations: 0.300 lbs/ton * 10.00 tons/hr = 3.00 lbs/hr
3.00 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 6.00 tons/yr
6.00 tons/yr * (1.00 - 0.000) = 6.00 tons/yr
3.00 lbs/hr * 20 hrs/day * (1.00 - 0.00) = 60.00 lbs/day

Natural Gas Boiler

TSP Emissions:

Emission Factor: 13.8 lbs/10^6 ft^3 gas (AP-42, 1.4-1)
Control Efficiency: 0%
Fuel Consumption: 67.50 10^6 ft^3/yr (Information from company)
Calculations: 67.50 * 10^6 ft^3/yr * 14 lbs/10^6 ft^3 gas * 0.0005 tons/lb = 0.47 tons/yr

PM-10 Emissions:

Emission Factor: 13.8 lbs/10^6 ft^3 gas (AP-42, 1.4-1)
Control Efficiency: 0%
Fuel Consumption: 67.50 10^6 ft^3/yr (Information from company)
Calculations: 67.50 * 10^6 ft^3/yr * 14 lbs/10^6 ft^3 gas * 0.0005 tons/lb = 0.47 tons/yr

NOx Emissions:

Emission Factor: 100 lbs/10^6 ft^3 gas (AP-42, 1.4-1)
Control Efficiency: 0%
Fuel Consumption: 67.50 10^6 ft^3/yr (Information from company)
Calculations: 67.50 * 10^6 ft^3/yr * 100 lbs/10^6 ft^3 gas * 0.0005 tons/lb = 3.38 tons/yr

Final Stipulation: 9/17/93

VOC Emissions:

Emission Factor: 8 lbs/10^6 ft^3 gas (AP-42, 1.4-1)
Control Efficiency: 0%
Fuel Consumption: 67.50 10^6 ft^3/yr (Information from company)
Calculations: 67.50 * 10^6 ft^3/yr * 8 lbs/10^6 ft^3 gas * 0.0005 tons/lb = 0.27 tons/yr

CO Emissions:

Emission Factor: 20 lbs/10^6 ft^3 gas (AP-42, 1.4-1)
Control Efficiency: 0%
Fuel Consumption: 67.50 10^6 ft^3/yr (Information from company)
Calculations: 67.50 * 10^6 ft^3/yr * 20 lbs/10^6 ft^3 gas * 0.0005 tons/lb = 0.68 tons/yr

SOx Emissions:

Emission Factor: 0.6 lbs/10^6 ft^3 gas (AP-42, 1.4-1)
Control Efficiency: 0%
Fuel Consumption: 67.50 10^6 ft^3/yr (Information from company)
Calculations: 67.50 * 10^6 ft^3/yr * 0.6 lbs/10^6 ft^3 gas * 0.0005 tons/lb = 0.02 tons/yr

Grain Drying

Process Rate: 11.00 tons/hr
Hours of operation: 4000 hr/yr 24 hrs/day

TSP Emissions:

Emission Factor: 0.7 lbs/ton (AFSSCC 3-02-006-04, page 80)
Control Efficiency: 0%
Calculations: 0.70 lbs/ton * 11.00 tons/hr = 7.70 lbs/hr
7.70 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 15.40 tons/yr
15.40 tons/yr * (1.00 - 0.000) = 15.40 tons/yr
7.70 lbs/hr * 24 hrs/day * (1.00 - 0.00) = 184.80 lbs/day

PM-10 Emissions:

Emission Factor: 0.11 lbs/ton (AFSSCC 3-02-006-04, page 80)
Control Efficiency: 0%
Calculations: 0.110 lbs/ton * 11.00 tons/hr = 1.21 lbs/hr
1.21 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 2.42 tons/yr
2.42 tons/yr * (1.00 - 0.000) = 2.42 tons/yr
1.21 lbs/hr * 24 hrs/day * (1.00 - 0.00) = 29.04 lbs/day

Grain Cleaning

Process Rate: 9.00 tons/hr
Hours of operation: 4000 hr/yr 20 hrs/day

TSP Emissions:

Emission Factor: 3 lbs/ton (AFSSCC 3-02-006-03, page 80)
Control Efficiency: 90% (Cyclone)
Calculations: 9.00 tons/hr * 3.00 lbs/ton = 27.00 lbs/hr
27.00 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 54.00 tons/yr
54.00 tons/yr * (1.00 - 0.900) = 5.40 tons/yr
27.00 lbs/hr * 20 hrs/day * (1.00 - 0.90) = 54.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.45 lbs/ton (AFSSCC 3-02-006-03, page 80)
Control Efficiency: 90% (Cyclone)
Calculations: 9.00 tons/hr * 0.45 lbs/ton = 4.05 lbs/hr
4.05 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 8.10 tons/yr
8.10 tons/yr * (1.00 - 0.900) = 0.81 tons/yr
4.05 lbs/hr * 20 hrs/day * (1.00 - 0.90) = 8.10 lbs/day

Final Stipulation: 9/17/93

Grain Milling

Process Rate: 11.00 tons/hr
Hours of operation: 4000 hr/yr 20 hrs/day

TSP Emissions:

Emission Factor: 0.21 lbs/ton (AP42CC 3-02-008-015, page 84)
Control Efficiency: 90% (Cyclone)
Calculations: 0.21 lbs/ton * 11.00 tons/hr = 2.31 lbs/hr
2.31 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 4.62 tons/yr
4.62 tons/yr * (1.00 - 0.90) = 0.46 tons/yr
2.31 lbs/hr * 20 hrs/day * (1.00 - 0.90) = 4.62 lbs/day

PM-10 Emissions:

Emission Factor: 0.105 lbs/ton (AP42CC 3-02-008-015, page 84) (Assumes 50% of TSP)
Control Efficiency: 90% (Cyclone)
Calculations: 0.101 lbs/ton * 11.00 tons/hr = 1.16 lbs/hr
1.16 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 2.31 tons/yr
2.31 tons/yr * (1.00 - 0.900) = 0.23 tons/yr
1.16 lbs/hr * 20 hrs/day * (1.00 - 0.90) = 2.31 lbs/day

Pellet Coolers

Process Rate: 4.00 tons/hr
Hours of operation: 4000 hr/yr 20 hrs/day

TSP Emissions:

Emission Factor: 0.2 lbs/ton (AP42CC 3-02-008-16, page 84)
Control Efficiency: 90% (Cyclone)
Calculations: 0.20 lbs/ton * 4.00 tons/hr = 0.80 lbs/hr
0.80 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 1.60 tons/yr
1.60 tons/yr * (1.00 - 0.90) = 0.16 tons/yr
0.80 lbs/hr * 20 hrs/day * (1.00 - 0.99) = 1.60 lbs/day

PM-10 Emissions:

Emission Factor: 0.1 lbs/ton (AP42CC 3-02-008-16, page 84) (Assumes 50% of TSP)
Control Efficiency: 90% (Cyclone)
Calculations: 0.100 lbs/ton * 4.00 tons/hr = 0.40 lbs/hr
0.40 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 0.80 tons/yr
0.80 tons/yr * (1.00 - 0.90) = 0.08 tons/yr
0.40 lbs/hr * 20 hrs/day * (1.00 - 0.90) = 0.80 lbs/day

Elevator Legs (Warehouse)

Process Rate: 60.00 tons/hr
Hours of operation: 4000 hr/yr 20 hrs/day

TSP Emissions:

Emission Factor: 1.5 lbs/ton (AP42CC 3-02-008-08, page 80)
Control Efficiency: 0%
Calculations: 1.50 lbs/ton * 60.00 tons/hr = 90.00 lbs/hr
90.00 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 180.00 tons/yr
180.00 tons/yr * (1.00 - 0.00) = 180.00 tons/yr
90.00 lbs/hr * 20 hrs/day * (1.00 - 0.00) = 1800.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.23 lbs/ton (AP42CC 3-02-008-08, page 80)
Control Efficiency: 0%
Calculations: 0.230 lbs/ton * 60.00 tons/hr = 13.80 lbs/hr
13.80 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 27.60 tons/yr
27.60 tons/yr * (1.00 - 0.00) = 27.60 tons/yr
13.80 lbs/hr * 20 hrs/day * (1.00 - 0.00) = 276.00 lbs/day

Final Stipulation: 8/17/93

Bulk Loading (Grain Shipping)

Process Rate: 50.00 tons/hr
Hours of operation: 4000 hr/yr 20 hrs/day

TSP Emissions:

Emission Factor: 0.30 lbs/ton (AFSSCC 3-02-006-06, page 80)
Control Efficiency: 75% (Telescoping chute)
Calculations: 0.30 lbs/ton * 50.00 tons/hr = 15.00 lbs/hr
15.00 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 30.00 tons/yr
30.00 tons/yr * (1.00 - 0.75) = 7.50 tons/yr
15.00 lbs/hr * 20 hrs/day * (1.00 - 0.75) = 75.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.13 lbs/ton (AFSSCC 3-02-006-06, page 80)
Control Efficiency: 75% (Telescoping chute)
Calculations: 0.13 lbs/ton * 50.00 tons/hr = 6.50 lbs/hr
6.50 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 13.00 tons/yr
13.00 tons/yr * (1.00 - 0.75) = 3.25 tons/yr
6.50 lbs/hr * 20 hrs/day * (1.00 - 0.75) = 32.50 lbs/day

Bulk Loading (Feed Shipping)

Process Rate: 5.00 tons/hr
Hours of operation: 4000 hr/yr 20 hrs/day

TSP Emissions:

Emission Factor: 0.30 lbs/ton (AFSSCC 3-02-006-06, page 80)
Control Efficiency: 75% (Telescoping chute)
Calculations: 0.30 lbs/ton * 5.00 tons/hr = 1.50 lbs/hr
1.50 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 3.00 tons/yr
3.00 tons/yr * (1.00 - 0.75) = 0.75 tons/yr
1.50 lbs/hr * 20 hrs/day * (1.00 - 0.75) = 7.50 lbs/day

PM-10 Emissions:

Emission Factor: 0.13 lbs/ton (AFSSCC 3-02-006-06, page 80)
Control Efficiency: 75% (Telescoping chute)
Calculations: 0.13 lbs/ton * 5.00 tons/hr = 0.65 lbs/hr
0.65 lbs/hr * 4000 hr/yr * 0.0005 tons/lb = 1.30 tons/yr
1.30 tons/yr * (1.00 - 0.75) = 0.33 tons/yr
0.65 lbs/hr * 20 hrs/day * (1.00 - 0.75) = 3.25 lbs/day

Equity #2
Grain and Fertilizer Elevator

Annual Emission Rates (Allowable) *

Source	Tons/Year TSP	PM-10	NOX	VOC	CO	SOX
Bulk Unloading (Grain Receiving)	86.40	43.20				
Grain Drying	22.40	3.52				
Elevator Legs (Headhouse)	216.00	33.12				
Bulk Loading (Grain Shipping)	10.80	4.66				
Bulk Unloading (Fertilizer)	0.96	0.48				
Bulk Loading (Fertilizer)	0.12	0.06				
Total Emissions	336.68	85.06	0.00	0.00	0.00	0.00

* Based on operating 3200 hours/year.

Final Submission: 9/17/93

Daily Emission Rates (Allowable) **

Source	TSP	PM-10	NOX	VOC	CO	SOX
	lbs/day					
Bulk Unloading (Grain Receiving)	864.00	432.00				
Grain Drying	336.00	52.80				
Elevator Legs (Headhouse)	2160.00	331.20				
Bulk Loading (Grain Shipping)	108.00	46.80				
Bulk Unloading (Fertilizer)	9.60	4.80				
Bulk Loading (Fertilizer)	1.20	0.60				
Total Emissions	3478.80	868.20	0.00	0.00	0.00	0.00

** Based on operating all processes except grain drying 16 hours/day.
Based on operating grain drying 24 hours/day.

Bulk Unloading (Grain Receiving)

Process Rate: 90 tons/hr
Hours of operation: 3200 hr/yr 16 hrs/day

TSP Emissions:

Emission Factor: 0.6 lbs/ton (AP-42CC 3-02-036-05, page 80)
Control Efficiency: 0%
Calculations: 0.60 lbs/ton * 90.00 tons/hr = 54.00 lbs/hr
54.00 lbs/hr * 3200 hr/yr * 0.0005 tons/lb = 86.40 tons/yr
86.40 tons/yr * (1.00 - 0.000) = 86.40 tons/yr
54.00 lbs/hr * 16 hrs/day * (1.00 - 0.00) = 864.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.3 lbs/ton (AP-42CC 3-02-036-05, page 80)
Control Efficiency: 0%
Calculations: 0.300 lbs/ton * 90.00 tons/hr = 27.00 lbs/hr
27.00 lbs/hr * 3200 hr/yr * 0.0005 tons/lb = 43.20 tons/yr
43.20 tons/yr * (1.00 - 0.000) = 43.20 tons/yr
27.00 lbs/hr * 16 hrs/day * (1.00 - 0.00) = 432.00 lbs/day

Grain Drying

Process Rate: 20 tons/hr
Hours of operation: 3200 hr/yr 24 hrs/day

TSP Emissions:

Emission Factor: 0.7 lbs/ton (AP-42CC 3-02-006-04, page 80)
Control Efficiency: 0%
Calculations: 20.00 tons/hr * 0.70 lbs/ton = 14.00 lbs/hr
14.00 lbs/hr * 3200 hr/yr * 0.0005 tons/lb = 22.40 tons/yr
22.40 tons/yr * (1.00 - 0.000) = 22.40 tons/yr
14.00 lbs/hr * 24 hrs/day * (1.00 - 0.00) = 336.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.11 lbs/ton (AP-42CC 3-02-006-04, page 80)
Control Efficiency: 0%
Calculations: 20.00 tons/hr * 0.11 lbs/ton = 2.20 lbs/hr
2.20 lbs/hr * 3200 hr/yr * 0.0005 tons/lb = 3.52 tons/yr
3.52 tons/yr * (1.00 - 0.000) = 3.52 tons/yr
2.20 lbs/hr * 24 hrs/day * (1.00 - 0.00) = 52.80 lbs/day

Elevator Legs (Headhouse)

Process Rate: 90 tons/hr
Hours of operation: 3200 hr/yr 16 hrs/day

TSP Emissions:

Emission Factor: 1.5 lbs/ton (AP-42SCC 3-02-006-08, page 80)
Control Efficiency: 0%
Calculations: 90.00 tons/hr * 1.50 lbs/ton = 135.00 lbs/hr
135.00 lbs/hr * 3200 hr/yr * 0.0005 tons/lb = 216.00 tons/yr
216.00 tons/yr * (1.00 - 0.000) = 216.00 tons/yr
135.00 lbs/hr * 16 hrs/day * (1.00 - 0.00) = 2160.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.23 lbs/ton (AP-42SCC 3-02-006-08, page 80)
Control Efficiency: 0%
Calculations: 90.00 tons/hr * 0.23 lbs/ton = 20.70 lbs/hr
20.70 lbs/hr * 3200 hr/yr * 0.0005 tons/lb = 33.12 tons/yr
33.12 tons/yr * (1.00 - 0.000) = 33.12 tons/yr
20.70 lbs/hr * 16 hrs/day * (1.00 - 0.00) = 331.20 lbs/day

Bulk Loading (Grain Shipping)

Process Rate: 90 tons/hr
Hours of operation: 3200 hr/yr 16 hrs/day

TSP Emissions:

Emission Factor: 0.3 lbs/ton (AP-42SCC 3-02-006-06, page 80)
Control Efficiency: 75% (Telescoping chute)
Calculations: 0.30 lbs/ton * 90.00 tons/hr = 27.00 lbs/hr
27.00 lbs/hr * 3200 hr/yr * 0.0005 tons/lb = 43.20 tons/yr
43.20 tons/yr * (1.00 - 0.75) = 10.80 tons/yr
27.00 lbs/hr * 16 hrs/day * (1.00 - 0.75) = 108.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.13 lbs/ton (AP-42SCC 3-02-006-06, page 80)
Control Efficiency: 75% (Telescoping chute)
Calculations: 0.130 lbs/ton * 90.00 tons/hr = 11.70 lbs/hr
11.70 lbs/hr * 3200 hr/yr * 0.0005 tons/lb = 18.72 tons/yr
18.72 tons/yr * (1.00 - 0.75) = 4.68 tons/yr
11.70 lbs/hr * 16 hrs/day * (1.00 - 0.75) = 46.80 lbs/day

Bulk Unloading (Fertilizer)

Process Rate: 30 tons/hr
Hours of operation: 3200 hr/yr 16 hrs/day

TSP Emissions:

Emission Factor: 0.02 lbs/ton (AP-42SCC 3-01-027-09, page 48)
Control Efficiency: 0%
Calculations: 0.02 lbs/ton * 30.00 tons/hr = 0.60 lbs/hr
0.60 lbs/hr * 3200 hr/yr * 0.0005 tons/lb = 0.96 tons/yr
0.96 tons/yr * (1.00 - 0.000) = 0.96 tons/yr
0.60 lbs/hr * 16 hrs/day * (1.00 - 0.00) = 9.60 lbs/day

PM-10 Emissions:

Emission Factor: 0.01 lbs/ton (AP-42SCC 3-01-027-09, page 48)
Control Efficiency: 0%
Calculations: 0.010 lbs/ton * 30.00 tons/hr = 0.30 lbs/hr
0.30 lbs/hr * 3200 hr/yr * 0.0005 tons/lb = 0.48 tons/yr
0.48 tons/yr * (1.00 - 0.00) = 0.48 tons/yr
0.30 lbs/hr * 16 hrs/day * (1.00 - 0.00) = 4.80 lbs/day

Final Stipulation: 9/17/93

Bulk Loading (Fertilizer)

Process Rate: 15.00 tons/hr
Hours of operation: 3200 hr/yr 16 hrs/day

TSP Emissions:

Emission Factor: 0.02 lbs/ton (AFSSCC 3-01-027-09, page 48)
Control Efficiency: 75% (Stationary chute with dust sock)
Calculations: 0.02 lbs/ton * 15.00 tons/hr = 0.30 lbs/hr
0.30 lbs/hr * 3200 hr/yr * 0.0005 tons/lb = 0.48 tons/yr
0.48 tons/yr * (1.00 - 0.750) = 0.12 tons/yr
0.30 lbs/hr * 16 hrs/day * (1.00 - 0.75) = 1.20 lbs/day

PM-10 Emissions:

Emission Factor: 0.01 lbs/ton (AFSSCC 3-01-027-09, page 48)
Control Efficiency: 75% (Stationary chute with dust sock)
Calculations: 0.010 lbs/ton * 15.00 tons/hr = 0.15 lbs/hr
0.15 lbs/hr * 3200 hr/yr * 0.0005 tons/lb = 0.24 tons/yr
0.24 tons/yr * (1.00 - 0.750) = 0.06 tons/yr
0.15 lbs/hr * 16 hrs/day * (1.00 - 0.75) = 0.60 lbs/day

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 the Equity Supply facility 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 Equity Supply facility at its potential to emit (emissions associated with maximum design capacity or as limited by ARM 16.8.1403) indicated that the facility 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 Equity Supply 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.

Final Stipulation: 9/17/93

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

<u>Kalispell and Evergreen Nonattainment Boundaries</u>

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.

Final Stipulation: 9/17/93

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

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Project or Application: Equity Supply Company, Air Quality Stipulation for Kalispell SIP.

Description of Project: Equity Supply Company operates an existing feed mill and seed cleaning plan known as Equity #1, located on West Montana and 3rd Avenue North and a grain and fertilizer elevator known as Equity #2, located on Center Streat and 5th Avenue West, both located in the cit limits of Kalispell, Montana. The Equity #1 facility receives and ships grain and also manufactures feed. The Equity #2 facility receives and ships grain and fertilizer.

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 ar 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 emissic sources and makes enforceable emission limitations, hours of operation, 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 a signed 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, control techniques, and limitations on operating hours at the plant enforceable and assures that the emissions from this facili 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, Ai Quality Bureau.

EA prepared by: Michael Glavin
Date: August 4, 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 Resources 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

13

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

In the Matter of Compliance of Flathead Road Department, 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 Flathead Road Department ("Flathead Co."), 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

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

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 Flathead Co. 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 Flathead Co. 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 Flathead Co. are necessary to demonstrate compliance with the particulate matter NAAQS. The department has performed additional modeling using revised emission rates for Flathead Co. 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 Flathead Co.

B. BINDING EFFECT

12. The parties to this Stipulation agree that any such emission limitations placed on Flathead Co. 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 Flathead Co. The specific conditions which comprise these limitations are contained in Exhibit B to this Stipulation (entitled "Emission Limitations and Conditions, Flathead Road Department") 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 MAAQS 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 75-2-203, 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 nonattainment area to meet the particulate matter NAAQS and the PM-10 MAAQS, the Board has jurisdiction to require the imposition of such limitations and conditions, and may adopt the same as enforceable measures applicable to Flathead Co.

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 Flathead Co.

FLATHEAD ROAD DEPARTMENT	MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
BY _____	BY _____ Robert J. Robinson, Director
BY _____ Attorney	BY _____ Timothy R. Baker, Attorney
DATE 8-25-93	DATE 9/15/93

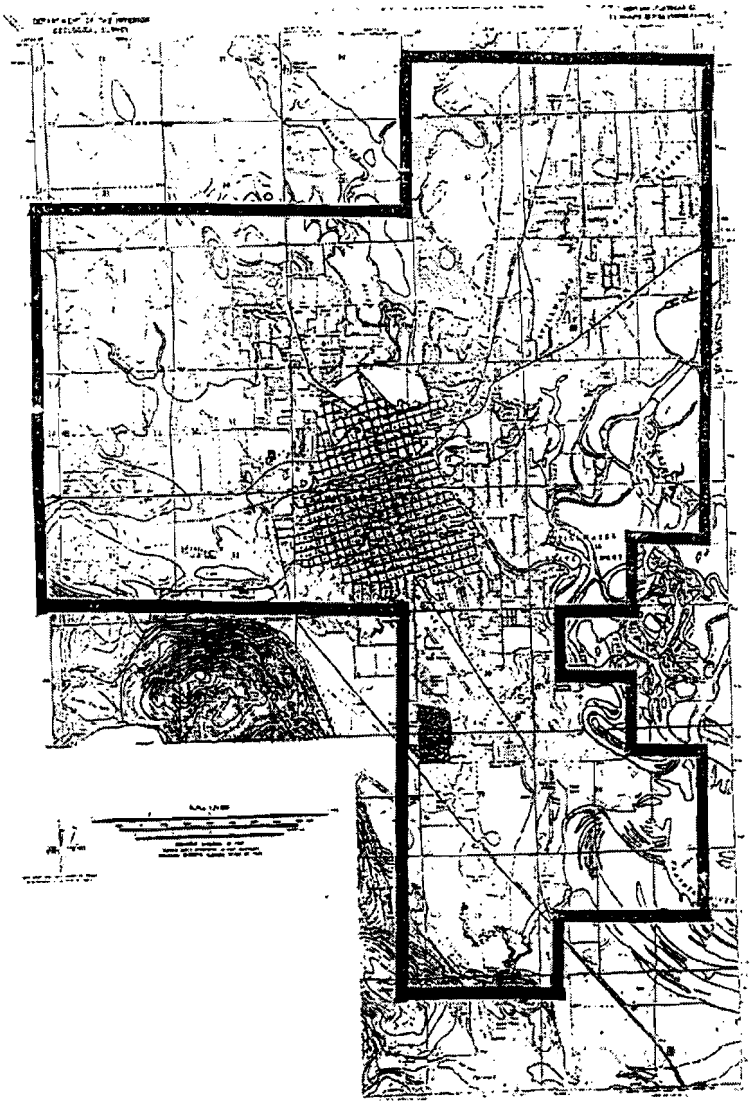

EXHIBIT B
EMISSION LIMITATIONS AND CONDITIONS

Flathead County Road Department
P.O. Box 1102
Kalispell, MT 59902-1102

The above-named company is hereinafter referred to as "Flathead Co."

Section I: Affected Facilities

A. Equipment: A portable 1973 Pioneer Duplex Model 50VE crusher (100 TPH), Serial #303R-P-122 and a gravel screen.

B. Original Location: Four Corners Pit (N½, Sec 29, T28N, R21W, Flathead County).

Section II: Conditions

A. Operational

1. All visible emissions from the crusher plant are limited to 20% opacity[1]. (ARM 16.8.1404)

2. Flathead Co. shall not cause or authorize to be discharged into the atmosphere from other equipment such as screens or transfer points any visible emissions that exhibit opacity[1] of 20%. (ARM 16.8.1401)

3. Flathead Co. shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit opacity[1] of 5% or greater (RACT)

4. Flathead Co. shall treat all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water/and or chemical dust suppressant as necessary to maintain compliance with the 5% opacity[1] limitation. (RACT)

5. Water spray bars are required as necessary, if fugitive emissions are greater than 20% opacity[1].

6. Crusher production is limited to 100 tons/hour.

7. The hours of operation of the gravel crusher is limited to 8760 hours per year.

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

8. Total particulate emissions from this crusher in conjunction with total particulate emissions from any additional equipment at any individual site shall be less than 250 tons/year.

9. Flathead Co. shall operate and maintain all emission control equipment and utilize all techniques specified in this stipulation to provide the maximum air pollution control for which they were designed.

B. Reporting Requirements

1. If this crushing plant is moved to another location, a Notice of Intent to Transfer Location of Air Quality Permit must be published in a newspaper of general circulation in the area to which the transfer is to be made. This notice must be published at least 15 days prior to the move. Proof of publication and a change of location form must be submitted to the Montana Department of Health and Environmental Sciences, Air Quality Bureau (AQB), prior to the move. These forms are available from the AQB.

2 Flathead Co. shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. These records shall be available for inspection by the AQB and will be submitted to the AQB upon request.

3. Flathead Co. shall retain daily production numbers for a minimum of five (5) years.

4. Annual production information shall be submitted to the AQB by March 1 of the following calendar year. The information shall include:

a) Tons of gravel crushed.

b) Tons of gravel bulk loaded.

c) Hours of operation of the crusher.

d) Gallons of diesel used for generators.

e) Fugitive dust information consisting of a listing of all plant vehicles including the following for each vehicle type:

i) Number of vehicles;
ii) Vehicle type;
iii) Vehicle weight, loaded;
iv) Vehicle weight, unloaded;
v) Number of tires on vehicle;
vi) Average trip length;
vii) Number of trips per day;
viii) Average vehicle speed;
ix) Area of activity; and
x) Vehicle fuel usage (gasoline or diesel) annual total.

f. Fugitive dust control for haul roads and general plant area:

i. Hours of operation of water trucks.
ii. Application schedule for chemical dust suppressant if applicable.

C. The AQB may modify the conditions of this stipulation based on local conditions of any future site. These factors may include, but are not limited to, local terrain, meteorological conditions, proximity to residences, predicted ambient impacts which would cause or contribute to violations of a NAAQS or PSD increment, etc.

D. The department may require additional emissions testing on sources of emissions per ARM 16.8.704, Testing Requirements.

E. Flathead Co. must maintain a copy of the air quality stipulation at the Kalispell ready mix site and make that copy available for inspection by department personnel upon request.

F. Flathead Co. 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
Flathead County Road Department

I. Introduction/Process Description

The affected facility is a portable 1973 Pioneer Duplex Model 50VE crusher (100 TPH), Serial #303R-P-122 and a gravel screen. This plant crushes gravel for use in construction, repair, and maintenance of roads and highways. The maximum process rate of the crusher is 100 tons/hour.

Flathead Co. operates three (3) gravel pits in or near the Kalispell nonattainment area. They move the Cedar Rapids gravel crusher between these pits in order to crush gravel used to produce asphalt for use in construction, repair, and maintenance of roads and highways. The Barber Greene DA 55 Hot Mix Plant is permanently located at the Steel Bridge Pit. The three gravel pit locations are:

Four Corners Pit (N½, Sec 29, T28N, R21W, Flathead County);
Sheepherders Pit (NW¼, Sec 15, T28N, R22W, Flathead County),
Steel Bridge Pit (SE¼, Sec 3, T28N, R21W, Flathead County).

If this crushing plant is moved to another location, including the Steel Bridge Pit or the Sheepherders Pit, a Notice of Intent to Transfer Location of Air Quality Stipulation must be published in a newspaper of general circulation in the area to which the transfer is to be made as required in Section II.B.1. Any such transfer will be subject to department review as described in Section II.C.

II. Applicable Rules and Regulations

A. ARM 16.8, Subchapter 8, Ambient Air Quality, including but not limited to:

ARM 16.8.821 Ambient Air Quality Standard for PM-10. This section states that no person may cause or contribute to concentrations of PM-10 in the ambient air which exceed the set standards.

B. ARM 16.8, Subchapter 9, Prevention of Significant Deterioration - This facility is not a PSD source since this facility is not a listed source and the potential to emit is below 250 tons per year of any pollutant.

C. 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 16.8.1403 Particulate Matter, Industrial Process. This section states that no person shall cause, allow, or permit to be discharged into the outdoor atmosphere from any operation, process, or activity,

particulate matter in excess of the amount determined by using the following equation:

Allowable Emissions = 55 (100 tons/hr)$^{.11}$ - 40 = 51.28 lbs/hr.
The estimated total particulate matter emissions for the gravel crusher are 14.00 lbs/hr, therefore the source is in compliance.

3. ARM 16.8.1404 Visible Air Contaminants. This section requires an opacity limitation of 20% from all stacks constructed or altered since November 23, 1968.

4. ARM 16.8.1423 Standards of Performance for New Stationary Sources (NSPS). This plant was constructed in 1973 so NSPS (40 CFR Part 60, general provisions, and Subpart OOO Non-Metallic Mineral Processing Plants) does not apply.

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 a nonattainment for PM-10 by EPA, RACT must be applied to those stationary sources which cause or contribute to the nonattainment area.

A. Crusher and Material Transfer Emission

A BACT analysis was conducted at the time of the original permit application #2716-00 and a determination had been made for controlling TSP and PM-10 emissions. The department has determined that BACT for this source is the application of water sprays as necessary to maintain compliance with the 20% opacity limitation. This applies to the crusher and all other equipment such as screens or transfer points in which emissions exist.

The BACT determination made for this source is considered to met the RACT requirements since BACT is more stringent than RACT.

B. Fugitive Road Dust Emissions

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

IV. Emission Inventory

Portable Gravel Crusher
1973 Pioneer Duplex Model 50 VE

Annual Emission Rates (Potential) *

Source	TSP	PM-10	NOX	VOC	CO	SOX
	tons/year					
1973 Pioneer Duplex Model 50 VE	61.32	10.95				
Diesel Generator	0.63	0.63	8.80	0.70	1.90	0.58
Screen	35.04	26.28				
Material Transfer	12.70	2.80				
Pile Forming: Stacker	56.94	26.28				
Bulk Loading	8.76	1.05				
Haul Roads	2.36	0.85				
Total Emissions	177.75	68.84	8.80	0.70	1.90	0.58

* Based on operating 8760 hours/year.

Daily Emission Rates (Potential) **

Source	TSP	PM-10	NOX	VOC	CO	SOX
	lbs/day					
1973 Pioneer Duplex Model 50 VE	336.00	60.00				
Diesel Generator	3.43	3.43	48.24	3.84	10.42	3.19
Screen	192.00	144.00				
Material Transfer	69.60	15.36				
Pile Forming: Stacker	312.00	144.00				
Bulk Loading	48.00	5.76				
Haul Roads (Daily)	20.08	7.23				
Total Emissions	981.11	379.78	48.24	3.84	10.42	3.19

** Based on operating 24 hours/day.

1973 Pioneer Duplex Model 50 VE

Process Rate: 100 tons/hr (Maximum Process Rate)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.28 lbs/ton (AP-42, 8.19.2-1)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.28 lbs/ton * 100 tons/hr = 28.00 lbs/hr
28.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 122.64 tons/yr
122.64 tons/yr * (1.00 - 0.50) = 61.32 tons/yr

PM-10 Emissions:

Emission Factor: 0.05 lbs/ton (Ratio between TSP & PM-10 from AFSSCC)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.050 lbs/ton * 100 tons/hr = 5.00 lbs/hr
5.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 21.90 tons/yr
21.90 Tons/yr * (1.00 - 0.50) = 10.95 tons/yr

Diesel Generator

Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.143 lbs/hr (AP-42, 3.3.2)
Calculations: 0.143 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 0.63 tons/yr

PM-10 Emissions:

Emission Factor: 0.143 lbs/hr (AP-42, 3.3.2)
Calculations: 0.143 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 0.63 tons/yr

NOx Emissions:

Emission Factor: 2.01 lbs/hr (AP-42, 3.3.2)
Calculations: 2.01 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 8.80 tons/yr

VOC Emissions:

Emission Factor: 0.160 lbs/hr (AP-42, 3.3.2)
Calculations: 0.160 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 0.70 tons/yr

CO Emissions:

Emission Factor: 0.434 lbs/hr (AP-42, 3.3.2)
Calculations: 0.434 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 1.90 tons/yr

SOx Emissions:

Emission Factor: 0.133 lbs/hr (AP-42, 3.3.2)
Calculations: 0.133 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 0.58 tons/yr

Screen

Process Rate: 100 tons/hr (Maximum Process Rate)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.16 lbs/ton (AP-42, 8.19.1-1)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.16 lbs/ton * 100 tons/hr = 16.00 lbs/hr
16.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 70.08 tons/yr
70.08 tons/yr * (1.00 - 0.50) = 35.04 tons/yr

PM-10 Emissions:

Emission Factor: 0.12 lbs/ton (AP-42, 8.19.1-1)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.120 lbs/ton * 100 tons/hr = 12.00 lbs/hr
12.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 52.56 tons/yr
52.56 tons/yr * (1.00 - 0.50) = 26.28 tons/yr

Material Transfer

Process Rate: 100 tons/hr (Maximum Process Rate)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.029 lbs/ton (AFSSCC, 3-05-025-03)
Control Efficiency: 0%
Calculations: 0.03 lbs/ton * 100 tons/hr = 2.90 lbs/hr
2.90 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 12.702 tons/yr
12.70 tons/yr * (1.00 - 0.00) = 12.70 tons/yr

PM-10 Emissions:

Emission Factor: 0.0064 lbs/ton (AFSSCC, 3-05-025-03)
Control Efficiency: 0%
Calculations: 0.006 lbs/ton * 100 tons/hr = 0.64 lbs/hr
0.64 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 2.80 tons/yr
2.80 tons/yr * (1.00 - 0.00) = 2.80 tons/yr

Pile Forming: Stacker

Process Rate: 100 tons/hr (Maximum Process Rate)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.13 lbs/ton (AFSSCC, 3-05-025-05)
Control Efficiency: 0%
Calculations: 0.13 lbs/ton * 100 tons/hr = 13.00 lbs/hr
13.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 56.94 tons/yr
56.94 tons/yr * (1.00 - 0.00) = 56.94 tons/yr

PM-10 Emissions:

Emission Factor: 0.06 lbs/ton (AFSSCC, 3-05-025-05)
Control Efficiency: 0%
Calculations: 0.06 lbs/ton * 100 tons/hr = 6.00 lbs/hr
6.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 26.28 tons/yr
26.28 tons/yr * (1.00 - 0.00) = 26.28 tons/yr

Bulk Loading

Process Rate: 100 tons/hr (Maximum Process Rate)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.02 lbs/ton (AFSSCC, 3-05-025-06)
Control Efficiency: 0%
Calculations: 0.02 lbs/ton * 100 tons/hr = 2.00 lbs/hr
2.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 8.76 tons/yr
8.76 tons/yr * (1.00 - 0.00) = 8.76 tons/yr

PM-10 Emissions:

Emission Factor: 0.0024 lbs/ton (AFSSCC, 3-05-025-06)
Control Efficiency: 0%
Calculations: 0.002 lbs/ton * 100 tons/hr = 0.24 lbs/hr
0.24 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 1.05 tons/yr
1.05 tons/yr * (1.00 - 0.00) = 1.05 tons/yr

Haul Roads

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 2074 VMT/Yr (Based on Maximum Process 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*P8

Where:

E= TSP Emission Factor in Lbs/Vehicle Mile Traveled (VMT)	
k= Particle sizing constant for TSP	1.0
s= Silt Content in percent	8.7 %
S= Average Speed of vehicles in mph	10.0 mph
W= Average weight of vehicles in Tons	18.0 Tons
w= Average number of wheels on vehicles	8 Wheels

P8= Precipitation Ratio based on the following:
130 Days with more than .01" of Precipitation
P8= (365 days - 130 days)/365 Days,= 0.6438

TSP Emissions:

TSP Emission Factor: 4.55 Lbs/VMT

E(TSP)= (2074 VMT/Yr)(4.55 Lbs/VMT)(0.5)
E(TSP)= 4719 Lbs/Yr or 2.36 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	8.7 %
S= Average Speed of vehicles in mph	10.0 mph
W= Average weight of vehicles in Tons	12.0 Tons
w= Average number of wheels on vehicles	8 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: 1.64 lbs/VMT

E(PM10)= (2074 VMT/Yr)(1.64 Lbs/VMT)(0.5)
E(PM10)= 1699 Lbs/Yr or 0.85 Tons/Yr

Haul Roads (Daily)

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 2074 VMT/Yr (Based on Maximum Process 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	8.7 %
S= Average Speed of vehicles in mph	10.0 mph
W= Average weight of vehicles in Tons	12.0 Tons
w= Average number of wheels on vehicles	8 wheels
PR= Assumes no precipitation	1.0000

TSP Emissions:

TSP Emission Factor: 7.07 Lbs/VMT

E(TSP)= (2074 VMT/Yr)(7.07 Lbs/VMT)(0.5)
E(TSP)= 7329 Lbs/Yr or 3.66 Tons/Yr or 20.08 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	8.7 %
S= Average Speed of vehicles in mph	10.0 mph
W= Average weight of vehicles in Tons	12.0 Tons
w= Average number of wheels on vehicles	8 wheels
PR= Assumes no precipitation	1.0000

PM10 Emissions:

PM10 Emission Factor: 2.54 Lbs/VMT

E(PM10)= (2074 VMT/Yr)(2.54 Lbs/VMT)(0.5)
E(PM10)= 2639 Lbs/Yr or 1.32 Tons/Yr or 7.23 lbs/day

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 is now requiring 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 amission rates.

After an analysis, the department determined that emission limitations applicable to the Flathead Co. facility 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 Flathead Co. facility at its potential to emit (emissions associated with maximum design capacity or as limited by ARM 16.8.1403) indicated that the facility 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 Flathead Co. 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 Flathead Co. 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: Flathead County Road Department, Air Quality Stipulation for Kalispell SIP.

Description of Project: This stipulation is for the operation of a portable 1973 Pioneer Duplex Model 50VE crusher (100 TPH), Serial #303R-P-122 and a gravel screen. This plant crushes gravel for use in construction, repair, and maintenance of roads and highways.

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 available.

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

Recommendation: No EIS is 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, control techniques, and limitations on operating hours 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

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		

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

In the Matter of Compliance of Flathead Road Department, 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 Flathead Road Department ("Flathead Co."), 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

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 NAAQS").

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

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 Flathead Co. 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 Flathead Co. 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 Flathead Co. are necessary to demonstrate compliance with the particulate matter NAAQS. The department has performed additional modeling using revised emission rates for Flathead Co. 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 Flathead Co.

B. BINDING EFFECT

12. The parties to this Stipulation agree that any such emission limitations placed on Flathead Co. 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 Flathead Co. The specific conditions which comprise these limitations are contained in Exhibit B to this Stipulation (entitled "Emission Limitations and Conditions, Flathead Road Department") 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 MAAQS 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 75-2-203, 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 MAAQS, the Board has jurisdiction to require the imposition of such limitations and conditions, and may adopt the same as enforceable measures applicable to Flathead Co.

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 Flathead Co.

FLATHEAD ROAD DEPARTMENT	MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
BY _____	BY _____ Robert J. Robinson Director
BY _____ Attorney	BY _____ Timothy R. Baker Attorney
DATE 8-25-93	DATE 9/15/93

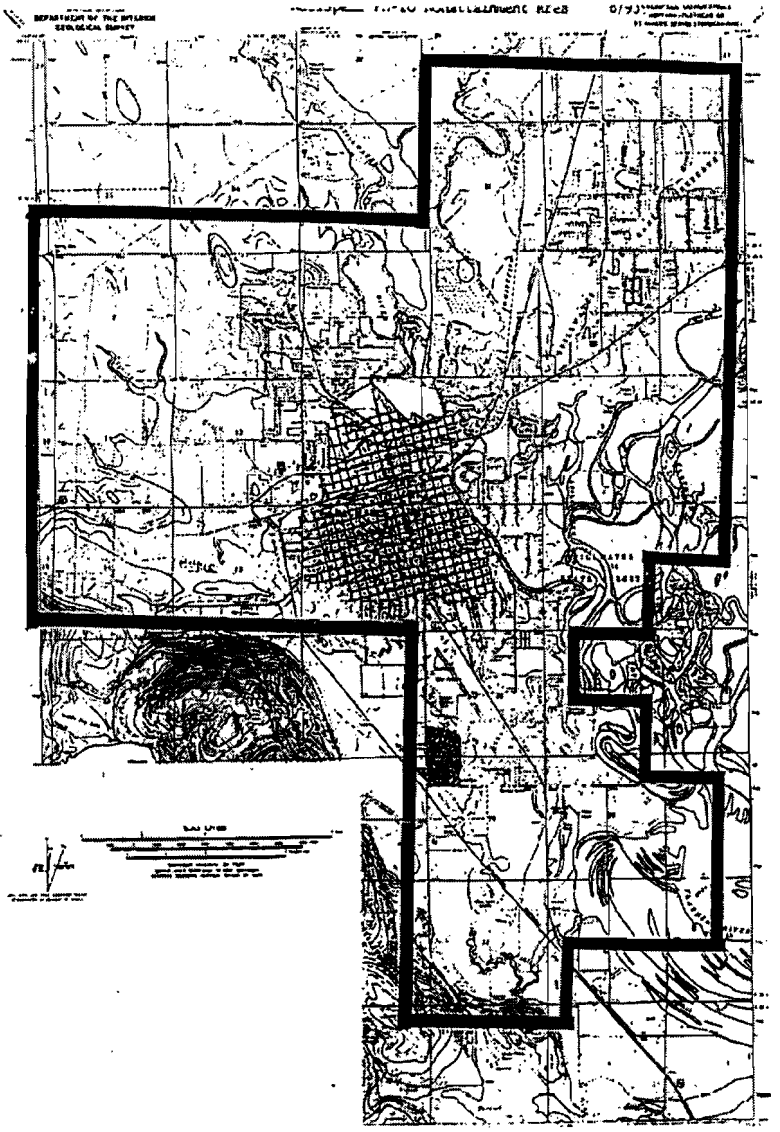

EXHIBIT B
EMISSION LIMITATIONS AND CONDITIONS

Flathead County Road Department
P.O. Box 1102
Kalispell, MT 59902-1102

The above-named company is hereinafter referred to as "Flathead Co."

Section I: Affected Facilities

A. Equipment: A stationary 1970 Barber Green DA 55 Hot Mix Plant (150 TPH) with a cone dust collector (model CB 55) and a wet collector (model CL 63), installed in 1971.

B. Original Location: Steel Bridge Pit (SE¼, SE¼, Sec 3, T28N, R21W, Flathead County).

Section II: Limitations and Conditions

A. Emission Limitations

1. Flathead Co. shall operate and maintain the wet scrubber and all other emission control equipment and utilize all techniques specified in this stipulation to provide the maximum air pollution control for which they were designed.

2. All visible emissions from the asphalt plant stack are limited to 20% opacity[1]. (ARM 16.8.1404)

3. Flathead Co. shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, or the general plant area any visible fugitive emissions that exhibit opacity[1] of 5% or greater. (RACT)

4. Flathead Co. shall treat all unpaved portions of the haul roads, access roads, and the general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 5% opacity limitation. (RACT)

5. Flathead Co. shall not cause or authorize to be discharged into the atmosphere from material transfer and storage areas any visible emissions that exhibit opacity[1] of 20% or greater. (ARM 16.8.1401)

6. Asphalt plant TSP emissions are limited to 0.10 gr/dscf and 15.4 lbs/hr.

7. Asphalt plant PM-10 emissions are limited to 0.10 gr/dscf and 15.4 lbs/hr.

8. A device to measure the pressure drop (magnehelic gauge, manometer, etc.) on the control device (wet scrubber, baghouse, etc.) shall be installed and maintained. Pressure drop shall be measured in inches of water.

Temperature indicators at the control device inlet and outlet must be installed and maintained.

9. The original asphalt production rate is limited to 150 tons/hour.

10. Once a stack test is performed, the asphalt production rate is limited to the average production rate during the last source test demonstrating compliance.

11. The asphalt plant operation is limited to 8760 hours/year.

B. Emission Testing

1. A source test must be conducted and compliance demonstrated within 180 days from the date of the signed stipulation.

2. An EPA method 1-5 source test must be performed on the asphalt plant every four years to demonstrate compliance with Section II.A.1, 4, 5, and 6.

3. The tests shall consist of three runs, each of at least 60 minutes duration. The test shall be conducted in compliance with the requirements of 40 CFR Part 60, Subpart A, General Provisions; EPA Reference Methods 1-5, 40 CFR Part 60, Appendix A, and 40 CFR Part 60 Subpart I. The next test shall be performed during 1993.

4. An EPA Method 9 opacity test must also be performed in conjunction with the particulate tests to demonstrate compliance with Section II.A.1. This test shall consist of thirty 6-minute average observations with ten of these observations being conducted during each particulate test run.

5. These tests must be conducted in compliance with the pre-test notification and reporting requirements of the AQB's Compliance Source Test Protocol.

6. Production field data sheets must be supplied as part of the test report. Since asphalt production will be limited to the average production rate during the test, it is suggested the test be performed at the highest production rate practical.

7. The AQB must be notified of the test five working days before the test is scheduled to be performed. The AQB must also be notified the day before the test is performed to confirm the test. The responsibility for notification is that of the owner/operator.

8. Pressure drop on the control device and temperatures will be recorded during the test and reported as part of the test results.

C. Reporting Requirements

1. The operator must maintain on-site records showing daily production rates for the current calendar year. These records shall be available for inspection by the AQB and will be submitted to the AQB upon request.

2. Flathead Co. shall retain daily production numbers for a minimum of five (5) years.

3. Annual production information shall be submitted in writing to the AQB by March 1 of the following calendar year. The information shall include:

a) Tons of asphalt produced.

b) Hours of operation.

c) Type and amount of fuel used for the plant.

d) Fugitive dust information consisting of a listing of all plant vehicles including the following for each vehicle type:

i) Number of vehicles;
ii) Vehicle type;
iii) Vehicle weight, loaded
iv) Vehicle weight, unloaded;
v) Number of tires on vehicle;
vi) Average trip length;
vii) Number of trips per day;
viii) Average vehicle speed;
ix) Area of activity; and
x) Vehicle fuel usage (gasoline or diesel) annual total.

f) Fugitive dust control for haul roads and general plant area:

i. Hours of operation of water trucks.
ii. Application schedule for chemical dust suppressant if applicable.

D. The department may require additional emissions testing on sources of emissions per ARM 16.8.704, Testing Requirements.

E. Flathead Co. must maintain a copy of the air quality stipulation at the Kalispell ready mix site and make that copy available for inspection by department personnel upon request.

F. Flathead Co. 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.

4 Final Stipulation: 9/17/93

Analysis of Conditions
Flathead County Road Department

I. Introduction

A. Permitted Equipment

A stationary 1970 Barber Green DA 55 Hot Mix Plant (150 TPH) with a cone dust collector (model CB 55) and a wet collector (model CL 63).

B. Process Description

This plant produces asphalt for use in construction, repair, and maintenance of roads and highways.

C. Facility Location

Flathead Co. operates three (3) gravel pits in or near the Kalispell nonattainment area. They move the Cedar Rapids gravel crusher between these pits in order to crush gravel used to produce asphalt for use in construction, repair, and maintenance of roads and highways. The Barber Greene DA 55 Hot Mix Plant is permanently located at the Steel Bridge Pit. The three gravel pit locations are:

Four Corners Pit (N½, Sec 29, T28N, R21W, Flathead County);
Sheepherders Pit (NW¼, Sec 15, T28N, R22W, Flathead County);
Steel Bridge Pit (SE¼, Sec 3, T28N, R21W, Flathead County).

II. Applicable Rules and Regulations

A. ARM 16.8, Subchapter 8, Ambient Air Quality, including but not limited to:

ARM 16.8.821 Ambient Air Quality Standard for PM-10. This section states that no person may cause or contribute to concentrations of PM-10 in the ambient air which exceed the set standards. (See Section V)

B. ARM 16.8, Subchapter 9, Prevention of Significant Deterioration - This facility is not a PSD source since this facility is not a listed source and the potential to emit is below 250 tons per year of any pollutant.

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

1. ARM 16.8.1401 Particulate Matter, Airborne. This section requires an opacity limitation of 20% for all fugitive emission sources.

2. ARM 16.8.1403 Particulate Matter, Industrial Process. This section states that no person shall cause, allow, or permit to be discharged into the outdoor atmosphere from any operation, process, or activity, particulate matter in excess of the amount determined by using the following equation:

Allowable Emissions = 55 (150 tons/hr)^{11} - 40 = 55.44 lbs/hr.
The estimated total particulate matter emissions for the asphalt plant are 15.43 lbs/hr, therefore the source is in compliance.

3. ARM 16.8.1404 Visible Air Contaminants. This section requires an opacity limitation of 20% from all stacks constructed or altered since November 23, 1968.

4. 16.8.1423 Standards of Performance for New Stationary Sources (NSPS) This plant was constructed in 1970 so NSPS (40 CFR Part 60, general provisions, and Subpart I Hot Mix Asphalt Facilities does not apply.

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 a 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. Asphalt Plant Stack Emissions

Flathead Co.'s asphalt plant was constructed in 1970, and therefore, NSPS does not apply. The department has determined that RACT for pre-NSPS asphalt plants is an emission limitation of 0.10 gr/dscf and 20% opacity. Since BACT is more stringent than RACT and this asphalt plant meets BACT, the RACT requirement is met.

B. Material Transfer Fugitive Emissions

RACT for material transfer points for sources of this type has been determined by the department to be the use of water or chemical stabilization so as to maintain compliance with a 20% opacity limitation.

C. Fugitive Road Dust Emissions

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

IV. Emission Inventory

Barber Green DA 55 Hot Mix Plant

Annual Emission Rates (Potential) *

Source	Tons/Year TSP	PM-10	NOX	VOC	CO	SOX
Asphalt Plant Drum Dryer	67.58	67.58	23.65	18.40	24.97	47.96
Elevator, Screens, Bins, and Mixer	131.40	19.71				
Cold Aggregate Handling	65.70	26.28				
Haul Roads	3.54	1.27				
Total Emissions	268.22	114.84	23.65	18.40	24.97	47.96

* Based on operating 8760 hours/year.

Daily Emission Rates (Potential) **

Source	lbs/day TSP	PM-10	NOX	VOC	CO	SOX
Asphalt Plant Drum Dryer	370.29	370.29	129.60	100.80	136.80	262.80
Elevator, Screens, Bins, and Mixer	720.00	108.00				
Cold Aggregate Handling	360.00	144.00				
Haul Roads (Daily)	30.12	10.84				
Total Emissions	1480.41	633.13	129.60	100.80	136.80	262.80

* Based on operating 24 hours/day.

Asphalt Plant Drum Dryer with Wet Scrubber

Maximum Process Rate: 150 tons/hr
Process Airflow Rate: 18000 dscf/min (Maximum Process Airflow Rate)
Hours of operation: 8760 hr/yr 24 hrs/day

TSP Emissions:

Emission Factor: 0.10 gr/dscf (RACT Determination)
Calculations: 0.10 gr/dscf * 18000 dscf/min * 1/7000 lbs/gr * 60 min/hr = 15.43 lbs/hr
15.43 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 67.58 tons/yr

PM-10 Emissions:

Emission Factor: 0.10 gr/dscf (Assume 100% of TSP is PM-10)
Calculations: 0.10 gr/dscf * 18000 dscf/min * 1/7000 lbs/gr * 60 min/hr = 15.43 lbs/hr
15.43 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 67.58 tons/yr

NOx Emissions:

Emission Factor: 0.036 lbs/ton (AP$$C 3-05-002-01, page 116)
Calculations: 0.036 lbs/ton * 150 tons/hr = 5.40 lbs/hr
5.40 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 23.65 tons/yr

VOC Emissions:

Emission Factor: 0.028 lbs/ton (AP$$C 3-05-002-01, page 116)
Calculations: 0.028 lbs/ton * 150 tons/hr = 4.20 lbs/hr
4.20 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 18.40 tons/yr

CO Emissions:

Emission Factor: 0.038 lbs/ton (AP$$C 3-05-002-01, page 116)
Calculations: 0.038 lbs/ton * 150 tons/hr = 5.70 lbs/hr
5.70 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 24.97 tons/yr

Emission Factor: 0.073 lbs/ton (AFSSC 3-05-002-01, page 116)
Calculations: 0.073 lbs/ton * 150 tons/hr = 10.95 lbs/hr
10.95 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 47.96 tons/yr

Elevator, Screns, Bins, and Mixer

Process Rate: 150 tons/hr (Maximum Design)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.2 lbs/ton (AFSSC 3-05-002-02, page 116)
Calculations: 0.20 lbs/ton * 150 tons/hr = 30.00 lbs/hr
30.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 131.40 tons/yr

PM-10 Emissions:

Emission Factor: 0.03 lbs/ton (AFSSC 3-05-002-02, page 116)
Calculations: 0.03 lbs/ton * 150 tons/hr = 4.50 lbs/hr
4.50 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 19.71 tons/yr

Cold Aggregate Handling

Process Rate: 150 tons/hr (Maximum Design)
Hours of operation: 8760 hr/yr

TSP Emissions

Emission Factor: 0.10 lbs/ton (AFSSC 3-05-002-04, page 116)
Calculations: 0.10 lbs/ton * 150 tons/hr = 15.00 lbs/hr
15.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 65.70 tons/yr

PM-10 Emissions:

Emission Factor: 0.04 lbs/ton (AFSSC 3-05-002-04, page 116)
Calculations: 0.04 lbs/ton * 150 tons/hr = 6.00 lbs/hr
6.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 26.28 tons/yr

Haul Roads

Operating Hours: 8760 Hours/Yr
Vehicle Miles Trav: 3111 VMT/Yr (Based on Maximum Design)
Control Efficiency is 50% for watering.

TSP Emission Factor is determined by the following equation:

$E = 5.9*k*(s/12)*(S/30)*(W/3)^{0.7}*(w/4)^{0.5}*P$

Where:
E= TSP Emission Factor in Lbs/Vehicle Mile Traveled (VMT)
k= Particle sizing constant 1.0
s= Silt Content in percent 8.7 %
S= Average Speed of vehicles 10.0 mph
W= Average weight of vehicle 18.0 Tons
w= Average number of wheels 8 wheels
P= Precipitation Ratio based on the following:
130 Days with more than .01" of Precipitation
P= (365 days - 130 days)/365 Days = 0.6438

TSP Emissions:

TSP Emission Factor: 4.55 Lbs/VMT

E(TSP)= (3111 VMT/Yr)(4.55 Lbs/VMT)(0.5)
E(TSP)= 7078 Lbs/Yr or 3.54 Tons/Yr

PM10 Emission Factor is determined by the following equation:

4

Final Stipulation: 8-17/93

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 0.36
s= Silt Content in percent 8.7 %
S= Average Speed of vehicles 10.0 mph
W= Average weight of vehicle 18.0 Tons
w= Average number of wheels 8 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: 1.64 Lbs/VMT

E(PM10)= (3111 VMT/Yr)(1.64 Lbs/VMT)(0.5)
E(PM10)= 2548 Lbs/Yr or 1.27 Tons/Yr

Haul Roads (Daily)

Operating Hours: 8760 Hours/Yr
Vehicle Miles Trav: 3111 VMT/Yr (Based on Maximum Design)
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 1.0
s= Silt Content in percent 8.7 %
S= Average Speed of vehicles 10.0 mph
W= Average weight of vehicle 18.0 Tons
w= Average number of wheels 8 wheels
PR= Assumes no precipitation 1.0000

TSP Emissions:

TSP Emission Factor: 7.07 Lbs/VMT

E(TSP)= (3111 VMT/Yr)(7.07 Lbs/VMT)(0.5)
E(TSP)= 10994 Lbs/Yr or 5.50 Tons/Yr or 30.12 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 0.36
s= Silt Content in percent 8.7 %
S= Average Speed of vehicles 10.0 mph
W= Average weight of vehicle 18.0 Tons
w= Average number of wheels 8 wheels
PR= Assumes no precipitation 1.0000

PM10 Emissions:

PM10 Emission Factor: 2.54 Lbs/VMT

E(PM10)= (3111 VMT/Yr)(2.54 lbs/VMT)(0.5)
E(PM10)= 3958 Lbs/Yr or 1.98 Tons/Yr or 10.84 lbs/day

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 is now requiring 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 the Flathead Co. facility 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 Flathead Co. facility at its potential to emit (emissions associated with maximum design capacity or as limited by ARM 16.8.1403) indicated that the facility 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 Flathead Co. 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 application of reasonable control techniques (watering or application of dust suppressant) for haul road dust the department has determined that the Flathead Co. facility can 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: Flathead County Road Department, Air Quality Stipulation for Kalispell SIP.

Description of Project: This permit is for the operation of a stationary 1970 Barber Green DA 55 Hot Mix Plant (150 TPH) with a cone dust collector (model CB 55) and a wet collector (model CL 63). This plant produces asphalt for use in construction, repair, and maintenance of roads and highways.

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 available.

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

Recommendation: No EIS is 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

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		

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

In the Matter of Compliance of Klingler Lumber Company, Inc., 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 Klingler Lumber Company Inc. ("Klingler"), 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. <u>BACKGROUND</u>:

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, <u>et seq</u>., as

(STIPULATION)

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

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 Klingler 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 Klingler 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 Klingler are necessary to demonstrate compliance with the particulate matter NAAQS. The department has performed additional modeling using revised emission rates for Klingler 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 Klingler.

B. BINDING EFFECT

12. The parties to this Stipulation agree that any such emission limitations placed on Klingler 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 Klingler. The specific conditions which comprise these limitations are contained in Exhibit B to this Stipulation (entitled "Emission Limitations and Conditions, Klingler Lumber Company Inc.") 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 MAAQS 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 75-2-203, 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 nonattainment area to meet the particulate matter NAAQS and the PM-10 MAAQS, the Board has jurisdiction to require the imposition of such limitations and conditions, and may adopt the same as enforceable measures applicable to Klingler.

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 Klingler.

KLINGLER LUMBER COMPANY INC.

BY _____

BY _____
Attorney

DATE 9/2/93

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

BY _____
Robert J. Robinson
Director

BY _____
Timothy R. Baker
Attorney

DATE 9/15/93

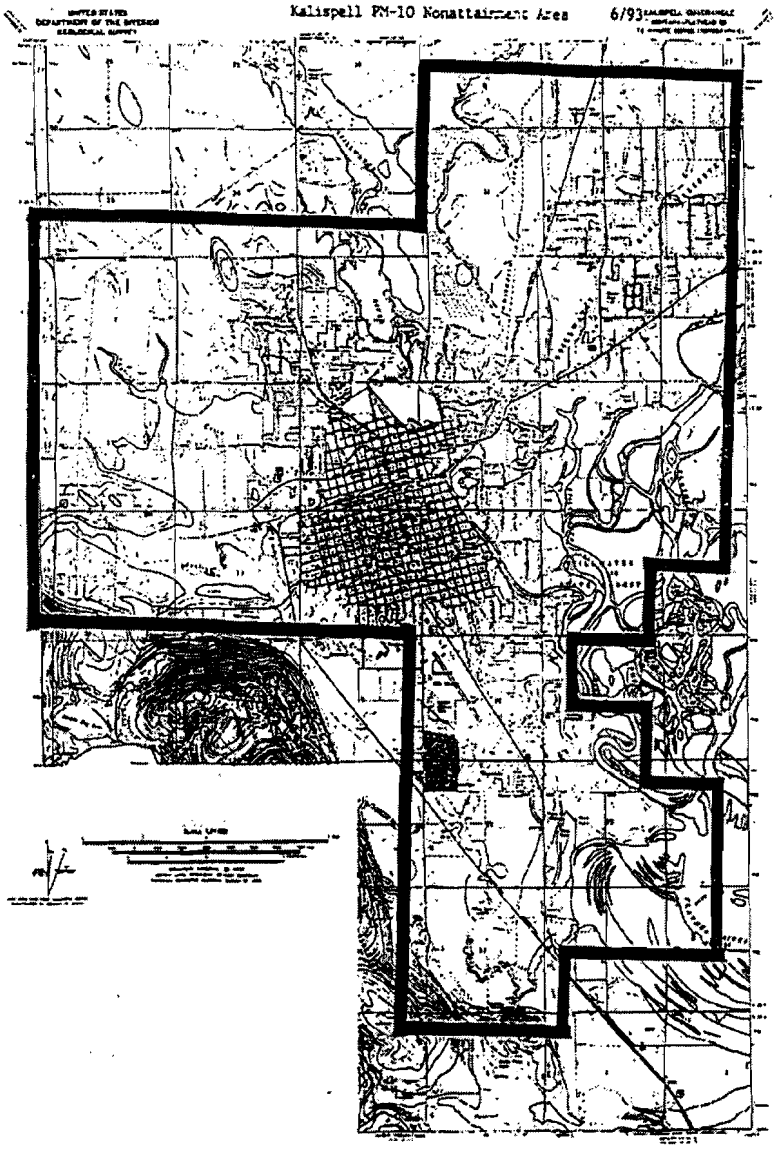
Kalispell PM-10 Nonattainment Area
6/93

EXHIBIT B
EMISSION LIMITATIONS AND CONDITIONS

Klingler Lumber Company, Inc.
P.O. Box 1097
Kalispell, MT 59903

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

SECTION I: Affected Facilities

A. Plant Location:

A 14 MMBF/yr planer mill located ¼ mile northeast of Kalispell, Montana on Whitefish Stage Road (Section 22, Township 29 North, Range 21 West, Flathead County).

B. Affected Equipment and Facilities:

1. Lumber planer with cyclone[1];
2. Trim saw with cyclone[1];
3. Trim block chipper with cyclone[1];
4. Two (2) wood-waste bins with two (2) cyclones;
5. Wood-waste bins truck loadout;
6. Fugitive emissions from lumber handling.

C. Existing Equipment not allowed to operate:

1. Tepee burner. (See Section II.A.7)

SECTION II: Limitations and Conditions

A. Emission Limitations and Conditions:

1. Klingler 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[2] of twenty percent (20%) or greater averaged over six (6) consecutive minutes. This applies to stack emissions from the two (2) wood-waste bin cyclones.

2. Klingler shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed prior to November 23, 1968 that exhibit an opacity, of forty percent (40%) or greater averaged over six (6) consecutive minutes. This applies to stack emissions from

[1] The planer, trim saw, and block chipper are all controlled by a common cyclone.

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

the cyclone used to collect the shavings and sawdust from the lumber planer, trim saw, and chipper.

3. Klingler shall operate the planer mill facility so as not to cause or authorize emissions to be discharged into the outdoor atmosphere from access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit opacity[3] of 5% or greater averaged over six (6) consecutive minutes. This applies to fugitive emissions from any hauling, handling, loading, and unloading operation. (RACT)

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

5. Klingler shall submit final engineering plans for the complete wood waste collection system, including the two (2) wood waste storage bins, the two (2) wood waste bin cyclones and the piping system, to the department within 180 days of completion of construction.

6. Klingler shall dismantle, demolish or otherwise render the tepee burner incapable of being operated by November 15, 1993.

B. Operational Reporting Requirement:

Klingler 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 emission inventories shall include the following production and emission inventory information:

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

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

   a. Planer, trim saw, and chipper cyclone;
   b. Wood-waste bin cyclone #1;
   c. Wood-waste bin cyclone #2.

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

   a. Vehicle type;
   b. Vehicle weight loaded;
   c. Vehicle weight unloaded;

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

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.

4. 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. Klingler 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. Klingler 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

Klingler Lumber Company, Inc.

I. Introduction/Process Description

Klingler operates an existing planer mill located ¼ mile north east of Kalispell, Montana on Whitefish Stage Road. The mill receives rough cut lumber from area forest product companies and stockpiles them in their lumber yard prior to processing them in the planer mill.

The rough lumber is air dried to reduce shrinkage in the final dimension cut lumber. 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.

At present, the planer shavings, saw dust, and chipped trim blocks from this process are collected and transferred pneumatically to the tepee burner. Klingler has operated a tepee burner, which is used for the disposal of the wood wastes generated from the planer mill processes, since 1962. By June 1993, an alternate means of disposing of the unmarketable wood wastes must be used.

Klingler has purchased and installed two used wood-waste bins with two cyclones, for the collection, storing, and shipping of marketable wood wastes. The new collection system became operational on approximately July 1, 1993. Since this date, the planer shavings, saw dust, and chipped trim blocks from this process are to be collected and transferred pneumatically to the wood waste bins and loaded into trucks.

II. Applicable Rules and Regulations

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

This section requires that the 24-hour and annual average concentrations of PM-10 in the ambient air not exceed the set standards. (See Existing Air Quality and Impacts, Section VI)

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

ARM 16.8.921 Definitions. Klingler's planer 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. Once the tepee burner is removed this source will no longer have the potential to emit more than 250 tons per year 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 a 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. Wood Waste Collection Cyclones

A cyclone would provide the best level of particulate control (85%). Klingler currently uses a cyclone for particulate control from the planer, trim saw, chipper, and two wood waste bins. The department has determined that the cyclones will constitute RACT for these sources.

B. 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

Planer Mill

Annual Emission Rates (Potential) *

Source	TSP	PM-10	SOX	NOX	VOC	CO
				tons/year		
Wood Waste Bin Cyclone #1	5.09	2.04				
Wood Waste Bin Cyclone #2	5.09	2.04				
Shavings Bin Loadout	5.75	3.45				
Chip Bin Loadout	1.58	0.56				
Trim Saw Cyclone	2.65	1.06				
Lumber Yard - Fugitives	1.42	0.51				
Total Emissions	21.58	9.65	0.00	0.00	0.00	0.00

* Based on operating 8760 hours/year.

Daily Emission Rates (Potential) **

Source	TSP	PM-10	NOx	VOC	CO	SOx
	(lbs/day)					
Wood Waste Bin Cyclone #1	27.88	11.15				
Wood Waste Bin Cyclone #2	27.88	11.15				
Shavings Bin Loadout	31.53	18.92				
Chip Bin Loadout	8.37	3.05				
Trim Saw Cyclone	14.52	5.81				
Lumber Yard - Fugitives (Daily)	12.07	4.35				
Total Emissions	122.46	54.43	0.00	0.00	0.00	0.00

** Based on operating 24 hours/day.

✓ Wood Waste Bin Cyclone #1

Production Flowrate: 4523 scfm (Designed flow rate)
Hours of operation: 8760 hrs (Maximum Potential)
Fraction of year operating: 1.00 %/yr

TSP Emissions:

Emission Factor: 2.25 lbs/scfm (3-07-008-05, AFSSCC page 143)
Calculations: 4523 scfm * 2.25 lbs/scfm * 1.00 %/yr * 0.0005 tons/lb = 5.09 tons/yr

PM-10 Emissions:

Emission Factor: 0.90 lbs/scfm (3-07-008-05, AFSSCC page 143)
Calculations: 4523 scfm * 0.90 lbs/scfm * 1.00 %/yr * 0.0005 tons/lb = 2.04 tons/yr

✓ Wood Waste Bin Cyclone #2

Production Flowrate: 4523 scfm (Designed flow rate)
Hours of operation: 8760 hrs (Maximum Potential)
Fraction of year operating: 1.00 %/yr

TSP Emissions

Emission Factor: 2.25 lbs/scfm (3-07-008-05, AFSSCC page 143)
Calculations: 4523 scfm * 2.25 lbs/scfm * 1.00 %/yr * 0.0005 tons/lb = 5.09 tons/yr

PM-10 Emissions:

Emission Factor: 0.90 lbs/scfm (3-07-008-05, AFSSCC page 143)
Calculations: 4523 scfm * 0.90 lbs/scfm * 1.00 %/yr * 0.0005 tons/lb = 2.04 tons/yr

Shavings Bin Loadout

Lumber Production: 14.00 MMBF/yr (Based on two shifts)
Shavings Production: 411 tons/MMBF

TSP Emissions:

Emission Factor: 2.00 lbs/ton (3-07-030-02, AFSSCC page 144)
Calculations: 14.00 MMBF/yr * 411 tons/MMBF * 2.00 lbs/ton * 0.0005 tons/lb = 5.75 tons/yr

PM-10 Emissions:

Emission Factor: 1.20 lbs/ton (3-07-030-02, AFSSCC page 144)
Calculations: 14.00 MMBF/yr * 411 tons/MMBF * 1.20 lbs/ton * 0.0005 tons/lb = 3.45 tons/yr

Chip Bin Loadout

Lumber Production: 14.00 MMBF/yr (Based on two shifts)
Chip Production: 621 tons/MMBF

TSP Emissions:

Emission Factor: 0.36 lbs/ton (Estimate based on knowledge of process & size of material)

Calculations: 14.00 MMBF/yr * 621 tons/MMBF * 0.36 lbs/ton * 0.0005 tons/lb = 1.56 tons/yr

PM-10 Emissions:

Emission Factor: 0.128 lbs/ton (Estimate based on knowledge of process & size of material)

Calculations: 14.00 MMBF/yr * 621 tons/MMBF * 0.13 lbs/ton * 0.0005 tons/lb = 0.56 tons/yr

Trim Saw Cyclone

Production Flowrate: 2356 scfm (designed flow rate)
Hours of operation: 8760 hrs (Maximum Potential)
Fraction of year operating: 1.00 %/yr

TSP Emissions

Emission Factor: 2.25 lbs/scfm (3-07-008-05, AFSSCC page 143)
Calculations: 2356 scfm * 2.25 lbs/scfm * 1.00 %/yr * 0.0005 tons/lb = 2.65 tons/yr

PM-10 Emissions:

Emission Factor: 0.90 lbs/scfm (3-07-008-05, AFSSCC page 143)
Calculations: 2356 scfm * 0.90 lbs/scfm * 1.00 %/yr * 0.0005 tons/lb = 1.06 tons/yr

Lumber Yard - Fugitives

Operating Hours 8760 Hours/Yr
Vehicle Miles Traveled 9300 VMT/Yr
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	8.7 %
S= Average Speed of vehicles in mph	5.0 mph
W= Average weight of vehicles in Tons	3.67 Tons
w= Average number of wheels on vehicles	5.33 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 0.61 Lbs/VMT

E(TSP)= (9300 VMT/Yr)(0.61 Lbs/VMT)(0.5)
E(TSP)= 2837 Lbs/Yr
or 1.42 Tons/Yr

PM10 Emission Factor is determined by the following equation:

E= 5.9*k*(s/12)*(S/30)*(h/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	8.7 %
S=	Average Speed of vehicles in mph	5.0 mph
W=	Average weight of vehicles in Tons	3.67 Tons
w=	Average number of wheels on vehicles	5.33 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 0.22 Lbs/VMT

E(PM10)= (9300 VMT/Yr)(0.22 Lbs/VMT)(0.1)
E(PM10)= 1021 Lbs/Yr
or 0.51 Tons/Yr

Lumber Yard - Fugitives (Daily)

Operating Hours 8760 Hours/Yr
Vehicle Miles Traveled 9300 VMT/Yr
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	8.7 %
S=	Average Speed of vehicles in mph	5.0 mph
W=	Average weight of vehicles in Tons	3.67 Tons
w=	Average number of wheels on vehicles	5.33 wheels
PR=	Assumes no precipitation	1.0000

TSP Emissions:

TSP Emission Factor 0.95 Lbs/VMT

E(TSP)= (9300 VMT/Yr)(0.95 Lbs/VMT)(0.5)
E(TSP)= 4407 Lbs/Yr
or 2.20 Tons/Yr
12.07 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	8.7 %
S=	Average Speed of vehicles in mph	5.0 mph
W=	Average weight of vehicles in Tons	3.67 Tons
w=	Average number of wheels on vehicles	5.33 wheels
PR=	Assumes no precipitation	1.0000

PM10 Emissions:

PM10 Emission Factor 0.34 Lbs/VMT

E(PM10)= (9300 VMT/Yr)(0.34 Lbs/VMT)(0.5)
E(PM10)= 1586 Lbs/Yr
or 0.79 Tons/Yr
4.35 lbs/day

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 the Klingler facility 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 Klingler facility at its potential to emit (emissions associated with maximum design capacity or as limited by ARM 16.8.1403) indicated that the facility 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 Klingler 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 amissions 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 Klingler 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: Klingler Lumber Company, Inc., Air Quality Stipulation for Kalispell SIP.

Description of Project: Klingler Lumber Company, Inc. operates an existing planer mill located ¼ mile northeast of Kalispell, Montana on Whitefish Stage Road. This facility manufacturers dimension lumber for use in the construction industry. The mill receives rough cut lumber from area forest product companies. The rough cut lumber is air dried to reduce shrinkage and planed into dimension cut lumber. 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 a signed 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

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 Resources 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		

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

In the Matter of Compliance of McElroy and Wilkens, Inc., 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 McElroy and Wilkens, Inc. ("Mc&W"), 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. <u>BACKGROUND</u>:

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, <u>et seq</u>., as

(STIPULATION)

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

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 Mc&W 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 Mc&W 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 Mc&W are necessary to demonstrate compliance with the particulate matter NAAQS. The department has performed additional modeling using revised emission rates for Mc&W 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 Mc&W.

B. BINDING EFFECT

12. The parties to this Stipulation agree that any such emission limitations placed on Mc&W 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 Mc&W. The specific conditions which comprise these limitations are contained in Exhibit B to this Stipulation (entitled "Emission Limitations and Conditions, McElroy and Wilkens, Inc.") 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 MAAQS 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 75-2-203, 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 nonattainment area to meet the particulate matter NAAQS and the PM-10 MAAQS, the Board has jurisdiction to require the imposition of such limitations and conditions, and may adopt the same as enforceable measures applicable to MC&W.

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 Mc&W .

McELROY & WILKENS, INC.

BY _____

Attorney

DATE 9/15/93

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

BY _____
Robert J. Robinson
Director

BY _____
Timothy R. Baker
Attorney

DATE 9/15/93

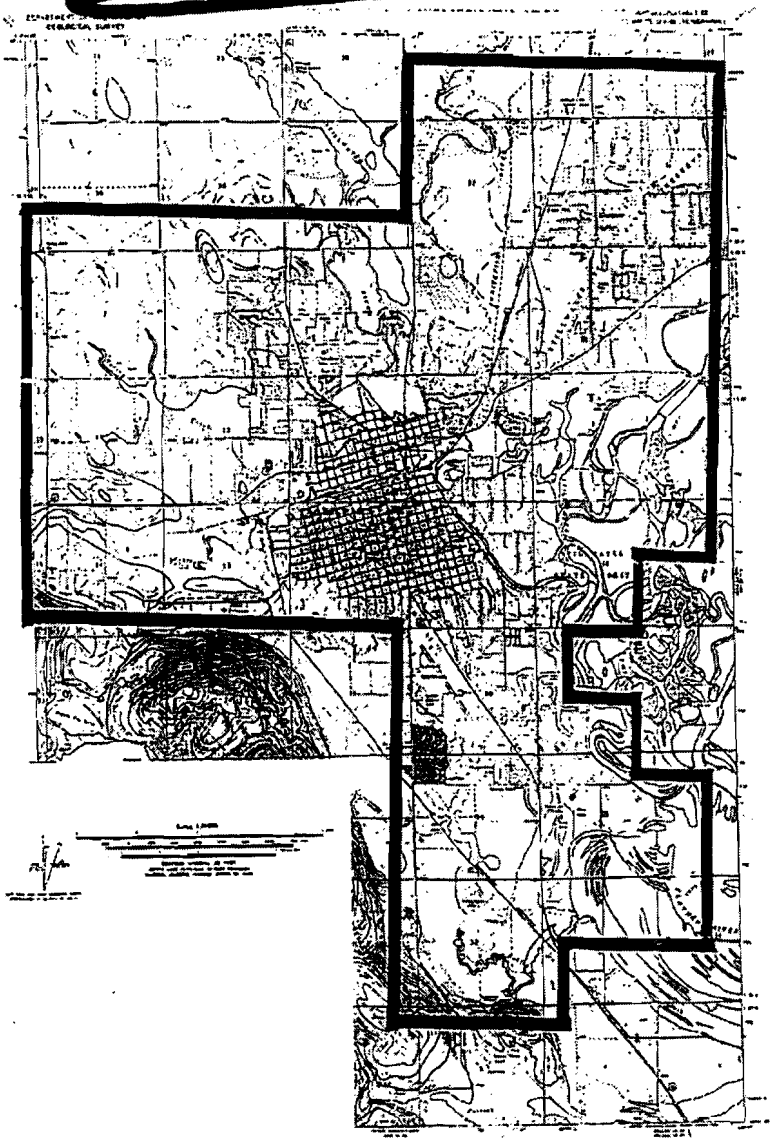

EXHIBIT B
EMISSION LIMITATIONS AND CONDITIONS

McElroy and Wilken, Inc.
P.O. Box 35
Kalispell, MT 59901

The above-named company is hereinafter referred to as "Mc & W."

SECTION I: Affected Facilities

A. Plant Location: Mc & W's concrete batch plant is located at NW¼, SW¼, Section 2, Township 28 North, Range 21 West, Flathead County, Montana. The mailing address of the facility is P.O. Box 35, Kalispell, MT 59901.

B. Affected Equipment

1. A 1976 Ross stationary concrete batch plant (125 cu.yds/hr). Particulate emissions are to be controlled by three (3) fabric filter vents, one on each of the three cement silos;

2. One stationary conveyor;

3. Four (4) sand/aggregate storage bins;

4. One gravel washing plant.

5. Local access road located north of facilities. This road extends from Whitefish Stage Road (west end) to the BN railroad tracks (east end). The length of the road is approximately one half (½) mile long.

SECTION II: Limitations and Conditions

A. Emission Control Requirements

1. Mc & W shall operate and maintain the fabric filter vents and all other emission control equipment and utilize all techniques specified in this stipulation to provide the maximum air pollution control for which they were designed.

2. Mc & W shall treat all unpaved portions of the haul roads and the general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 5% opacity[1] limitation. (RACT)

3. Mc & W shall not operate the gravel washing plant in a dry screening mode.

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

B. Emission Limitations

Mc & W shall not cause or authorize to be discharged into the atmosphere:

1. Any vent emission which exhibits greater than 20% opacity[1] averaged over six (6) consecutive minutes. (RACT)

2. Any fugitive emission from any truck loading or unloading which exhibit greater than 10% opacity[1] averaged over six (6) consecutive minutes. (RACT)

3 Any fugitive emissions from any transferring operations which exhibit greater than 10% opacity[1] averaged over six (6) consecutive minutes. (RACT)

4. Any fugitive emissions from the haul roads, plant area, or local access road which exhibit greater than 5% opacity[1] averaged over six (6) consecutive minutes. (RACT)

C. Emissions Monitoring

1. Mc & W shall inspect and keep record of repairs for the fabric filter vents on the cement silo every six (6) months of operation so as to ensure that each such collector is operating at optimum efficiency as recommended by the manufacturer.

2. The records compiled in accordance with this section shall be maintained by Mc & W as a permanent business record for at least two years and shall be available at the plant site for inspection by the duly authorized representative of the department.

D. Operational Reporting Requirement:

Mc & W will provide the department with a production report by March 1 for the previous calendar year production. The report is to contain the following information:

1. Total amount of concrete produced, in cubic yards;
2. Annual total of sand, in tons;
3. Annual total of cement, in tons;
4. Annual total of aggregate, in tons;
5. Hours of operation;
6. Fugitive dust information consisting of a listing of all plant vehicles including the following for each vehicle type:

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

a. Total number of vehicles;
b. Vehicle type;
c. Vehicle weight, loaded;
d. Vehicle weight, unloaded;
e. Number of tires on vehicle;
f. Average trip length;
g. Number of trips per day;
h. Average vehicle speed; and
i. Area of activity.

7. 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.

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

F. Mc & W must maintain a copy of the air quality stipulation at the Kalispell site and make that copy available for inspection by department personnel upon request.

G. Mc & W 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
McElroy and Wilken, Inc.

I. Introduction/Process Description

A. Affected Equipment

McElroy and Wilken, Inc. operates a 1976 Ross stationary concrete batch plant with three (3) fabric filter vents, one on each of the three cement silos. Mc & W's concrete batch plant is located at NW¼, Section 8, Township 28 North, Range 21 West, Flathead County, Montana. The mailing address of the facility is P.O. Box 35, Kalispell, MT 59901.

This concrete batching plant produces concrete for use in commercial and residential construction projects in the Kalispell area.

II. Applicable Rules and Regulations

A. ARM 16.8, Subchapter 8, Ambient Air Quality, including but not limited to: ARM 16.8.821 Ambient Air Quality Standards for PM-10. This section states that no person may cause or contribute to concentrations of PM-10 in the ambient air which exceed the set standards. (See Section V)

B. ARM 16.8, Subchapter 9, Prevention of Significant Deterioration - This facility is not a PSD source since this facility is not a listed source and the potential to emit is below 250 tons per year 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 16.8.1403 Particulate Matter, Industrial Process. This section states that no person shall cause, allow, or permit to be discharged into the outdoor atmosphere from any operation, process, or activity, particulate matter in excess of the amount determined by using the following equation:

Allowable Emissions = 55 (256 tons/hr)$^{.11}$ - 40 = 61.22 lbs/hr.

The estimated total particulate emissions from the cement silos are 0.048 lbs/hr, therefore the source is in compliance.

3. ARM 16.8.1404 Visible Air Contaminants. This section requires an opacity limitation of 20% for all stacks or vents. The requirements of

this stipulation supersede this rule because they are more stringent or they are equivalent.

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 a 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. Process Particulate Vent Emissions

Mc & W currently controls particulate vent emissions with a fabric filter having an estimated efficiency of 99.35%. High efficiency fabric filters are the highest efficiency particulate control system for a source of this type. Since Mc & W is currently using this option, no other options need be considered. The department has determined that the fabric filter control system will constitute RACT in this case. The department has also determined that an opacity of 20% will constitute RACT for all vent emissions with fabric filter control.

B. Material Transfer Fugitive Emissions

RACT for material transfer points for sources of this type has been determined by the department to be the use of washed product; or water or chemical stabilization so as to maintain compliance with a 10% opacity limitation.

C. Fugitive Road Dust Emissions

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

IV. Emission Inventory

Concrete Batch Plant

Annual Emission Rates (Potential)

Source	Tons/Year TSP	PM-10	NOX	VOC	CO	SOX
Cement Handling Emissions	0.21	0.11				
Batch Bin Loading of Cement/Sand/Aggregate	22.45	11.22				
Mixer Loading of Cement/Sand/Aggregate	44.90	22.45				
Transfer: Sand/Aggregate to Elevated Bins	44.90	22.45				
Plant Yard - Fugitives	0.15	0.06				
Local Access Road	47.30	17.03				
Total Emissions	159.90	75.31	0.00	0.00	0.00	0.00

Daily Emission Rates (Potential) *

Source	TSP	PM-10	NOx	VOC	CO	SOx
	lbs/day					
Cement Handling Emissions	1.16	0.58				
Batch Bin Loading of Cement/Sand/Aggregate	123.00	61.50				
Mixer Loading of Cement/Sand/Aggregate	246.00	123.00				
Transfer: Sand/Aggregate to Elevated Bins	246.00	123.00				
Plant Yard Fugitives (Daily)	1.31	0.47				
Local Access Road (Daily)	402.57	144.92				
Total Emissions	1020.04	453.48	0.00	0.00	0.00	0.00

* Based on a 24 hour day.

Cement Handling Emissions

Process Rate: 31 tons/hr (Maximum Production Rate)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.24 lbs/ton (AFSSCC 3-05-011-07, page 122)
Control Efficiency: 99.35% (Fabric Filter)
Calculations: 0.24 lbs/ton * 31 tons/hr = 7.44 lbs/hr
7.44 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 32.59 tons/yr
32.59 tons/yr * (1.00 - 0.9935) = 0.21 tons/yr

PM-10 Emissions:

Emission Factor: 0.12 lbs/ton (AFSSCC 3-05-011-07, page 122)
Control Efficiency: 99.35% (Fabric Filter)
Calculations: 0.120 lbs/ton * 31 tons/hr = 3.72 lbs/hr
3.72 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 16.29 tons/yr
16.29 tons/yr * (1.00 - 0.9935) = 0.11 tons/yr

Batch Bin Loading of Cement/Sand/Aggregate

Process Rate: 125 cu.yds/hr (Maximum Production Rate)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.02 lbs/ton (AFSSCC 3-05-011-06, page 122)
Control Efficiency: 0%
Calculations: 0.02 lbs/ton * 125 cu.yds/hr * 2.05 tons/cu.yd = 5.13 lbs/hr
5.13 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 22.45 tons/yr
22.45 tons/yr * (1.00 - 0.000) = 22.45 tons/yr

PM-10 Emissions:

Emission Factor: 0.01 lbs/ton (AFSSCC 3-05-011-08, page 122)
Control Efficiency: 0%
Calculations: 0.01 lbs/ton * 125 cu.yds/hr * 2.05 tons/cu.yd = 2.56 lbs/hr
2.56 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 11.22 tons/yr
11.22 tons/yr * (1.00 - 0.000) = 11.22 tons/yr

Mixer Loading of Cement/Sand/Aggregate

Process Rate: 125 cu.yds/hr (Maximum Production Rate)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.04 lbs/ton (AFSSCC 3-05-011-09, page 122)
Control Efficiency: 0%
Calculations: 0.04 lbs/ton * 125 cu.yds/hr * 2.05 tons/cu.yd = 10.25 lbs/hr
10.25 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 44.90 tons/yr
44.90 tons/yr * (1.00 - 0.000) = 44.90 tons/yr

PM-10 Emissions:

Emission Factor: 0.02 lbs/ton (AFSSCC 3-05-011-09, page 122)
Control Efficiency: 0%
Calculations: 0.02 lbs/ton * 125 cu.yds/hr * 2.05 tons/cu.yd = 5.13 lbs/hr
5.13 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 22.45 tons/yr
22.45 tons/yr * (1.00 - 0.000) = 22.45 tons/yr

Transfer: Sand/Aggregate to Elevated Bins

Process Rate: 125 cu.yds/hr (Maximum Production Rate)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.04 lbs/ton (AFSSCC 3-05-011-06, page 122)
Control Efficiency: 0%
Calculations: 0.04 lbs/ton * 125 cu.yds/hr * 2.05 tons/cu.yd = 10.25 lbs/hr
10.25 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 44.90 tons/yr
44.90 tons/yr * (1.00 - 0.000) = 44.90 tons/yr

PM-10 Emissions:

Emission Factor: 0.02 lbs/ton (AFSSCC 3-05-011-06, page 122)
Control Efficiency: 0%
Calculations: 0.020 lbs/ton * 125 cu.yds/hr * 2.05 tons/cu.yd = 5.13 lbs/hr
5.13 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 22.45 tons/yr
22.45 tons/yr * (1.00 - 0.000) = 22.45 tons/yr

Plant Yard - Fugitives

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 346 VMT/Yr
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	8.7 %
S= Average Speed of vehicles in mph	5.0 mph
W= Average weight of vehicles in Tons	20.8 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 1.78 Lbs/VMT

E(TSP)= (346 VMT/Yr)(1.78 Lbs/VMT)(0.5)
E(TSP)= 308 Lbs/Yr or 0.15 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	8.7 %
S= Average Speed of vehicles in mph	5.0 mph
W= Average weight of vehicles in Tons	20.8 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

PM10 Emissions:

PM10 Emission Factor: 0.44 Lbs/VMT

E(PM10)= (346 VMT/Yr)(0.44 Lbs/VMT)(0.5)
E(PM10)= 111 Lbs/Yr or 0.06 Tons/Yr

Plant Yard - Fugitives (Daily)

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 346 VMT/Yr
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 8.7 %
S= Average Speed of vehicles in mph 5.0 mph
W= Average weight of vehicles in Tons 20.8 Tons
w= Average number of wheels on vehicles 4 Wheels
PR= Assumes no precipitation 1.0000

TSP Emissions:

TSP Emission Factor= 2.77 Lbs/VMT

E(TSP)= (346 VMT/Yr)(2.77 Lbs/VMT)(0.5)
E(TSP)= 478 Lbs/Yr or 0.24 Tons/Yr or 1.31 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 8.7 %
S= Average Speed of vehicles in mph 5.0 mph
W= Average weight of vehicles in Tons 20.8 Tons
w= Average number of wheels on vehicles 4 Wheels
PR= Assumes no precipitation 1.0000

PM10 Emissions:

PM10 Emission Factor: 1.00 Lbs/VMT

E(PM10)= (346 VMT/Yr)(1.00 Lbs/VMT)(0.5)
E(PM10)= 172 Lbs/Yr or 0.09 Tons/Yr or 0.47 Lbs/day

Local Access Road

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 91250 VMT/Yr
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 8.7 %
S= Average Speed of vehicles in mph 30.0 mph
W= Average weight of vehicles in Tons 2.0 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: 2.07 Lbs/VMT

E(TSP)= (91250 VMT/Yr)(2.07 Lbs/VMT)(0.5)
E(TSP)= 94603 Lbs/Yr or 47.30 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	8.7 %
S= Average Speed of vehicles in mph	30.0 mph
W= Average weight of vehicles in Tons	2.0 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

PM10 Emissions:

PM10 Emission Factor: 0.75 Lbs/VMT

E(PM10)= (91250 VMT/Yr)(0.75 Lbs/VMT)(0.5)
E(PM10)= 34057 Lbs/Yr or 17.03 Tons/Yr

Local Access Road (Daily)

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 91250 VMT/Yr
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	8.7 %
S= Average Speed of vehicles in mph	30.0 mph
W= Average weight of vehicles in Tons	2.0 Tons
w= Average number of wheels on vehicles	4 wheels
PR= Assumes no precipitation	1.00

TSP Emissions:

TSP Emission Factor: 3.22 Lbs/VMT

E(TSP)= (91250 VMT/Yr)(3.22 Lbs/VMT)(0.5)
E(TSP)= 146936 Lbs/Yr or 73.47 Tons/Yr or 402.57 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	8.7 %
S= Average Speed of vehicles in mph	30.0 mph
W= Average weight of vehicles in Tons	2.0 Tons
w= Average number of wheels on vehicles	4 wheels
PR= Assumes no precipitation	1.00

PM10 Emissions:

PM10 Emission Factor: 1.16 Lbs/VMT

E(PM10)= (51250 VMT/Yr)(1.16 Lbs/VMT)(0.5)
E(PM10)= 52897 Lbs/Yr or 26.45 Tons/Yr or 144.52 Lbs/day

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 is now requiring 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 the Mc & W facility 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 Mc & W facility at its potential to emit (emissions associated with maximum design capacity or as limited by ARM 16.8.1403) indicated that the facility 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 Mc & W 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 MC & W 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, 5346000mN, east to 700000mE, 5345000mN, north to 700000mE, 5347000mN.

VII. 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: McElroy and Wilken, Inc., Air Quality Stipulation for Kalispell SIP.

Description of Project: A concrete batching plant with a maximum design rate of 125 cubic yards per hour. This concrete batching plant produces concrete for use in commercial and residential construction projects in the Kalispell area.

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 are available.

A listing and appropriate evaluation of mitigation, stipulations and other controls enforceable by the agency or another government agency: A list of enforceable conditions and an analysis of conditions are contained in a signed 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

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		

EXHIBIT B
EMISSION LIMITATIONS AND CONDITIONS

McElroy and Wilken, Inc.
P.O. Box 35
Kalispell, MT 59901

The above-named company is hereinafter referred to as "Mc & W."

SECTION I: Affected Facilities

A. Plant Location: Mc & W's two gravel crushers are located at SW¼, NW¼, Section 2, Township 28 North, Range 21 West, Flathead County, Montana. The mailing address of the facility is P.O. Box 35, Kalispell, MT 59901.

B. Equipment

1. A portable 1988 Baromac Impact Crusher (225 TPH), Model Mark II, Serial #764-385 with screen.

2. A portable 1986 KHD Humbolt Wedag (300 TPH) Model B, Serial #462-012 with screen.

Section II: Conditions

A. Operational

1. All visible emissions from the crusher plants are limited to 15% opacity[1]. (ARM 16.8.1423)

2. Mc & W shall not cause or authorize to be discharged into the atmosphere from other equipment such as screens or transfer points any visible emissions that exhibit opacity[1] of 10%. (ARM 16.8.1423)

3. Mc & W shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit opacity[1] of 5% or greater. (RACT)

4. Mc & W shall treat all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water/and or chemical dust suppressant as necessary to maintain compliance with the 5% opacity limitation. (RACT)

5. Water spray bars are required as necessary. If fugitive emissions are greater than 10% opacity. (ARM 16.8.1423)

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

Final Stipulation ...

6. The portable 1988 Euromac Impact Crusher, Model Mark II, Serial #764-385 is limited to the following:

   a. Production rate of 225 tons/hour.

   b. Daily hours of operation of 24 hours/day.

   c. Annual hours of operation of 4050 hours/year.

7. The portable 1986 KHD Humbolt Wedag, Model B, Serial #462-012 is limited to the following:

   a. Production rate of 300 tons/hour.

   b. Daily hours of operation of 24 hours/day.

   c. Annual hours of operation of 4050 hours/year.

8. Total particulate emissions from this crusher in conjunction with total particulate emissions from any additional equipment at any individual site shall be less than 250 tons/year.

9. Mc & W shall operate and maintain all emission control equipment and utilize all techniques specified in this stipulation to provide the maximum air pollution control for which they were designed.

B. Reporting Requirements

1. If this crushing plant is moved to another location, a Notice of Intent to Transfer Location of Air Quality Stipulation must be published in a newspaper of general circulation in the area to which the transfer is to be made. This notice must be published at least 15 days prior to the move. Proof of publication and a change of location form must be submitted to the Montana Department of Health and Environmental Sciences, Air Quality Bureau (AQB), prior to the move. These forms are available from the AQB.

2. Mc & W shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. These records shall be available for inspection by the department and must be submitted to the department upon request.

3. Mc & W shall retain daily production numbers for a minimum of five (5) years.

4. Mc & W shall provide an annual report identifying any days in which the hours of operation, or the process rates in Section II.A. are exceeded. The report shall be submitted by March 1 of each year.

5. Annual production information shall be submitted to the AQB by March 1 of the following calendar year. The information shall include:

   a) Tons of gravel crushed in each crusher.

   b) Tons of gravel bulk loaded.

   c) Hours of operation of each crusher.

   d) Gallons of diesel used in each generator.

   e) Fugitive dust information consisting of a listing of all plant vehicles including the following for each vehicle type:

      i) Number of vehicles;
      ii) Vehicle type;
      iii) Vehicle weight, loaded;
      iv) Vehicle weight, unloaded;
      v) Number of tires on vehicle;
      vi) Average trip length;
      vii) Number of trips per day;
      viii) Average vehicle speed;
      ix) Area of activity; and
      x) Vehicle fuel usage (gasoline or diesel) annual total.

   f) Fugitive dust control for haul roads and general plant area:

      i. Hours of operation of water trucks.
      ii. Application schedule for chemical dust suppressant if applicable.

C. The AQB may modify the conditions of this stipulation based on local conditions of any future site. These factors may include but are not limited to local terrain, meteorological conditions, proximity to residences, predicted ambient impacts which would cause or contribute to violations of a NAAQS or PSD increment, etc.

D. The department may require additional emissions testing on sources of emissions per ARM 16.8.704, Testing Requirements.

E. Mc & W must maintain a copy of the air quality stipulation at the Kalispell ready mix site and make that copy available for inspection by department personnel upon request.

F. Mc & W 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
McElroy and Wilken, Inc.

I. Introduction

A. Affected Equipment

A Portable 1988 Baromac Impact Crusher, Model Mark II, Serial #764-385 and a 1986 KHD Humbolt Wedag, Model B, Serial #462-012.

B. Process Description

This plant crushes gravel for use in construction, repair, and maintenance of roads and highways. The maximum process rate of the 1988 Baromac Impact Crusher is 225 tons/hour. The maximum process rate of the 1986 KHD Humbolt Wedag is 300 tons/hour.

Mc & W operates two (2) gravel pits in the Kalispell nonattainment area. They move their two gravel crushers between these pits in order to crush gravel for use in construction, repair, and maintenance of roads and highways. The Ross concrete batch plant is permanently located at the Mc & W Main Pit #2. In 1991 Mc & W moved their existing 1986 KHD Humbolt Wedag (300 TPH) to the Flathead River Bridge Pit #1 and at that time added the 1988 Baromac Impact Crusher (225 TPH). Mc & W's two gravel pit locations within the Kalispell nonattainment area are:

Flathead River Bridge Pit #1. (NW¼, Sec 2, T28N, R21W, Flathead County)
Mc & W Main Pit #2. (NW¼, Sec 8, T28N, R21W, Flathead County)

If this crushing plant is moved to another location, including Mc & W Main Pit #2, a Notice of Intent to Transfer Location of Air Quality Stipulation must be published in a newspaper of general circulation in the area to which the transfer is to be made as required in Section II.B.1. Any such transfer will be subject to department review as described in Section II.C.

II. Applicable Rules and Regulations

A. ARM 16.8, Subchapter 8, Ambient Air Quality, including but not limited to: ARM 16.8.821 Ambient Air Quality Standard for PM-10. This section states that no person may cause or contribute to concentrations of PM-10 in the ambient air which exceed the set standards. (See Section V)

B. ARM 16.8, Subchapter 9, Prevention of Significant Deterioration - This facility is not a PSD source since this facility is not a listed source and the potential to emit is below 250 tons per year of any pollutant.

C. 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 16.8.1403 Particulate Matter, Industrial Process. This section states that no person shall cause, allow, or permit to be discharged into the outdoor atmosphere from any operation, process, or activity, particulate matter in excess of the amount determined by using the following equation:

   Allowable Emissions = 55 (225 tons/hr)$^{.11}$ - 40 = 59.79 lbs/hr.
   Allowable Emissions = 55 (300 tons/hr)$^{.11}$ - 40 = 63.00 lbs/hr.

   The estimated total particulate matter emissions for the two gravel crushers are 31.50 lbs/hr and 42.00 lbs/hr, respectively, therefore the sources are in compliance.

3. ARM 16.8.1404 Visible Air Contaminants. This section requires an opacity limitation of 20% from all stacks constructed or altered since November 23, 1968. This rule is superseded by ARM 16.8.1423 (NSPS).

4. ARM 16.8.1423 Standards of Performance for New Stationary Sources (NSPS). The crusher plants were constructed in 1986 and 1988, respectively, so NSPS (40 CFR Part 60, general provisions, and Subpart 000 Non-Metallic Mineral Processing Plants) applies to both crushers. NSPS requirements are 15% opacity limitation for the crusher and 10% opacity for all other equipment such as screens or transfer points.

BACT/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 a nonattainment for PM-10 by EPA, RACT must be applied to those stationary sources which cause or contribute to the nonattainment area.

A. Crusher and Material Transfer Emissions

   A BACT analysis was conducted at the time of the original permit application #2716-00, and a determination had been made for controlling TSP and PM-10 emissions. The department has determined that BACT for this source is the application of water sprays as necessary to maintain compliance with the 15% opacity limitation for the crusher and 10% opacity for all other equipment such as screens or transfer points.

   The BACT determination made for this source is considered to met the RACT requirements since BACT is more stringent than RACT.

E. Fugitive Road Dust Emissions

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

Emission Inventory

Two Portable Gravel Crushers with Screening Plant

Annual Emission Rates (Allowable) *

Source	TSP	PM-10	NOX	VOC	CO	SOX
	tons/Year					
1528 Baromac Impact Crusher	63.79	11.39				
Cummins Engine Model VTA28-C1	0.29	0.29	4.07	0.32	0.83	0.37
Baromac Screen	36.45	27.34				
1526 KPD Nurbolt Wedag Crusher	85.05	15.19				
Caterpillar Generator	0.29	0.29	4.07	0.32	0.83	0.37
KPD Nurbolt Screen	45.65	36.45				
Material Transfer	15.42	3.40				
Pile Forming: Stacker	69.30	31.89				
Bulk Loading	10.63	1.38				
Haul Roads	0.69	0.11				
Total	330.31	127.63	8.14	0.65	1.66	0.74

* Based on operating 4050 hours/year.

Daily Emission Rates (Allowable) **

Source	TSP	PM-10	NOX	VOC	CO	SOX
	lbs/day					
1528 Baromac Impact Crusher	756.00	135.00				
Cummins Engine Model VTA28-C1	3.43	3.43	48.24	3.84	10.42	4.39
Baromac Screen	432.00	324.00				
1526 KPD Nurbolt Wedag Crusher	1008.00	180.00				
Caterpillar Generator	3.43	3.43	48.24	3.84	10.42	4.39
KPD Nurbolt Screen	576.00	432.00				
Material Transfer	182.70	40.32				
Pile Forming: Stacker	819.00	378.00				
Bulk Loading	126.00	15.12				
Haul Roads (Daily)	5.91	0.94				
Total	3912.48	1512.25	96.48	7.68	20.85	8.78

** Based on a 24 hour day.

1528 Baromac Impact Crusher

Process Rate: 225 tons/hr (Maximum Process Rate)
Hours of operation: 4050 hr/yr 24 hr/day

TSP Emissions:

Emission Factor: 0.28 lbs/ton (AP-42, 8.19.2-1)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Materials)
Calculations: 0.28 lbs/ton * 225 tons/hr = 63.00 lbs/hr
63.00 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 127.58 tons/yr
127.58 tons/yr * (1.00 - 0.50) = 63.79 tons/yr
63.00 lbs/hr * 24 hr/day * (1.00 - 0.50) = 756.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.05 lbs/ton (Ratio between TSP and PM-10 from AP42)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Materials)
Calculations: 0.050 lbs/ton * 225 tons/hr = 11.25 lbs/hr
11.25 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 22.78 tons/yr
22.78 tons/yr * (1.00 - 0.50) = 11.39 tons/yr
11.25 lbs/hr * 24 hr/day * (1.00 - 0.50) = 135.00 lbs/day

Cummins Engine Model VTA28-51

Hours of operation: 4050 hr/yr 24 hr/day

TSP Emissions

Emission Factor: 0.143 lbs/hr (AP-42, 3.3.2)
Calculations: 0.143 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 0.29 tons/yr
0.143 lbs/hr * 24 hr/day = 3.43 lbs/day

PM-10 Emissions:

Emission Factor: 0.143 lbs/hr (AP-42, 3.3.2)
Calculations: 0.143 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 0.29 tons/yr
0.143 lbs/hr * 24 hr/day = 3.43 lbs/day

NOx Emissions:

Emission Factor: 2.01 lbs/hr (AP-42, 3.3.2)
Calculations: 2.01 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 4.07 tons/yr
2.010 lbs/hr * 24 hr/day = 48.24 lbs/day

VOC Emissions:

Emission Factor: 0.160 lbs/hr (AP-42, 3.3.2)
Calculations: 0.160 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 0.32 tons/yr
0.160 lbs/hr * 24 hr/day = 3.84 lbs/day

CO Emissions:

Emission Factor: 0.434 lbs/hr (AP-42, 3.3.2)
Calculations: 0.434 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 0.88 tons/yr
0.434 lbs/hr * 24 hr/day = 10.42 lbs/day

SOx Emissions:

Emission Factor: 0.133 lbs/hr (AP-42, 3.3.2)
Calculations: 0.133 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 0.27 tons/yr
0.133 lbs/hr * 24 hr/day = 3.19 lbs/day

Baromac Screen

Process Rate: 225 tons/hr (Maximum Process Rate)
Hours of operation: 4050 hr/yr 24 hr/day

TSP Emissions:

Emission Factor: 0.16 lbs/ton (AP-42, 8.19.1-1)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.16 lbs/ton * 225 tons/hr = 36.00 lbs/hr
36.00 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 72.9 tons/yr
72.90 tons/yr * (1.00 - 0.50) = 36.45 tons/yr
36.00 lbs/hr * 24 hr/day * (1.00 - 0.50) = 432.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.12 lbs/ton (AP-42, 8.19.1-1)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.120 lbs/ton * 225 tons/hr = 27.00 lbs/hr
27.00 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 54.68 tons/yr
54.68 tons/yr * (1.00 - 0.50) = 27.34 tons/yr
27.00 lbs/hr * 24 hr/day * (1.00 - 0.50) = 324.00 lbs/day

1986 KHD Humbolt Wedag Crusher

Process Rate: 300 tons/hr (Maximum Process Rate)
Hours of operation: 4050 hr/yr 24 hr/day

TSP Emissions:

Emission Factor: 0.28 lbs/ton (AP-42, 8.19.2-1)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.28 lbs/ton * 300 tons/hr = 84.00 lbs/hr
84.00 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 170.10 tons/yr
170.10 tons/yr * (1.00 - 0.50) = 85.05 tons/yr
84.00 lbs/hr * 24 hr/day * (1.00 - 0.50) = 1008.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.05 lbs/ton (AP-42, 8.19.2-1)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.050 lbs/ton * 300 tons/hr = 15.00 lbs/hr
15.00 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 30.38 tons/yr
30.38 tons/yr * (1.00 - 0.50) = 15.19 tons/yr
15.00 lbs/hr * 24 hr/day * (1.00 - 0.50) = 180.00 lbs/day

Caterpillar Generator

Hours of operation: 4050 hr/yr 24 hr/day

TSP Emissions:

Emission Factor: 0.143 lbs/hr (AP-42, 3.3.2)
Calculations: 0.143 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 0.29 tons/yr
0.143 lbs/hr * 24 hr/day = 3.43 lbs/day

PM-10 Emissions:

Emission Factor: 0.143 lbs/hr (AP-42, 3.3.2)
Calculations: 0.143 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 0.29 tons/yr
0.143 lbs/hr * 24 hr/day = 3.43 lbs/day

NOx Emissions:

Emission Factor: 2.01 lbs/hr (AP-42, 3.3.2)
Calculations: 2.01 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 4.07 tons/yr
2.010 lbs/hr * 24 hr/day = 48.24 lbs/day

VOC Emissions:

Emission Factor: 0.160 lbs/hr (AP-42, 3.3.2)
Calculations: 0.160 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 0.32 tons/yr
0.160 lbs/hr * 24 hr/day = 3.84 lbs/day

CO Emissions:

Emission Factor: 0.434 lbs/hr (AP-42, 3.3.2)
Calculations: 0.434 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 0.88 tons/yr
0.434 lbs/hr * 24 hr/day = 10.42 lbs/day

SOx Emissions:

Emission Factor: 0.133 lbs/hr (AP-42, 3.3.2)
Calculations: 0.133 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 0.27 tons/yr
0.133 lbs/hr * 24 hr/day = 3.19 lbs/day

EMO Rumbolt Screen

Process Rate: 300 tons/hr (Maximum Process Rate)
Hours of operation: 4050 hr/yr 24 hr/day

TSP Emissions:

Emission Factor: 0.16 lbs/ton (AP-42, 8.19.1-1)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.16 lbs/ton * 300 tons/hr = 48.00 lbs/hr
48.00 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 97.20 tons/yr
97.20 tons/yr * (1.00 - 0.50) = 48.60 tons/yr
48.00 lbs/hr * 24 hr/day * (1.00 - 0.50) = 576.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.12 lbs/ton (AP-42, 8.19.1-1)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.120 lbs/ton * 300 tons/hr = 36.00 lbs/hr
36.00 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 72.90 tons/yr
72.90 tons/yr * (1.00 - 0.50) = 36.45 tons/yr
36.00 lbs/hr * 24 hr/day * (1.00 - 0.50) = 432.00 lbs/day

Material Transfer

Process Rate: 525 tons/hr (Maximum Process Rate)
Hours of operation: 4050 hr/yr 24 hr/day

TSP Emissions:

Emission Factor: 0.029 lbs/ton (AFSSCC, 3-05-025-03)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.03 lbs/ton * 525 tons/hr = 15.23 lbs/hr
15.23 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 30.83 tons/yr
30.83 tons/yr * (1.00 - 0.50) = 15.42 tons/yr
15.23 lbs/hr * 24 hr/day * (1.00 - 0.50) = 182.70 lbs/day

PM-10 Emissions:

Emission Factor: 0.006 lbs/ton (AFSSCC, 3-05-025-03)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.006 lbs/ton * 525 tons/hr = 3.36 lbs/hr
3.36 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 6.80 tons/yr
6.63 tons/yr * (1.00 - 0.50) = 3.40 tons/yr
3.36 lbs/hr * 24 hr/day * (1.00 - 0.50) = 40.32 lbs/day

Pile Forming: Stacker

Process Rate: 525 tons/hr (Maximum Process Rate)
Hours of operation: 4050 hr/yr 24 hr/day

TSP Emissions:

Emission Factor: 0.13 lbs/ton (AFSSCC, 3-05-025-05)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.13 lbs/ton * 525 tons/hr = 68.25 lbs/hr
68.25 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 138.21 tons/yr
138.21 tons/yr * (1.00 - 0.50) = 69.10 tons/yr
68.25 lbs/hr * 24 hr/day * (1.00 - 0.50) = 819.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.06 lbs/ton (AFSSCC, 3-05-025-05)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.060 lbs/ton * 525 tons/hr = 31.50 lbs/hr
31.50 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 63.79 tons/yr
63.79 tons/yr * (1.00 - 0.50) = 31.89 tons/yr
31.50 lbs/hr * 24 hr/day * (1.00 - 0.50) = 378.00 lbs/day

Bulk Loading

Process Rate: 525 tons/hr (Maximum Process Rate)
Hours of operation: 4050 hr/yr 24 hr/day

TSP Emissions:

Emission Factor: 0.02 lbs/ton (AFSSCC, 3-05-025-06)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.02 lbs/ton * 525 tons/hr = 10.50 lbs/hr
10.50 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 21.2625 tons/yr
21.26 tons/yr * (1.00 - 0.50) = 10.63 tons/yr
10.50 lbs/hr * 24 hr/day * (1.00 - 0.50) = 126.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.0024 lbs/ton (AP85EC, 3-05-025-06)
Control Efficiency: 50% (Water Spray Bars or Naturally Wet Material)
Calculations: 0.002 lbs/ton * 525 tons/hr = 1.26 lbs/hr
1.26 lbs/hr * 4050 hr/yr * 0.0005 tons/lb = 2.55 tons/yr
2.55 tons/yr * (1.00 - 0.50) = 1.28 tons/yr
1.26 lbs/hr * 24 hr/day * (1.00 - 0.50) = 15.12 lbs/day

Haul Roads

Operating Hours: 4050 Hours/Yr
Vehicle Miles Traveled: 692 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 8.7 %
S= Average Speed of vehicles in mph 10.0 mph
W= Average weight of vehicles in Tons 18.5 Tons
w= Average number of wheels on vehicles 8 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: 4.02 Lbs/VMT

E(TSP)= (692 VMT/Yr)(4.02 Lbs/VMT)(0.5)
E(TSP)= 1390 Lbs/Yr
or 0.69 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 8.7 %
S= Average Speed of vehicles in mph 5.0 mph
W= Average weight of vehicles in Tons 20.8 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

PM10 Emissions:

PM10 Emission Factor: 0.64 Lbs/VMT

E(PM10)= (692 VMT/Yr)(0.64 Lbs/VMT)(0.5)
E(PM10)= 222 lbs/Yr or 0.11 Tons/Yr

Haul Roads (Daily)

Operating Hours: 0.060 Hours/Yr
Vehicle Miles Traveled: 692 VMT/Yr (Based on Maximum Production Rate)
Control Efficiency is 50% for watering.

TSP Emission Factor is calculated by the following equation:

E= 5.9*k*(s/12)*(S/30)*(W/3)**2.7*(w/4)**0.5*P8

Where:

E= TSP Emission Factor in Lbs/Vehicle Mile Traveled (VMT)	
k= Particle sizing constant for TSP	1.0
s= Silt Content in percent	8.7 %
S= Average Speed of vehicles in mph	10.0 mph
W= Average weight of vehicles in tons	18.5 Tons
w= Average number of wheels on vehicles	6 wheels
P8= Assumes no precipitation	1.0000

TSP Emissions:

TSP Emission Factor: 6.24 Lbs/VMT

E(TSP)= (692 VMT/Yr)(6.24 Lbs/VMT)(0.5)
E(TSP)= 2159 Lbs/Yr or 1.02 Tons/Yr or 5.91 lbs/day

PM10 Emission Factor is determined by the following equation:

E= 5.9*k*(s/12)*(S/30)*(W/3)**2.7*(w/4)**0.5*P8

Where:

E= PM10 Emission Factor in Lbs/Vehicle Mile Traveled (VMT)	
k= Particle sizing constant for PM10	0.36
s= Silt Content in percent	8.7 %
S= Average Speed of vehicles in mph	5.0 mph
W= Average weight of vehicles in Tons	20.8 Tons
w= Average number of wheels on vehicles	6 wheels
P8= Assumes no precipitation	1.0000

PM10 Emissions:

PM10 Emission Factor: 1.00 Lbs/VMT

E(PM10)= (692 VMT/Yr)(1.00 Lbs/VMT)(0.5)
E(PM10)= 346 Lbs/Yr or 0.17 Tons/Yr or 0.96 lbs/day

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 is now requiring 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 the Mc & W facility 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 Mc & W facility at its potential to emit (emissions associated with maximum design capacity or as limited by ARM 16.8.1403) indicated that the facility

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 Mc & W 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 and restrictions on annual operating hours the department has determined that the Mc & W 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: McElroy and Wilken, Inc., Air Quality Stipulation for Kalispell SIP.

Description of Project: This stipulation is for the operation of a portable 1988 Baromac Impact Crusher, Model Mark II, Serial #764-385 and a 1986 KHD Humbolt Wedag, Model B, Serial #462-012 and gravel screening facility. This plant crushes gravel for use in construction, repair, and maintenance of roads and highways, and for use in concrete batching.

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 available.

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

Recommendation: No EIS is 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 operation will be reduced by further reducing the allowable hours of operation. This action makes the control equipment, control techniques, and limitations on operating hours 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

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		

11

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

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 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

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 75-2-203, 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 nonattainment 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 9/1/93

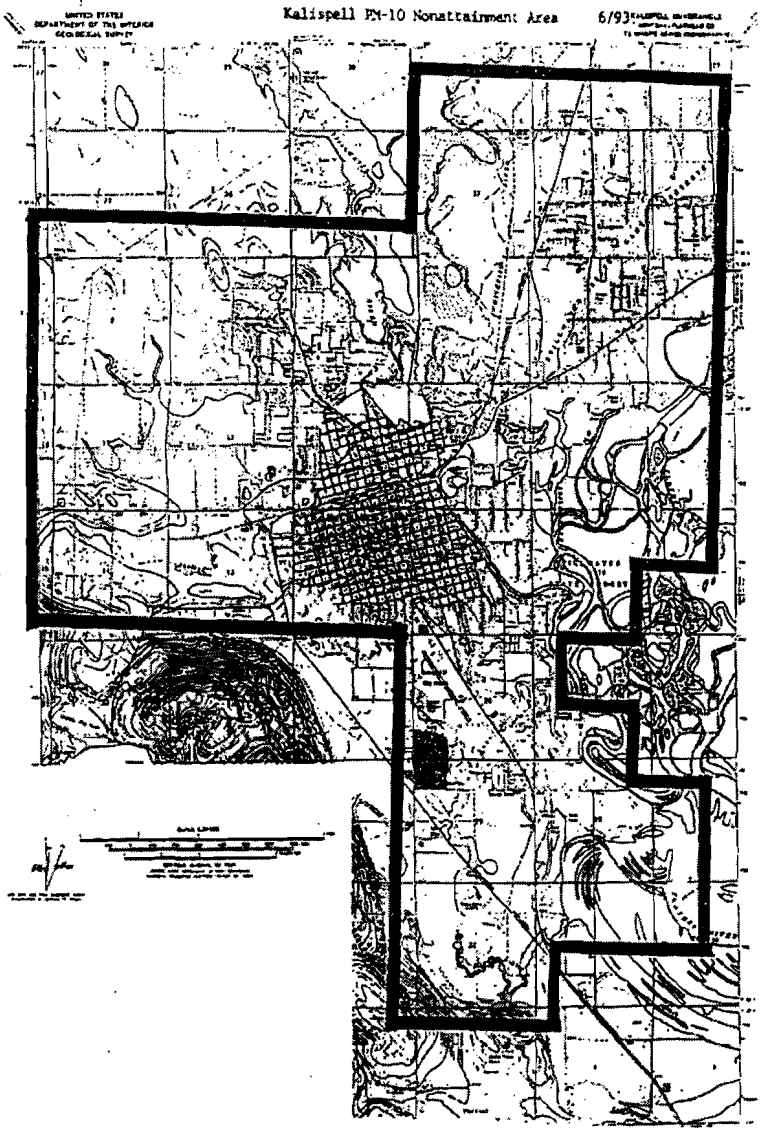
Kalispell PM-10 Nonattainment Area
6/93

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.

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	3.44	0.15	0.92	0.02
Log Debarking	2.25	1.26				
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	126.41	61.21	3.44	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	185.37				
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.

Amd Stipulation: 2.17.93

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 (AQB Estimate)

TSP Emissions:

Emission Factor: 0.02 lbs/ton (3-07-010-01, 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 (3-07-010-01, 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 (AQB 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 = ... 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 (AQB 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

Shaving Bin Cyclone from Planer

Hours of operation: 8760 hrs

TSP Emissions:

Emission Factor: 2.00 lbs/hr (3-07-003-58, 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	(AQB 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:	365 tons/MMBF	
Bark Production:	76 tons/MMBF	
Total Hog Fuel Production:	471 tons/MMBF	(AQB 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

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

Final Stipulation: 9/17/93

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 Dock - 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*P

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
P=	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)= 11200 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*P

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
P=	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

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

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

In the Matter of Compliance of Pack and Company, Inc., 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 Pack and Company, Inc. ("Pack"), 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

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 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. 7511a(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. Pack is located outside of the Kalispell non-attainment area boundary.

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 projects, 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 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 indicated 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 results of the earlier CMB modeling study were in part dependent upon the level of actual emissions from the various sources in the Kalispell area during the study period. However, and based upon a review of the allowable emissions for those same sources, the department is concerned that the allowable emissions do not correlate well to the actual emissions occurring during the period of CMB analysis.

(STIPULATION)
4

For example, in the case of Pack, some emission points are not subject to emissions limitations, and other emission points have emissions limitations that are significantly higher that the actual emissions during the CMB 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 Pack were identified as a significant contributor to ambient levels of PM-10 in the Kalispell nonattainment area. As used in the preceding sentence, the term "significant" means that the PM-10 emissions from Pack, when modeled, were greater than 5 micrograms per cubic meter impact for at least one receptor point within the Kalispell nonattainment area, consistent with the federal Clean Air Act, implementing regulations found at 40 CFR Part 51, and pertinent EPA guidance. Both parties agree that based upon these modeling results, and notwithstanding the location of Pack outside of the Kalispell nonattainment area, revised emission limitations for Pack are necessary to demonstrate compliance with the particulate matter NAAQS. The department has performed additional modeling using revised emission rates for Pack and other sources in the Kalispell area to determine the level of emissions

which achieves the particulate matter NAAQS. Based upon these modeling results, the department and Pack agree to the revised emission limitations for Pack, as set forth in Exhibit B.

B. BINDING EFFECT

12. The parties to this Stipulation agree that any such emission limitations placed on Pack 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 Pack. The specific conditions which comprise these limitations are contained in Exhibit B to this Stipulation (entitled "Emission Limitations and Conditions, Pack and Company, Inc.") 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 the plan, 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 Department is the state agency that is primarily responsible for the development and implementation of the State Implementation Plan under the Federal Clean Air Act.

Section 75-2-112(2)(c), MCA. 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. Such responsibility includes the adoption of emission standards (Section 75-2-203, 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 MAAQS, the Board has jurisdiction to require the imposition of such limitations and conditions, and may adopt the same as enforceable measures applicable to Pack.

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 that Act.

17. Any obligations in this Stipulation and attached Exhibit B that are more stringent than conditions set forth in an air quality permit issued to Pack, 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 imposing the

terms in this Stipulation and the limitations and conditions contained in Exhibit B of this Stipulation, and adopting the same as enforceable measures applicable to Pack.

PACK AND COMPANY, INC.

BY _____
Its: President

BY _____
Attorney

DATE 9/16/93

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

BY _____
Robert J. Robinson
Director

BY _____
Timothy R. Baker
Attorney

DATE 9/17/93

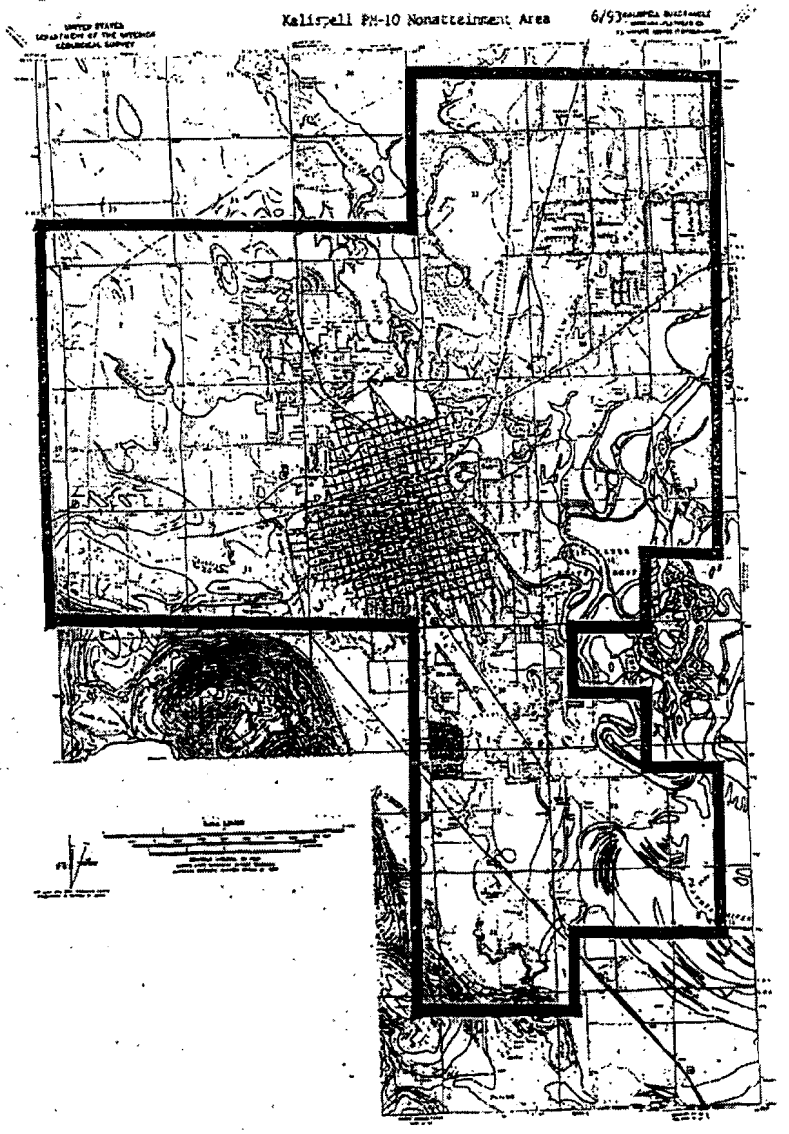
Kalispell PM-10 Nonattainment Area
6/93

EXHIBIT B
EMISSION LIMITATIONS AND CONDITIONS

Pack and Company, Inc.
2355 Highway 93 North
Kalispell, MT 59901

The above-named company is hereinafter referred to as "Pack"

Section I: Affected Facilities

A. Equipment: A stationary 1967 Stansteel #RM 5000 asphalt plant (200 TPH) serial #854 with a Stansteel Wet Scrubber - Model 260A, installed in 1977.

B. Plant Location: 2355 Highway 93 North (SW¼, NW¼, Sec 31, T29N, R21W, Flathead County).

Section II: Limitations and Conditions

A. Emission Limitations

1. Pack shall operate and maintain the wet scrubber and all other emission control equipment and utilize all techniques specified in this stipulation to provide the maximum air pollution control for which they were designed.

2. All visible emissions from the asphalt plant stack are limited to 20% opacity[1]. (ARM 16.8.1404)

3. Pack shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, or the general plant area any visible fugitive emissions that exhibit opacity[1] of 5% or greater. (RACT)

4. Pack shall treat all unpaved portions of the haul roads, access roads, and the general plant area with water, chemical dust suppressant and/or acceptable oil or asphalt products as necessary to maintain compliance with the 5% opacity limitation.(RACT) The use by Pack Concrete of any dust suppressants, including any oil or asphalt products, shall be in compliance with all applicable local, state or federal environmental requirements.

5. Pack shall not cause or authorize to be discharged into the atmosphere from material transfer and storage areas any visible emissions that exhibit opacity[1] of 20% or greater. (ARM 16.8.1401)

6. Asphalt plant TSP emissions are limited to 0.10 gr/dscf and 21.00 lbs/hr.

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

7. Asphalt plant PM-10 emissions are limited to 0.10 gr/dscf and 21.00 lbs/hr.

8. A device to measure the pressure drop (magnehelic gauge, manometer, etc.) on the control device (wet scrubber, baghouse, etc.) shall be installed and maintained. Pressure drop shall be measured in inches of water. Temperature indicators at the control device inlet and outlet must be installed and maintained.

9. The original asphalt production rate is limited to 200 tons/hour. It is recognized that the Pack asphalt plant is governed by an existing Air Quality Permit, in addition to the terms of this Stipulation (Air Quality Permit #1125). Notwithstanding the limitation contained in this Stipulation, Pack shall have the opportunity to seek an increase in the allowed production rate by requesting that the Department consider an alteration to the existing Air Quality Permit. Similarly, Pack is not foreclosed by this Stipulation from seeking an Air Quality Permit from the Department for the utilization of additional equipment on-site. Pack recognizes that before the Department may approve any alteration to the existing Air Quality Permit, or issue an additional Air Quality Permit for the use of additional equipment on-site, the emissions from the permitted facility or facilities must be reviewed for their impacts on PM-10 ambient air quality, and the Department may withhold approval if such impacts are found to be unacceptable.

10. Once a stack test is performed, the asphalt production rate is limited to the average production rate during the last source test demonstrating compliance. As noted immediately above in Paragraph No. 9, and notwithstanding this limitation, Pack shall have the opportunity to seek to increase this production rate or otherwise add to its production capacity, as may be consistent with the obligation and duty of the Department to ensure that there are not unacceptable impacts on PM-10 ambient air quality.

11. The asphalt plant operation is limited to 8760 hours/year.

B. Emission Testing

1. A source test must be conducted and compliance demonstrated within 320 days from the date of the signed stipulation.

2. An EPA method 1-5 source test must be performed on the asphalt plant every four years to demonstrate compliance with Section II.A.1, 5 and 6.

3. The tests shall consist of three runs, each of at least 60 minutes duration. The test shall be conducted in compliance with the requirements of 40 CFR Part 60, Subpart A, General Provisions; EPA Reference Methods 1-5, 40 CFR Part 60, Appendix A, and 40 CFR Part 60 Subpart I.

4. An EPA Method 9 opacity test must also be performed in conjunction with the particulate tests to demonstrate compliance with condition Section II.A.1. This test shall consist of thirty 6-minute average observations with ten of these observations being conducted during each particulate test run.

5. The tests identified in subsections 1-4 above must be conducted in compliance with the pre-test notification and reporting requirements of the AQB's Compliance Source Test Protocol.

6. Production field data sheets must be supplied as part of the test report. Since asphalt production will be limited to the average production rate during the test, it is suggested the test be performed at the highest production rate practical.

7. The AQB must be notified of the test five working days before the test is scheduled to be performed. The AQB must also be notified the day before the test is performed to confirm the test. The responsibility for notification is that of the owner/operator.

8. Pressure drop on the control device and temperatures will be recorded during the test and reported as part of the test results.

C. Reporting Requirements

1. The operator must maintain on-site records showing daily production rates for the current calendar year. These records shall be available for inspection by the department and must be submitted to the department upon request.

2. Pack shall retain daily production numbers for a minimum of five (5) years.

3. Pack shall provide an annual report identifying any days in which the hours of operation, or the process rates in Section II.A. are exceeded. The report shall be submitted by March 1 of each year.

4. Annual production information shall be submitted in writing to the AQB by March 1 of the following calendar year. The information shall include:

   a) Tons of asphalt produced.

   b) Hours of operation.

   c) Type and amount of fuel used for the plant.

   d) Fugitive dust information consisting of a listing of all plant vehicles including the following for each vehicle type:

      i) Number of vehicles;
      ii) Vehicle type;
      iii) Vehicle weight, loaded
      iv) Vehicle weight, unloaded;
      v) Number of tires on vehicle;
      vi) Average trip length;
      vii) Average number of trips annually;
      viii) Average vehicle speed;
      ix) Area of activity; and
      x) Vehicle fuel usage (gasoline or diesel) annual total.

   f) Fugitive dust control for haul roads and general plant area:

      I. Hours of operation of water trucks.
      ii. Application schedule for chemical dust suppressant if applicable.

D. The department may require additional emissions testing on sources of emissions per ARM 16.8.704, Testing Requirements.

E. Pack must maintain a copy of the air quality stipulation at the Kalispell ready mix

site and make that copy available for inspection by department personnel upon request.

F. Pack 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
Pack and Company, Inc.

I. Introduction

A. Equipment

A stationary 1967 Stansteel #RM 5000 asphalt plant (200 TPH) Serial #654 with a Stansteel Wet Scrubber - Model 260A, installed in 1977.

B. Process Description

This plant produces asphalt for use in construction, repair, and maintenance of roads and highways.

C. Facility Location

Pack operates a stationary asphalt plant and a ready mix concrete batch plant in a gravel pit at 2355 Hwy 93 North (SW¼, NW¼, Sec 31, T29N, R21W, Flathead County) in the Kalispell nonattainment area. The 1967 Stansteel #RM 5000 asphalt plant is permanently located at this pit.

II. Applicable Rules and Regulations

A. ARM 16.8, Subchapter 8, Ambient Air Quality, including but not limited to:

ARM 16.8.821 Ambient Air Quality Standard for PM-10. This section states that no person may cause or contribute to concentrations of PM-10 in the ambient air which exceed the set standards. (See Section V)

B. ARM 16.8, Subchapter 9, Prevention of Significant Deterioration - This facility is not a PSD source since this facility is not a listed source and the potential to emit is below 250 tons per year of any pollutant.

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

1. ARM 16.8.1401 Particulate Matter, Airborne. This section requires an opacity limitation of 20% for all fugitive emission sources.

2. ARM 16.8.1403 Particulate Matter, Industrial Process. This section states that no person shall cause, allow, or permit to be discharged into the outdoor atmosphere from any operation, process, or activity, particulate matter in excess of the amount determined by using the following equation:

Allowable Emissions = $55 (200 \text{ tons/hr})^{.11} - 40 = 58.51$ lbs/hr.

The enforceable total particulate matter emission limit is 21.00 lbs/hr, therefore the source is in compliance.

3. ARM 16.8.1404 Visible Air Contaminants. This section requires an opacity limitation of 20% from all stacks constructed or altered since November 23, 1968.

4. 16.8.1423 Standards of Performance for New Stationary Sources (NSPS). This plant was constructed in 1967 so NSPS (40 CFR Part 60, general provisions, and Subpart I Hot Mix Asphalt Facilities) does not apply.

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 a 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. Asphalt Plant Stack Emissions

Pack's asphalt plant was constructed in 1967, and therefore, NSPS does not apply. The department has determined that BACT for pre-NSPS asphalt plants is an emission limitation of 0.10 gr/dscf and 20% opacity. The plant was tested in 1988 and the results showed emissions at 0.082 gr/dscf. Since BACT is more stringent than RACT and this asphalt plant meets BACT, the RACT requirement is met.

B. Material Transfer Fugitive Emissions

RACT for material transfer points for sources of this type has been determined by the department to be the use of water of chemical stabilization so as to maintain compliance with a 20% opacity limitation.

C. Fugitive Road Dust Emissions

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

IV. Emission Inventory

1967 Stansteel BRH 5000 Portable Asphalt Plant

Annual Emission Rates (Potential) *

Source	Tons/Year TSP	PM-10	NOx	VOC	CO	SOx
Asphalt Plant Drum Dryer	91.98	91.98	31.54	24.53	33.29	63.95
Elevator, Screens, Bins, and Mixer	175.23	26.28				
Cold Aggregate Handling	87.60	35.04				
Haul Roads	0.15	0.06				
Total	354.95	153.36	31.54	24.53	33.29	63.95

* Based on operating 8760 hours/year.

Daily Emission Rates (Potential) **

Source	lbs/day TSP	PM-10	NOx	VOC	CO	SOx
Asphalt Plant Drum Dryer	504.00	504.00	172.80	134.40	182.40	350.40
Elevator, Screens, Bins, and Mixer	960.00	144.00				
Cold Aggregate Handling	480.00	192.00				
Haul Roads (Daily)	1.31	0.47				
Total	1945.31	840.47	172.80	134.40	182.40	350.40

** Based on operating 24 hours/day.

Asphalt Plant Drum Dryer with Wet Scrubber

Maximum Process Rate: 200 tons/hr
Process Airflow Rate: 24500 dscf/min (Maximum Process Airflow Rate)
Hours of operation: 8760 hr/yr 24 hr/day

TSP Emissions:

Emission Factor: 0.10 gr/dscf (RACT Determination)
Calculations: 0.10 gr/dscf * 24500 dscf/min * 1/7000 lbs/gr * 60 min/hr = 21.00 lbs/hr
21.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 91.98 tons/yr
21.00 lbs/hr * 24.0 hr/day = 504.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.10 gr/dscf (Assume 100% of TSP is PM-10)
Calculations: 0.10 gr/dscf * 24500 dscf/min * 1/7000 lbs/gr * 60 min/hr = 21.00 lbs/hr
21.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 91.98 tons/yr
21.00 lbs/hr * 24.0 hr/day = 504.00 lbs/day

NOx Emissions:

Emission Factor: 0.036 lbs/ton (AFSSC 3-05-002-01, page 116)
Calculations: 0.036 lbs/ton * 200 tons/hr = 7.20 lbs/hr
7.20 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 31.54 tons/yr
7.20 lbs/hr * 24.0 hr/day = 172.80 lbs/day

VOC Emissions:

Emission Factor: 0.028 lbs/ton (AFSSC 3-05-002-01, page 116)
Calculations: 0.028 lbs/ton * 200 tons/hr = 5.60 lbs/hr
5.60 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 24.53 tons/yr
5.60 lbs/hr * 24.0 hr/day = 134.40 lbs/day

CO Emissions:

Emission Factor: 0.038 lbs/ton (AFSSC 3-05-002-01, page 116)
Calculations: 0.038 lbs/ton * 200 tons/hr = 7.60 lbs/hr
7.60 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 33.29 tons/yr
7.60 lbs/hr * 24.0 hr/day = 182.40 lbs/day

SOx Emissions:

Emission Factor: 0.073 lbs/ton (AP42SC 3-05-002-01, page 116)
Calculations: 0.073 lbs/ton * 200 tons/hr = 14.60 lbs/hr
14.60 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 63.95 tons/yr
14.60 lbs/hr * 24.0 hr/day = 350.40 lbs/day

Elevator, Screens, Bins, and Riser

Process Rate: 200 tons/hr (Maximum Design)
Hours of operation: 8760 hr/yr 24 hr/day

TSP Emissions:

Emission Factor: 0.2 lbs/ton (AP42SC 3-05-002-02, page 116)
Calculations: 0.20 lbs/ton * 200 tons/hr = 40.00 lbs/hr
40.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 175.20 tons/yr
40.00 lbs/hr * 24.0 hr/day = 960.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.03 lbs/ton (AP42SC 3-05-002-02, page 116)
Calculations: 0.03 lbs/ton * 200 tons/hr = 6.00 lbs/hr
6.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 26.28 tons/yr
6.00 lbs/hr * 24.0 hr/day = 144.00 lbs/day

Cold Aggregate Handling

Process Rate: 200 tons/hr (Maximum Design)
Hours of operation: 8760 hr/yr 24 hr/day

TSP Emissions:

Emission Factor: 0.10 lbs/ton (AP42SC 3-05-002-04, page 116)
Calculations: 0.10 lbs/ton * 200 tons/hr = 20.00 lbs/hr
20.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 87.60 tons/yr
20.00 lbs/hr * 24.0 hr/day = 480.00 lbs/day

PM-10 Emissions:

Emission Factor: 0.04 lbs/ton (AP42SC 3-05-002-04, page 116)
Calculations: 0.04 lbs/ton * 200 tons/hr = 8.00 lbs/hr
8.00 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 35.04 tons/yr
8.00 lbs/hr * 24.0 hr/day = 192.00 lbs/day

Haul Roads

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 346 VMT/Yr (Estimated 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 8.7 %
S= Average Speed of vehicles in mph 5.0 mph
W= Average weight of vehicles in Tons 20.8 Tons
w= Average number of wheels on vehicle 6 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: 1.78 Lbs/VMT

E(TSP)= (346 VMT/Yr)(1.78 Lbs/VMT)(0.5)
E(TSP)= 308 Lbs/Yr or 0.15 Tons/Yr

PM10 Emission Factor is determined by the following equation:

E= 5.9*k*(a/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
a= Silt Concent in percent 8.7 %
S= Average Speed of vehicles in mph 5.0 mph
W= Average weight of vehicles in Tons 20.8 Tons
w= Average number of wheels on vehicle 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

PM10 Emissions:

PM10 Emission factor: 0.64 Lbs/VMT

E(PM10)= (346 VMT/Yr)(0.64 Lbs/VMT)(0.5)
E(PM10)= 111 Lbs/Yr or 0.06 Tons/Yr

Haul Roads (Daily)

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 346 VMT/Yr (Estimated based on maximum production rate)

Control Efficiency is 50% for watering.

TSP Emission Factor is determined by the following equation:

E= 5.9*k*(a/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
a= Silt Content in percent 8.7 %
S= Average Speed of vehicles in mph 5.0 mph
W= Average weight of vehicles in Tons 20.8 Tons
w= Average number of wheels on vehicle 4 Wheels
PR= Assumes no precipitation 1.0000

TSP Emissions:

TSP Emission Factor: 2.77 Lbs/VMT

E(TSP)= (346 VMT/Yr)(2.77 Lbs/VMT)(0.5)
E(TSP)= 478 Lbs/Yr
or 0.24 Tons/Yr
1.31 lbs/day

PM10 Emission Factor is determined by the following equation:

E= 5.9*k*(a/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
a= Silt Content in percent 8.7 %
S= Average Speed of vehicles in mph 5.0 mph
W= Average weight of vehicles in Tons 20.8 Tons
w= Average number of wheels on vehicle 4 Wheels
PR= Assumes no precipitation 1.0000

PM10 Emissions:

PM10 Emission Factor: 1.00 Lbs/VMT

E(PM10)= (346 VMT/Yr)(1.00 Lbs/VMT)(0.5)
E(PM10)= 172 Lbs/Yr or 0.09 Tons/Yr or 0.47 lbs/day

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 is now requiring 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 the Pack facility were in some cases nonexistent (no permit required) or several timeshigher than actual emissions (ARM 16.8.1403). Dispersion modelling conducted using emissions from the Pack facility at its potential to emit (emissions associated with maximum design capacity or as limited by ARM 16.8.1403) indicated that some emission points within the facility contributed significantly to the PM-10 concentrations in the Kalispell nonattainment area. As used in the preceding sentence, the term "significantly" means that the PM-10 emissions from Pack Concrete, when modeled, were greater than 5 micrograms per cubic meter impact for at least one receptor point within the Kalispell nonattainment area, consistent with the federal Clean Air Act, implementing regulations found at 40 CFR Part 51, and pertinent EPA guidance.

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 Pack 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 application of reasonable control techniques (watering or application of dust suppressant) for haul road dust the department has determined that the Pack facility can 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: Pack and Company, Inc., Air Quality Stipulation for Kalispell SIP.

Description of Project: This stipulation is for the operation of a stationary 1967 Stansteel #RM 5000 asphalt plant (200 TPH) Serial #654 with a Stansteel Wet Scrubber - Model 260A. This plant produces asphalt for use in construction, repair, and maintenance of roads and highways.

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 available.

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

Recommendation: No EIS is 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

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		

ORIGINAL

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

In the Matter of Compliance of Pack Concrete, Inc., 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 Pack Concrete, Inc. ("Pack Concrete"), 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

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 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. Pack Concrete is located outside of the Kalispell non-attainment area boundary.

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 projects, 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 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 indicated 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 results of the earlier CMB modeling study were in part dependent upon the level of actual emissions from the various sources in the Kalispell area during the study period. However, and based upon a review of the allowable emissions for those same sources, the department is concerned that the allowable emissions do not correlate well to the actual emissions occurring during the period of CMB analysis.

(STIPULATION)
4

For example, in the case of Pack Concrete, some emission points are not subject to emissions limitations, and other emission points have emissions limitations that are significantly higher that the actual emissions during the CMB 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 Pack Concrete were identified as a significant contributor to ambient levels of PM-10 in the Kalispell nonattainment area. As used in the preceding sentence, the term "significant" means that the PM-10 emissions from Pack Concrete, when modeled, were greater than 5 micrograms per cubic meter impact for at least one receptor point within the Kalispell nonattainment area, consistent with the federal Clean Air Act, implementing regulations found at 40 CFR Part 51, and pertinent EPA guidance. Both parties agree that based upon these modeling results, and notwithstanding the location of Pack Concrete outside of the Kalispell nonattainment area, revised emission limitations for Pack Concrete are necessary to demonstrate compliance with the particulate matter NAAQS. The department has performed additional modeling using revised emission rates

for Pack Concrete and other sources in the Kalispell area to determine the level of emissions which achieves the particulate matter NAAQS. Based upon these modeling results, the department and Pack Concrete agree to the revised emission limitations for Pack Concrete, as set forth in Exhibit B.

B. BINDING EFFECT

12. The parties to this Stipulation agree that any such emission limitations placed on Pack Concrete 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 Pack Concrete. The specific conditions which comprise these limitations are contained in Exhibit B to this Stipulation (entitled "Emission Limitations and Conditions, Pack Concrete, Inc.") 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 the plan, or if future violations of the particulate matter NAAQS or PM-10 standard MAAQS 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 Department is the state agency that is primarily responsible for the development and implementation of the

State Implementation Plan under the Federal Clean Air Act. Section 75-2-112(2)(c), MCA. 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. Such responsibility includes the adoption of emission standards (Section 75-2-203, 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 Pack Concrete.

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 that Act.

17. Any obligations in this Stipulation and attached Exhibit B that are more stringent than conditions set forth in an air quality permit issued to Pack Concrete, 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 imposing the terms in this Stipulation and the limitations and conditions contained in Exhibit B of this Stipulation, and adopting the same as enforceable measures applicable to Pack Concrete.

PACK CONCRETE, INC.

BY _____
(Its) PRESIDENT

BY _____
Attorney

DATE 7/16/93

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

BY _____
for Robert J. Robinson
Director

BY _____
Timothy R. Baker
Attorney

DATE 9/17/93

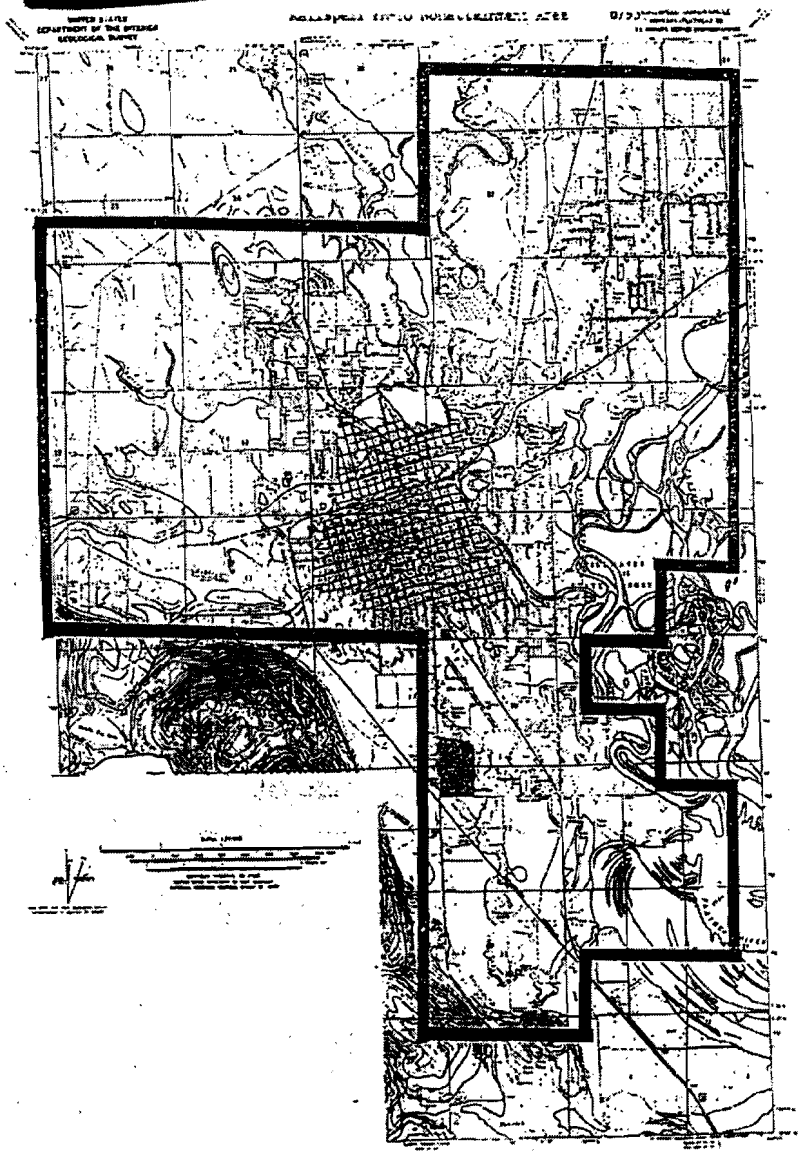

EXHIBIT B
EMISSION LIMITATIONS AND CONDITIONS

Pack Concrete, Inc.
2355 Highway 93 North
Kalispell, MT 59901

The above-named company is hereinafter referred to as "Pack Concrete"

SECTION I: Affected Facilities

A. Plant Location: Pack Concrete's batch concrete plant is located at 2355 Highway 93 North, Kalispell, Montana 59901 (SW¼, NW¼, Sec 31, T29N, R21W, Flathead County).

B. Affected Equipment

1. A Johnson Dry Batch stationary concrete batch plant (60 cu.yds/hr). Particulate emissions are to be controlled by three (3) fabric filter vents, one on each of the three cement silos and one fabric filter vent on the batch bin loading area;

2. One stationary conveyor;

3. Three (3) sand/aggregate storage bins;

4. One gravel washing plant.

SECTION II: Limitations and Conditions

A. Emission Control Requirements

1. Pack Concrete shall operate and maintain the fabric filter vents and all other emission control equipment and utilize all techniques specified in this stipulation to provide the maximum air pollution control for which they were designed.

2. Pack Concrete shall treat all unpaved portions of the haul roads and the general plant area with water, chemical dust suppressant and/or acceptable oil or asphalt products as necessary to maintain compliance with the 5% opacity[1] limitation. (RACT) The use by Pack Concrete of any dust suppressants, including any oil or asphalt products, shall be in compliance with all applicable local, state or federal environmental requirements.

3. Pack Concrete shall not operate the gravel washing plant in a dry screening mode.

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

Rev. Stipulation: 9/17/93

B. Emission Limitations

Pack Concrete shall not cause of authorize to be discharged into the atmosphere;

1. Any vent emission which exhibits greater than 20% opacity[2] averaged over six (6) consecutive minutes. (RACT)

2. Any fugitive emission from any truck loading or unloading which exhibit greater than 10% opacity[2] averaged over six (6) consecutive minutes. (RACT)

3. Any fugitive emissions from any transferring operations which exhibit greater than 10% opacity[2] averaged over six (6) consecutive minutes. (RACT)

4. Any fugitive emissions from the haul roads or plant area which exhibit greater than 5% opacity[2] averaged over six (6) consecutive minutes. (RACT)

C. Emissions Monitoring

1. Pack Concrete shall inspect and keep record of repairs for the fabric filter vents on the cement silo every six (6) months of operation and the fabric filter vent on the batch bin loading area every one (1) month of operation so as to ensure that each such collector is operating at optimum efficiency as recommended by the manufacturer.

2. The records compiled in accordance with this section shall be maintained by Peck Concrete as a permanent business record for at least five (5) years and shall be available at the plant site for inspection by the duly authorized representative of the department.

D. Operational Reporting Requirement:

Pack Concrete will provide the department with a production report by March 1 for the previous calendar year production. The report is to contain the following information:

1. Total amount of concrete produced, in cubic yards;
2. Annual total of sand, in tons;
3. Annual total of cement, in tons;
4. Annual total of aggregate, in tons;
5. Hours of operation;
6. Fugitive dust information consisting of a listing of all plant vehicles including the following for each vehicle type:

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

a. Total number of vehicles;
b. Vehicle type;
c. Vehicle weight, loaded;
d. Vehicle weight, unloaded;
e. Number of tires on vehicle;
f. Average trip length;
g. Average number of trips annually;
h. Average vehicle speed; and
i. Area of activity.

7. 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.

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

F. Pack Concrete must maintain a copy of the air quality stipulation at the Kalispell concrete batch plant site and make that copy available for inspection by department personnel upon request.

G. Pack Concrete 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
Pack Concrete

I. Introduction/Process Description

A. Affected Equipment

Pack Concrete operates a Johnson Dry Batch stationary concrete batch plant with three (3) fabric filter vents, one on each of the three cement silos and one fabric filter vent on the batch bin loading area. Pack Concrete's concrete batch plant is located at 2355 Highway 93 North, Kalispell, MT 59901 (SW¼, NW¼, Sec 31, T29N, R21W, Flathead County).

This concrete batching plant produces concrete for use in commercial and residential construction projects in the Kalispell area.

II. Applicable Rules and Regulations

A. ARM 16.8, Subchapter 8, Ambient Air Quality, including but not limited to: ARM 16.8.821 Ambient Air Quality Standards for PM-10. This section states that no person may cause or contribute to concentrations of PM-10 in the ambient air which exceed the set standards.

B. ARM 16.8, Subchapter 9, Prevention of Significant Deterioration - This facility is not a PSD source since this facility is not a listed source and the potential to emit is below 250 tons per year 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 16.8.1403 Particulate Matter, Industrial Process. This section states that no person shall cause, allow, or permit to be discharged into the outdoor atmosphere from any operation, process, or activity, particulate matter in excess of the amount determined by using the following equation:

Allowable Emissions = $55 (123 \text{ tons/hr})^{.11} - 40 = 53.38$ lbs/hr.

The estimated total particulate emissions from the cement silos are 0.024 lbs/hr, therefore the source is in compliance with this rule.

3. ARM 16.8.1404 Visible Air Contaminants. This section requires an opacity limitation of 20% for all stacks or vents. The requirements of this stipulation supersede this rule because they are more stringent or they are equivalent.

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 a 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. Process Particulate Vent Emissions

Pack Concrete currently controls particulate vent emissions with a fabric filter having an estimated efficiency of 99.35%. High efficiency fabric filters are the highest efficiency particulate control system for a source of this type. Since Pack Concrete is currently using this option, no other options need be considered. The department has determined that the fabric filter control system will constitute RACT in this case. The department has also determined that an opacity of 10% will constitute RACT for all vent emissions with fabric filter control.

B. Material Transfer Fugitive Emissions

RACT for material transfer points for sources of this type has been determined by the department to be the use of water or chemical stabilization so as to maintain compliance with a 10% opacity limitation.

C. Fugitive Road Dust Emissions

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

IV. Emission Inventory

Concrete Batch Plant

Annual Emission Rates (Potential)

Source	Tons/Year TSP	PM-10	NOX	VOC	CO	SOX
Cement Handling Emissions	0.11	0.05				
Batch Bin Loading of Cement/Sand/Aggregate	0.07	0.04				
Mixer Loading of Cement/Sand/Aggregate	21.55	10.77				
Transfer: Sand/Aggregate to Elevated Bins	21.55	10.77				
Haul Roads	0.15	0.06				
Total	43.43	21.69	0.00	0.00	0.00	0.00

Daily Emission Rates (Potential) *

Source	TSP	PM-10	HCF	Lbs/Day VOC	CO	SOx
Cement Handling Emissions	0.56	0.29				
Batch Bin Loading of Cement/Sand/Aggregate	0.38	0.19				
Mixer Loading of Cement/Sand/Aggregate	118.08	59.04				
Transfer: Sand/Aggregate to Elevated Bins	118.08	59.04				
Haul Roads (Daily)	1.31	0.47				
Total: (lbs/day)	238.43	119.03	0.00	0.00	0.00	0.00

* Based on a 24 hour day.

Cement Handling Emissions

Process Rate: 15.5 tons/hr (Maximum Design)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.24 lbs/ton (AP-42CC 3-05-011-07, page 122)
Control Efficiency: 99.35% (Fabric Filter)
Calculations: 0.24 lbs/ton * 15.5 tons/hr = 3.72 lbs/hr
3.72 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 16.29 tons/yr
16.29 tons/yr * (1.00 - 0.9935) = 0.11 tons/yr

PM-10 Emissions:

Emission Factor: 0.12 lbs/ton (AP-42CC 3-05-011-07, page 122)
Control Efficiency: 99.35% (Fabric Filter)
Calculations: 0.12 lbs/ton * 15.5 tons/hr = 1.86 lbs/hr
1.86 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 8.15 tons/yr
8.15 tons/yr * (1.00 - 0.9935) = 0.05 tons/yr

Batch Bin Loading of Cement/Sand/Aggregate

Process Rate: 60 cu.yds/hr (Maximum Design)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.02 lbs/ton (AP-42CC 3-05-011-08, page 122)
Control Efficiency: 99.35% (Fabric Filter)
Calculations: 0.02 lbs/ton * 60 cu.yds/hr * 2.05 tons/cu.yd = 2.46 lbs/hr
2.46 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 10.77 tons/yr
10.77 tons/yr * (1.00 - 0.9935) = 0.07 tons/yr

PM-10 Emissions:

Emission Factor: 0.01 lbs/ton (AP-42CC 3-05-011-08, page 122)
Control Efficiency: 99.35% (Fabric Filter)
Calculations: 0.010 lbs/ton * 60 cu.yds/hr * 2.05 tons/cu.yd = 1.23 lbs/hr
1.23 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 5.39 tons/yr
5.39 tons/yr * (1.00 - 0.9935) = 0.04 tons/yr

Mixer Loading of Cement/Sand/Aggregate

Process Rate: 80 cu.yds/hr (Maximum Design)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.04 lbs/ton (AP-42CC 3-05-011-09, page 122)
Control Efficiency: 0%
Calculations: 0.04 lbs/ton * 60 cu.yds/hr * 2.05 tons/cu.yd = 4.92 lbs/hr
4.92 lbs/hr * 8760 hr/yr = 0.0005 tons/lb = 21.55 tons/yr
21.55 tons/yr * (1.00 - 0.000) = 21.55 tons/yr

PM-10 Emissions:

Emission Factor: 0.02 lbs/ton (AP55CC 3-05-011-09, page 122)
Control Efficiency: 0%
Calculations: 0.02 lbs/ton * 60 cu.yds/hr * 2.05 tons/cu.yd = 2.46 lbs/hr
2.46 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 10.77 tons/yr
10.77 tons/yr * (1.00 - 0.000) = 10.77 tons/yr

Transfer: Sand/Aggregate to Elevated Bins

Process Rate: 60 cu.yds/hr (Maximum Design)
Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 0.04 lbs/ton (AP55CC 3-05-011-06, page 122)
Control Efficiency: 0%
Calculations: 0.04 lbs/ton * 60 cu.yds/hr * 2.05 ton/cu.yd = 4.92 lbs/hr
4.92 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 21.55 tons/yr
21.55 tons/yr * (1.00 - 0.000) = 21.55 tons/yr

PM-10 Emissions:

Emission Factor: 0.02 lbs/ton (AP55CC 3-05-011-06, page 122)
Control Efficiency: 0%
Calculations: 0.02 lbs/ton * 60 cu.yds/hr * 2.05 tons/cu.yd = 2.46 lbs/hr
2.46 lbs/hr * 8760 hr/yr * 0.0005 tons/lb = 10.77 tons/yr
10.77 tons/yr * (1.00 - 0.000) = 10.77 tons/yr

Haul Roads

Operating Hours: 8760 Hours/Yr
Vehicle Miles Traveled: 346 VMT/Yr (Estimated 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 8.7 %
S= Average Speed of vehicles in mph 5.0 mph
W= Average weight of vehicles in Tons 20.8 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: 1.78 Lbs/VMT

E(TSP)= (346 VMT/Yr)(1.78 Lbs/VMT)(0.5)
E(TSP)= 308 Lbs/Yr or 0.15 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 8.7 %
S= Average Speed of vehicles in mph 5.0 mph
W= Average weight of vehicles in Tons 20.8 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

PM10 Emissions:

PM10 Emission Factor: 0.64 Lbs/VMT

E(PM10)= (346 VMT/Yr)(0.64 Lbs/VMT)(0.5)
E(PM10)= 111 Lbs/Yr or 0.06 Tons/Yr

Haul Roads (Daily)

Operating Hours: 24 hours/day
Vehicle Miles Traveled: 346 VMT/Yr (Estimated 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	8.7 %
S= Average Speed of vehicles in mph	5.0 mph
W= Average weight of vehicles in Tons	20.8 Tons
w= Average number of wheels on vehicles	4 wheels
PR= Assumes no precipitation	1.0000

TSP Emissions:

TSP Emission Factor: 2.77 Lbs/VMT

E(TSP)= (346 VMT/Yr)(2.77 Lbs/VMT)(0.5)
E(TSP)= 478 Lbs/Yr or 1.31 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	8.7 %
S= Average Speed of vehicles in mph	5.0 mph
W= Average weight of vehicles in Tons	20.8 Tons
w= Average number of wheels on vehicles	4 wheels
PR= Assumes no precipitation	1.0000

PM10 Emissions:

PM10 Emission Factor: 1.00 Lbs/VMT

E(PM10) = (346 VMT/Yr)(1.00 Lbs/VMT)(0.5)
E(PM10) = 172 Lbs/Yr or 0.47 Lbs/day

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 is now requiring 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 the Pack Concrete facility 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 Pack Concrete facility at its potential to emit (emissions associated with maximum design capacity or as limited by ARM 16.8.1403) indicated that some emission points within the facility were significantly contributing to the PM-10 concentrations in the Kalispell nonattainment area. As used in the preceding sentence, the term "significantly" means that the PM-10 emissions from Pack Concrete, when modeled, were greater than 5 micrograms per cubic meter impact for at least one receptor point within the Kalispell nonattainment area, consistent with the federal Clean Air Act, implementing regulations found at 40 CFR Part 51, and pertinent EPA guidance.

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 Pack Concrete 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 Pack Concrete 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: Pack Concrete Inc., Air Quality Stipulation for Kalispell SIP.

Description of Project: Concrete batching plant with a maximum design rate of 60 cubic yards per hour. This concrete batching plant produces concrete for use in commercial and residential construction projects in the Kalispell area.

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 are available.

A listing and appropriate evaluation of mitigation, stipulations and other controls enforceable by the agency or another government agency: A list of enforceable conditions and an analysis of conditions are contained in a signed 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

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		

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

In the Matter of Compliance of Plum Creek Manufacturing, L.P., 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 Plum Creek Manufacturing, L.P., ("Plum Creek"), hereby stipulate and agree to all the following Paragraphs 1-19 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, at seq., as

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 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 projects, 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 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 indicated 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 results of the earlier CMB modeling study were in part dependent upon the level of actual emissions from the various sources in the Kalispell area during the study period. However, and based upon a review of the allowable emissions for those same sources, the department is concerned that the allowable emissions do not correlate well to the actual emissions occurring during the period of CMB analysis. For example, in the case of Plum Creek, some emission points are not subject to emissions limitations, and other emission

points have emissions limitations that are significantly higher that the actual emissions during the CMB 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 Plum Creek were identified as a significant contributor to ambient levels of PM-10 in the Kalispell nonattainment area. The department believes that based upon these modeling results, revised emission limitations for Plum Creek are necessary to demonstrate compliance with the particulate matter NAAQS. The department has performed additional modeling using revised emission rates for Plum Creek and other sources in the Kalispell area to determine the level of emissions which achieves the particulate matter NAAQS. Based upon these modeling results, the department and Plum Creek agree to the revised emission limitations for Plum Creek, as set forth in Exhibit B.

B. BINDING EFFECT

12. The parties to this Stipulation agree that any such emission limitations placed on Plum Creek 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 Plum Creek. The specific conditions which comprise these limitations are contained in Exhibit B to this Stipulation (entitled "Emission Limitations and Conditions, Plum Creek, Inc.") 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 the plan, or if future violations of the particulate matter NAAQS or PM-10 standard MAAQS 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 Department is the state agency that is primarily responsible for the development and implementation of the State Implementation Plan under the Federal Clean Air Act. Section 75-2-112(2)(c), MCA. Under Sections 75-2-101, MCA, et seq., the Board is required to protect public health and welfare by limiting the levels and concentrations of air pollutants within the state. Such responsibility includes the adoption of emission standards (Section 75-2-203, 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 Plum Creek.

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 that Act.

17. Any obligations in this Stipulation and attached Exhibit B that are more stringent than conditions set forth in an air quality permit issued to Plum Creek, 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 imposing the terms in this Stipulation and the limitations and conditions contained in Exhibit B of this Stipulation, and adopting the same as enforceable measures applicable to Plum Creek.

PLUM CREEK MANUFACTURING, L.P.

BY _____
Its:

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

BY _____
for Robert J. Robinson
Director

BY _____
Attorney

DATE 9/15/93

BY _____
Timothy R. Baker
Attorney

DATE 9/17/93

EXHIBIT B
EMISSION LIMITATIONS AND CONDITIONS

Plum Creek Manufacturing, LP
Evergreen Facility
P.O. Box 5257
Kalispell, MT 59903

The above named company is hereinafter referred to as "Plum Creek."

Section I: Affected Facility

Plum Creek's Evergreen plywood plant located approximately 3 miles northeast of Kalispell, Montana near the Evergreen subdivision in SW¼, Section 33, Township 29 North, Range 21 West, Flathead County.

Section II: Limitations and Conditions

A. Conditions

1. Plum Creek shall comply with all requirements contained in this stipulation and all requirements contained in air quality permits issued by the department unless otherwise noted.

2. Plum Creek shall comply with the emission limitations contained in Table 1. The emission limitations in Table 1 supersede the related emission limitations in the air quality permit issued by the department.

Table 1

Source	Particulate Matter lbs/hr	PM-10 lbs/hr	Part. Matter Ton/yr	PM-10 Tons/yr
Hog Fuel Boiler	16.1	16.1	70.52	70.52
Two Veneer Dryers	32.8	24.1	143.66	105.56
Sawmill Chip Bin Cyclone	2.58	1.29	11.30	5.65
Planer Shavings Bin Cyclones	16.40	8.20	71.83	35.92
Fines Cyclone	1.34	0.67	5.87	2.93
Sanderdust Silo Baghouse	0.32	0.32	1.40	1.40
Sander Cyclone Baghouse	6.17	6.17	27.02	27.02
Sawline Baghouse	0.89	0.89	3.90	3.90
Dry Fuel Baghouse	0.86	0.86	3.77	3.77

3. Plum Creek shall not cause or authorize emissions to be discharged into the atmosphere from any access roads, parking lots, and log decks of the general plant property any visible fugitive emissions that exhibit opacity[1] of five percent (5%) or greater averaged over six (6) consecutive minutes.

4. Plum Creek shall treat all unpaved portions of the haul roads, access roads, parking lots, and the general plant area with chemical dust suppressant as necessary to maintain compliance with the 5% opacity[1] limitation.

5. Plum Creek shall treat all log decks with water as necessary to maintain compliance with the 5% opacity[1] limitation.

6. Plum Creek shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source an opacity[1] of twenty percent (20%) or greater averaged over six (6) consecutive minutes.

7. Plum Creek shall operate the following control measures:

a.	Hog Fuel Boiler	ESP
b.	Two Veneer Dryers	ESP
c.	Sawmill Log Debarking	Water Sprays
d.	Plywood Log Debarking	Water Sprays
e.	Sawmill Chip Bin	Cyclone
f.	Planer Shavings Bin	Baghouse
g.	Plywood Fines	Cyclone
h.	Sanderdust Silo	Baghouse
i.	Sander Cyclone	Baghouse
j.	Sawline	Baghouse
k.	Dry Fuel	Baghouse
l.	Planner Shavings Truck Loadout	Partial Enclosure

8. Plum Creek shall not debark more than 734,400 tons of logs per year.

B. Testing

1. Plum Creek shall test the Sander Cyclone Baghouse and demonstrate compliance with the PM-10 emission limitation contained in Section II.A.2 by November 30, 1994.

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

2. Plum Creek shall test the Planer Shavings Bin Cyclone Baghouse and demonstrate compliance with the PM-10 emission limitation contained in Section II.A.2 by November 30, 1994.

3. Plum Creek shall test the Plywood Veneer Dryer emissions and demonstrate compliance with the PM-10 emission limitation contained in Section 11.A.2 by 1995.

4. Plum Creek shall perform an analysis on the hog fuel, fines, planner shavings, and chips in accordance with the silt analysis procedures found in AP-42 Appendix C, D, and E. This analysis shall be completed and submitted to the department by March 1, 1994.

5. Testing required in Section II.B.1 and II.B.2 shall be conducted in accordance with 40 CFR Part 51 and the Montana Source Testing Protocol.

6. Testing required in Section II.B.3 shall be conducted in accordance with 40 CFR Part 51, Appendix M including backhalf, for PM-10 or 40 CFR Part 60, Appendix A including back-half, for total particulate used as a surrogate for PM-10. The test methods shall also conform to the Montana Compliance Source Testing Protocol. The dryer load shall be at 90% capacity during the test time.

C. Permitting

1. Plum Creek shall obtain a permit from the Department of Health and Environmental Sciences limiting the emissions from the Log Yard Residue Reclaim System to 3.19 tons/year of PM-10 and 26 lbs/day of PM-10 before operating the system.

2. Plum Creek shall obtain a permit to construct and operate the new Sander Baghouse and begin operation of the new Sander Baghouse prior to November 30, 1994.

3. Plum Creek shall submit a request to the department by April 1, 1994 asking the department to modify the air quality permit issued by the department to Plum Creek to include the limitations and conditions contained in this stipulation.

Analysis of Conditions

Plum Creek - Evergreen

I. Purpose of the stipulation

As a result of the designation of the City of Kalispell and the nearby Evergreen area as nonattainment, 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. Technical studies determined those sources were 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 subsequently 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.

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 Plum Creek. Dispersion modeling using the new emission limitations in this document, in conjunction with limitations on other Kalispell area facilities, demonstrates attainment of the NAAQS for PM-10. These reductions and changes in allowable emissions will be enforced through a signed stipulation.

II. Emission Inventory

Source	TSP	PM-10	NOX	VOC	CO	SOX
Hog Fuel Boiler	70.52	70.52	112.18	56.09	160.26	6.01
Two Veneer Dryers	143.66	105.56		12.79		
Sawmill Log Debarking	1.57	0.87				
Plywood Log Debarking	2.10	1.15				
Sawmill Block Sawing	6.56	3.46				
Plywood Block Sawing	8.39	4.62				
Sawmill Chip Bin Cyclone	11.30	5.65				
Planer Shavings Bin Cyclone	71.85	35.92				
Fines Cyclone	5.87	2.93				
Sanderdust Silo Baghouse	1.40	1.40				
Sander Cyclone B.H.	27.02	27.02				
Sawline Baghouse	3.90	3.90				
Dry Fuel B.H.	3.77	3.77				
Hog Fuel Pile & Fuel Bunker	99.85	35.95				
Plywood Chips Truck Loadout	9.54	3.39				
Sawmill/planer Chips Truck Loadout	10.67	3.79				
Fines Truck Loadout	24.19	8.71				
Planner Shavings Truck Loadout	30.00	18.00				
Roads - Fugitives - Yearly	67.39	24.26				
Total Log Yard Emissions	7.32	3.19				
Total Emissions	606.79	366.06	112.18	68.88	160.26	6.01

Hog Fuel Boiler

TSP Emissions

Emission Factor: 16.1 lbs/hr (Permit Limit)
Hours of operation: 8760 hour/year
Calculations: 16.1 lbs/hr * 8760 * 0.0005 tons/lb = 70.52 tons/yr

PM-10 Emissions:

Emission Factor: 16.1 lbs/hr (Permit Limit)
Hours of operation: 8760 hour/year
Calculations: 16.1 lbs/hr * 8760 * 0.0005 tons/lb = 70.52 tons/yr

NOx Emissions:

Emission Factor: 2.8 lbs/ton (AFSEF, SCC 1-02-009-02, page 24)
Control Efficiency: 0.0%
Process Rate: 80128 ton/year (Estimate)
Calculations: 80128 ton/year * 2.8 lbs/ton * 0.0005 tons/lb = 112.18 tons/yr

VOC Emissions:

Emission Factor: 1.4 lbs/ton (AFSEF, SCC 1-02-009-02, page 24)
Control Efficiency: 0.0%
Process Rate: 80128 ton/year (Estimate)
Calculations: 80128 ton/year * 1.4 lbs/ton * 0.0005 tons/lb = [illegible]

CO Emissions:

Emission Factor: 4.0 lbs/ton (AFSEF, SCC 1-02-009-02, page 24)
Control Efficiency: 0.0%
Process Rate: 80128 ton/year (Estimate)
Calculations: 80128 ton/year * 4.0 lbs/ton * 0.0005 tons/lb = 160.26 tons/yr

SOx Emissions:

Emission Factor: 0.15 lbs/ton (AFSEF, SCC 1-02-009-02, page 24)
Control Efficiency: 0.0%
Process Rate: 80128 ton/year (Estimate)
Calculations: 80128 ton/year * 0.15 lbs/ton * 0.0005 tons/lb = 6.01 tons/yr

Two Veneer Dryers

TSP Emissions

Emission Factor: 32.8 lbs/hr (Permit Limit)
Hours of operation: 8760 hour/year
Calculations: 32.8 lbs/hr * 8760 * 0.0005 tons/lb = 143.66 tons/yr

PM-10 Emissions:

Emission Factor: 24.1 lbs/hr (Stipulation Limit)
Hours of operation: 8760 hour/year
Calculations: 24.1 lbs/hr * 8760 * 0.0005 tons/lb = 105.56 tons/yr

VOC Emissions:

Emission Factor: 1.3 lbs/10000 sq ft veneer (AFSEF, SCC 3-07-007-13, page 143)
Control Efficiency: 0.0%
Process Rate: 196720000 ton/year (Estimate)
Calculations: 196720000 * ton/yr * 1.3 lbs/10000 sq ft veneer * 0.0005 tons/lb = 12.77 tons/yr

Sawmill Log Debarking

Lumber Production: 314,800 tons/yr (Based on Maximum Production Rate)

TSP Emissions:

Emission Factor: 0.02 lbs/ton (AFSEF, SCC 3-07-008-01, p. 143)
Control Efficiency: 50% (Water Sprays)
Calculations: 314200 tons/yr * 0.02 lbs/ton * (1- 0.50) * 0.0005 tons/lb = 1.57 tons/yr

PM-10 Emissions:

Emission Factor: 0.011 lbs/ton (AFSEF, SCC 3-07-008-01, p. 143)
Control Efficiency: 50% (Water Sprays)
Calculations: 314800 tons/yr * 0.01 lbs/ton * (1- 0.50) * 0.0005 tons/lb = 0.87 tons/yr

Plywood Log Debarking

Lumber Production: 419,600 tons/yr (Based on Maximum Production Rate)

TSP Emissions:

Emission Factor: 0.02 lbs/ton (AFSEF, SCC 3-07-008-01, p. 143)
Control Efficiency: 50% (Water Sprays)
Calculations: 419600 tons/yr * 0.02 lbs/ton * (1- 0.50) * 0.0005 tons/lb = 2.10 tons/yr

PM-10 Emissions:

Emission Factor: 0.011 lbs/ton (AFSEF, SCC 3-07-008-01, p. 143)
Control Efficiency: 50% (Water Sprays)
Calculations: 419600 tons/yr * 0.01 lbs/ton * (1- 0.50) * 0.0005 tons/lb = 1.15 tons/yr

Sawmill Block Sawing

Lumber Production: 314,800 tons/yr (Based on Maximum Production Rate)

TSP Emissions

Emission Factor: 0.04 lbs/ton (Based on knowledge of the Process)
Control Efficiency: 0%
Calculations: 314800 tons/yr * 0.04 lbs/ton * 0.0005 tons/lb = 6.30 tons/yr

PM-10 Emissions:

Emission Factor: 0.022 lbs/ton (Based on knowledge of the process)
Control Efficiency: 0%
Calculations: 314800 tons/yr * 0.022 lbs/ton * 0.0005 tons/lb = 3.46 tons/yr

Plywood Block Sawing

Lumber Production: 419,600 tons/yr (Based on Maximum Production Rate)

TSP Emissions

Emission Factor: 0.04 lbs/ton (Based on knowledge of the process)
Control Efficiency: 0%
Calculations: 419600 tons/yr * 0.04 lbs/ton * 0.0005 tons/lb = 8.39 tons/yr

PM-10 Emissions:

Emission Factor: 0.022 lbs/ton (Based on knowledge of the process)
Control Efficiency: 0%
Calculations: 419600 tons/yr * 0.022 lbs/ton * 0.0005 tons/lb = 4.62 tons/yr

Sawmill Chip Bin Cyclone

Hours of operation: 8760 hrs/yr

TSP Emissions

Emission Factor: 2.58 lbs/hr (based on Table in AI#5)
Calculations: 8760 hrs/yr * 2.58 lbs/hr * 0.0005 tons/lb = 11.30 tons/yr
2.58 lbs/hr * 8760/92600 MBF/year = 0.24 lbs/MBF

PM-10 Emissions:

Emission Factor: 1.29 lbs/hr (based on information from company)
Calculations: 8760 hrs/yr * 1.29 lbs/hr * 0.0005 tons/lb = 5.65 tons/yr
1.29 lbs/hr * 8760/92600 MBF/year = 0.12 lbs/MBF

Planer Shavings Bin Cyclone

Hours of operation: 8760 hrs/yr

TSP Emissions:

Emission Factor: 16.40 lbs/hr (Based on AP-42 and flowrate)
Calculations: 8760 hrs/yr * 16.40 lbs/hr * 0.0005 tons/lb = 71.83 tons/yr
16.40 lbs/hr * 8760/123400 MBF/year = 1.16 lbs/MBF

PM-10 Emissions:

Emission Factor: 8.20 lbs/hr (Based on AP-42 and flowrate)
Calculations: 8760 hrs/yr * 8.20 lbs/hr * 0.0005 tons/lb = 35.92 tons/yr
8.20 lbs/hr * 8760/123400 MBF/year = 0.58 lbs/MBF

Fines Cyclone

Hours of operation: 8760 hrs/yr

TSP Emissions:

Emission Factor: 1.34 lbs/hr (based on ratio in AIRS)
Calculations: 8760 hrs/yr * 1.34 lbs/hr * 0.0005 tons/lb = 5.87 tons/yr
1.34 lbs/hr * 8760/200x10^6 ft^2/year = 0.00006 lbs/10^6 ft^2

PM-10 Emissions:

Emission Factor: 0.67 lbs/hr (based on information from company)
Calculations: 8760 hrs/yr * 0.67 lbs/hr * 0.0005 tons/lb = 2.93 tons/yr
0.67 lbs/hr * 8760/200x10^6 ft^2/year = 0.00003 lbs/10^6 ft^2

Sanderdust Silo Baghouse

Hours of operation: 8760 hrs/yr

TSP Emissions:

Emission Factor: 0.32 lbs/hr (based on information from company)
Calculations: 8760 hrs/yr * 0.32 lbs/hr * 0.0005 tons/lb = 1.40 tons/yr
0.32 lbs/hr * 8760/200x10^6 ft^2/year = 0.00001 lbs/10^6 ft^2

PM-10 Emissions:

Emission Factor: 0.32 lbs/hr (based on information from company)
Calculations: 8760 hrs/yr * 0.32 lbs/hr * 0.0005 tons/lb = 1.40 tons/yr
0.32 lbs/hr * 8760/200x10^6 ft^2/year = 0.00001 lbs/10^6 ft^2

Sander Cyclone B.H.

Hours of operation: 8760 hrs/yr

TSP Emissions:

Emission Factor: 6.17 lbs/hr (based on information from company)
Calculations: 8760 hrs/yr * 6.17 lbs/hr * 0.0005 tons/lb = 27.02 tons/yr
6.17 lbs/hr * 8760/200x10^6 ft^2/year = 0.00027 lbs/10^6 ft^2

PM-10 Emissions:

Emission factor: 6.17 lbs/hr (based on information from company)
Calculations: 8760 hrs/yr * 6.17 lbs/hr * 0.0005 tons/lb = 27.02 tons/yr
6.17 lbs/hr * 8760/200x10^6 ft^2/year = 0.00027 lbs/10^6 ft^2

Sawline Baghouse

Hours of operation: 8760 hrs/yr

TSP Emissions:

Emission Factor: 0.89 lbs/hr (based on information from company)
Calculations: 8760 hrs/yr * 0.89 lbs/hr * 0.0005 tons/lb = 3.90 tons/yr
0.89 lbs/hr * 8760/200x10^6 ft^2/year = 0.00004 lbs/10^6 ft^2

PM-10 Emissions:

Emission Factor: 0.89 lbs/hr (based on information from company)
Calculations: 8760 hrs/yr * 0.89 lbs/hr * 0.0005 tons/lb = 3.90 tons/yr
0.89 lbs/hr * 8760/200x10^6 ft^2/year = 0.00004 lbs/10^6 ft^2

Dry Fuel B.H.

Hours of operation: 8760 hrs/yr

TSP Emissions

Emission Factor: 0.86 lbs/hr (based on information from company)
Calculations: 8760 hrs/yr * 0.86 lbs/hr * 0.0005 tons/lb = 3.77 tons/yr
0.86 lbs/hr * 8760/200x10^6 ft^2/year = 0.00004 lbs/10^6 ft^2

PM-10 Emissions:

Emission Factor: 0.86 lbs/hr (based on information from company)
Calculations: 8760 hrs/yr * 0.86 lbs/hr * 0.0005 tons/lb = 3.77 tons/yr
0.86 lbs/hr * 8760/200x10^6 ft^2/year = 0.00004 lbs/10^6 ft^2

Hog Fuel Pile & Fuel Bunker

TSP Emissions:

Emission Factor: 1.00 lbs/ton (AFSEF, SCC 3-07-008-03, page 143)
Control Efficiency: 0.0%
Process Rate: 199700 ton/year (Maximum production rate)
Calculations: 199700 ton/year * 1.00 lbs/ton * 0.0005 tons/lb = 99.85 tons/yr

PM-10 Emissions:

Emission Factor: 0.36 lbs/ton (AFSEF, SCC 3-07-008-03, page 143)
Control Efficiency: 0.0%
Process Rate: 199700 ton/year (Maximum production rate)
Calculations: 199700 ton/year * 0.36 lbs/ton * 0.0005 tons/lb = 35.95 tons/yr

Plywood Chips Truck Loadout

Process Rate: 106,000 tons/year

TSP Emissions:

Emission Factor: 0.18 lbs/ton (Estimate based on knowledge of process & size of material)
Calculations: 106000 tons/year * 0.18 lbs/ton * 0.0005 tons/lb = 9.54 tons/yr

PM-10 Emissions:

Emission Factor: 0.064 lbs/ton (Estimate based on knowledge of process & size of material)
Calculations: 106000 tons/year * 0.064 lbs/ton * 0.0005 tons/lb = 3.39 tons/yr

Sawmill/planer Chips Truck Loadout

Process Rate: 118,500 tons/year

TSP Emissions:

Emission Factor: 0.18 lbs/ton (Estimate based on knowledge of process & size of material)
Calculations: 118500 tons/year * 0.18 lbs/ton * 0.0005 tons/lb = 10.67 tons/yr

PM-10 Emissions:

Emission Factor: 0.064 lbs/ton (Estimate based on knowledge of process & size of material)
Calculations: 118500 tons/year * 0.064 lbs/ton * 0.0005 tons/lb = 3.79 tons/yr

Fines Truck Loadout

Process Rate: 48,370 tons/year

TSP Emissions:

Emission Factor: 1.00 lbs/ton (3-07-008-03, AFSSCC page 143)
Calculations: 48370 tons/year * 1.00 lbs/ton * 0.0005 tons/lb = 24.19 tons/yr

PM-10 Emissions:

Emission Factor: 0.36 lbs/ton (3-07-008-03, AFSSCC page 143)
Calculations: 48370 tons/year * 0.36 lbs/ton * 0.0005 tons/lb = 8.71 tons/yr

Planner Shavings Truck Loadout

Production Rate: 30000 tons/year

TSP Emissions:

Emission Factor: 2.00 lbs/ton (3-07-030-02, AFSSCC page 144)
Calculations: 30000 tons/year * 2.00 lbs/ton * 0.0005 tons/lb = 30.00 tons/yr

PM-10 Emissions:

Emission Factor: 1.20 lbs/ton (3-07-030-02, AFSSCC page 144)
Calculations: 30000 tons/year * 1.20 lbs/ton * 0.0005 tons/lb = 18.00 tons/yr

Roads - Fugitive - Yearly

Precipitation ratio based on 130 days with more than .01" of precipitation.

Control Efficiency of 85% for chemical dust suppressant is applied to all unpaved road emissions. Control of 50% for water application used for log yards.

Unpaved road 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= emission factor in lbs/vehicle mile traveled (VMT)
k= particle sizing constant (1.0/TSP, 0.36/PM-10)
s= assumed to be 10 % silt
S= average speed of vehicles in mph
W= average weight of vehicles in tons
w= average number of wheels on vehicles
PR= (365 - 130)/365 = 0.6438

Tons Per Year (PM-10): = (VMT) (lbs/VMT) (EF) (CE)
= 18500(3.95)(1-.85)/2000
= 5.60 tons per year of PM-10

Haul and Access Roads (85% Control):

Source	S (mph)	W (tons)	w (#)	TSP (lbs/VMT)	PM-10 (lbs/VMT)	VMT (annual)	TSP (TPY)	PM-10 (TPY)
Log Trucks Loaded	8.0	40	18	10.58	3.95	18900	15.56	5.60
Log Trucks Empty	8.0	14	18	5.25	1.90	16240	6.41	2.31
Chip Trucks Loaded	8.0	53	18	13.37	4.81	3402	3.41	1.23
Chip Trucks Empty	8.0	18	18	6.28	2.26	3402	1.60	0.58
Shavings Trucks Loaded	8.0	32	18	9.39	3.38	935.2	0.66	0.24
Shavings Trucks Empty	8.0	18	18	6.28	2.26	935.2	0.44	0.16
Sawdust Trucks Loaded	8.0	38	18	10.59	3.81	751.8	0.60	0.21
Sawdust Trucks Empty	8.0	20	18	6.76	2.43	751.8	0.38	0.14
Fuel Trucks Loaded	8.0	52	18	13.19	4.75	641	0.44	0.16
Fuel Trucks Empty	8.0	20	18	6.76	2.43	392	0.20	0.07
Dump Trucks Loaded	15.0	21	10	9.77	3.52	6412	4.70	1.69
Dump Trucks Empty	15.0	12	10	6.60	2.38	6412	3.18	1.14
Water Trucks Loaded	15.0	24	10	10.73	3.86	1568	1.26	0.45
Water Trucks Empty	15.0	11	10	6.21	2.24	7336	3.42	1.23
Wagners L90 & L100 Loaded	5.0	128	4	7.30	2.63	16204	8.87	3.19
Wagners L90 & L100 Empty	5.0	80	4	5.25	1.89	16204	6.38	2.30
Cat 966 Loaded	5.0	26	4	2.39	0.86	5040	0.90	0.33
Cat 966 Empty	5.0	20	4	1.99	0.72	14980	2.24	0.81
Employee Vehicles	20.0	3	4	2.11	0.76	6902	1.09	0.39
Subtotal:							61.74	22.23

Log Yard (50% Control):

Source	S (mph)	W (tons)	w (#)	TSP (lbs/VMT)	PM-10 (lbs/VMT)	VMT (annual)	TSP (TPY)	PM-10 (TPY)
Wagners L90 & L100 Loaded	5.0	128	4	7.30	2.63	1800	3.29	1.18
Wagners L90 & L100 Loaded	5.0	80	4	5.25	1.89	1800	2.36	0.85
Subtotal:							5.65	2.03

Total Emissions of Haul/Access Roads and Log Decks: 67.39 24.26

Clarke Log Yard Residue Reclaim System

Annual Emission Rates (Allowable) *

Source	Tons/Year TSP	PM-10	NOx	VOC	CO	SOx
Front End Loader Dump to Reclaimer	1.06	0.13				
Reclaimer Material Transfer and Conveying	0.77	0.17				
Primary Classifier	0.77	0.17				
2-5" Material Conveyor Discharge to RMS	0.15	0.03				
Trommel Screen	2.07	1.36				
< 1/4" Fines Stacker Discharge	0.86	0.40				
1/4" to 2" Material Drop to RMS	0.15	0.03				
RMS #1 Discharge	0.15	0.03				
RMS #2 Discharge	0.15	0.03				
1/4" to 5" Fuel Conveyor Discharge	1.03	0.46				
1/4" to 5" Rock Conveyor Discharge	0.34	0.16				
Total Log Yard Emissions	7.52	3.10	0.00	0.00	0.00	0.00

* Based on operating 2940 hours/year.

Daily Emission Rates (Allowable) **

Source	lbs/day TSP	PM-10	NOx	VOC	CO	SOx
Front End Loader Dump to Reclaimer	8.64	1.04				
Reclaimer Material Transfer and Conveying	6.24	1.38				
Primary Classifier	6.24	1.38				
2-5" Material Conveyor Discharge to RMS	1.25	0.25				
Trommel Screen	16.93	12.70				
< 1/4" Fines Stacker Discharge	7.02	3.24				
1/4" to 2" Material Drop to RMS	1.25	0.24				
RMS #1 Discharge	1.25	0.25				
RMS #2 Discharge	1.25	0.25				
1/4" to 5" Fuel Conveyor Discharge	8.42	3.69				
1/4" to 5" Rock Conveyor Discharge	2.81	1.30				
Total Emissions	61.37	25.63	0.00	0.00	0.00	0.00

** Based on operating 12 hours/day.

Front End Loader Dump to Reclaimer

Process Rate: 60 cu.yds/hr
% of Total throughput: 100%
Material Density: 0.6 ton/cu.yd
Hours of operation: 2940 hr/yr 12 hrs/day

TSP Emissions:

Emission Factor: 0.02 lbs/ton (AP42Ef 3-05-025-06, page 129)
Control Efficiency: 0%
Calculations: 0.0200 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.7200 lbs/
0.7200 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 1.06 tons/yr
1.06 tons/yr * (1.00 - 0.000) = 1.06 tons/yr
0.72 lbs/hr * 12 hrs/day * (1.00 - 0.00) = 8.64 lbs/day

PM-10 Emissions:

Emission Factor: 0.0026 lbs/ton (AP42Ef 3-05-025-06, page 129)
Control Efficiency: 0%
Calculations: 0.0024 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.0864 lbs/
0.09 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.13 tons/yr
0.13 tons/yr * (1.00 - 0.000) = 0.13 tons/yr
0.09 lbs/hr * 12 hrs/day * (1.00 - 0.00) = 1.04 lbs/day

Reclaimer Material Transfer and Conveying

Process Rate: 60 cu.yds/hr
% of Total throughput: 100%
Material Density: 0.6 ton/cu.yd
Hours of operation: 2940 hr/yr 12 hrs/day

TSP Emissions:

Emission Factor: 0.029 lbs/ton (AFSEF 3-05-025-03, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.0290 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 1.0440 lbs
1.0440 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 1.53 tons/yr
1.53 tons/yr * (1.00 - 0.500) = 0.77 tons/yr
1.04 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 6.26 lbs/day

PM-10 Emissions:

Emission Factor: 0.0044 lbs/ton (AFSEF 3-05-025-03, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.0044 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.23 lbs/
0.23 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.34 tons/yr
0.34 tons/yr * (1.00 - 0.500) = 0.17 tons/yr
0.23 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 1.38 lbs/day

Primary Classifier

Process Rate: 60 cu.yds/hr
% of Total throughput: 100%
Material Density: 0.6 ton/cu.yd
Hours of operation: 2940 hr/yr 12 hrs/day

TSP Emissions:

Emission Factor: 0.029 lbs/ton (AFSEF 3-05-025-03, page 119)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.0290 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 1.0440 lbs
1.0440 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 1.53 tons/yr
1.53 tons/yr * (1.00 - 0.500) = 0.77 tons/yr
1.04 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 6.26 lbs/day

PM-10 Emissions:

Emission Factor: 0.0044 lbs/ton (AFSEF 3-05-025-03, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.0044 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.23 lbs/
0.23 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.34 tons/yr
0.34 tons/yr * (1.00 - 0.500) = 0.17 tons/yr
0.23 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 1.38 lbs/day

2-5" Material Conveyor Discharge to RAS

Process Rate: 60 cu.yds/hr
% of Total throughput: 20%
Material Density: 0.6 ton/cu.yd
Hours of operation: 2940 hr/yr 12 hrs/day

TSP Emissions:

Emission Factor: 0.029 lbs/ton (AFSEF 3-05-025-03, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.0290 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.2088 lbs
0.2088 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.31 tons/yr
0.31 tons/yr * (1.00 - 0.500) = 0.15 tons/yr
0.21 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 1.25 lbs/day

PM-10 Emissions:

Emission Factor: 0.0066 lbs/ton (AFSEF 3-05-025-03, page 125)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.0066 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.05 lbs/
0.05 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.07 tons/yr
0.07 tons/yr * (1.00 - 0.500) = 0.03 tons/yr
0.05 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 0.26 lbs/day

Trommel Screen

Process Rate: 60 cu.yds/hr
% of Total throughput: 70%
Material Density: 0.6 ton/cu.yd
Hours of operation: 2940 hr/yr 12 hrs/day

TSP Emissions:

Emission Factor: 0.16 lbs/ton (AP-42, 8.19.1-1)
Control Efficiency: 65% (Fixed Cover and Wet Material)
Calculations: 0.16 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 ton/lb = 4.0320 lbs/h
4.0320 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 5.93 tons/yr
5.93 tons/yr * (1.00 - 0.650) = 2.07 tons/yr
4.03 lbs/hr * 12 hrs/day * (1.00 - 0.65) = 16.93 lbs/day

PM-10 Emissions:

Emission Factor: 0.12 lbs/ton (AP-42, 8.19.1-1)
Control Efficiency: 65% (Fixed Cover and Wet Material)
Calculations: 0.1200 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 3.02 lbs/
3.02 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 4.45 tons/yr
4.45 tons/yr * (1.00 - 0.650) = 1.54 tons/yr
3.02 lbs/hr * 12 hrs/day * (1.00 - 0.65) = 12.70 lbs/day

< 1/4" Fines Stacker Discharge

Process Rate: 60 cu.yds/hr
% of Total throughput: 50%
Material Density: 0.6 ton/cu.yd
Hours of operation: 2940 hr/yr 12 hrs/day

TSP Emissions:

Emission Factor: 0.13 lbs/ton (AFSEF 3-05-025-05, page 129)
Control Efficiency: 75% (Dust Sock and Wet Material)
Calculations: 0.13 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 2.3400 lbs/
2.3400 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 3.44 tons/yr
3.44 tons/yr * (1.00 - 0.750) = 0.86 tons/yr
2.34 lbs/hr * 12 hrs/day * (1.00 - 0.75) = 7.02 lbs/day

PM-10 Emissions:

Emission Factor: 0.06 lbs/ton (AFSEF 3-05-025-05, page 129)
Control Efficiency: 75% (Dust Sock and Wet Material)
Calculations: 0.0600 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 1.08 lbs/h
1.08 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 1.59 tons/yr
1.59 tons/yr * (1.00 - 0.750) = 0.40 tons/yr
1.08 lbs/hr * 12 hrs/day * (1.00 - 0.75) = 3.24 lbs/day

1/4" to 2" Material Drop to Bin

Process Rate: 60 cu.yds/hr
% of Total throughput: 20%
Material Density: 0.6 ton/cu.yd
Hours of operation: 2940 hr/yr 12 hrs/day

TSP Emissions:

Emission Factor: 0.029 lbs/ton (AFSEF 3-05-025-03, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.03 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.2088 lbs/hr
0.2088 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.31 tons/yr
0.31 tons/yr * (1.00 - 0.500) = 0.15 tons/yr
0.21 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 1.25 lbs/day

PM-10 Emissions:

Emission Factor: 0.0044 lbs/ton (AFSEF 3-05-025-03, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.0044 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.05 lbs/hr
0.05 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.07 tons/yr
0.07 tons/yr * (1.00 - 0.500) = 0.03 tons/yr
0.05 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 0.28 lbs/day

RMS #1 Discharge

Process Rate: 60 cu.yds/hr
% of Total throughput: 20%
Material Density: 0.6 ton/cu.yd
Hours of operation: 2940 hr/yr 12 hrs/day

TSP Emissions:

Emission Factor: 0.029 lbs/ton (AFSEF 3-05-025-03, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.03 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.2088 lbs/hr
0.2088 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.31 tons/yr
0.31 tons/yr * (1.00 - 0.500) = 0.15 tons/yr
0.21 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 1.25 lbs/day

PM-10 Emissions:

Emission Factor: 0.0044 lbs/ton (AFSEF 3-05-025-03, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.0044 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.05 lbs/hr
0.05 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.07 tons/yr
0.07 tons/yr * (1.00 - 0.500) = 0.03 tons/yr
0.05 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 0.28 lbs/day

RMS #2 Discharge

Process Rate: 60 cu.yds/hr
% of Total throughput: 20%
Material Density: 0.6 ton/cu.yd
Hours of operation: 2940 hr/yr 12 hrs/day

TSP Emissions:

Emission Factor: 0.029 lbs/ton (AFSEF 3-05-025-03, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.03 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.2088 lbs/hr
0.2088 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.31 tons/yr
0.31 tons/yr * (1.00 - 0.500) = 0.15 tons/yr
0.21 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 1.25 lbs/day

PM-10 Emissions:

Emission Factor: 0.0044 lbs/ton (AFSEF 3-05-025-03, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.0044 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.05 lbs/hr
0.05 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.07 tons/yr
0.07 tons/yr * (1.00 - 0.500) = 0.03 tons/yr
0.05 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 0.28 lbs/day

1/4" to 5" Fuel Conveyor Discharge

Process Rate: 60 cu.yds/hr
% of Total throughput: 30%
Material Density: 0.6 ton/cu.yd
Hours of operation: 2940 hr/yr 12 hrs/day

TSP Emissions:

Emission Factor: 0.13 lbs/ton (AP42 3-05-025-06, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.13 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 1.4040 lbs/hr
1.4040 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 2.06 tons/yr
2.06 tons/yr * (1.00 - 0.500) = 1.03 tons/yr
1.40 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 8.42 lbs/day

PM-10 Emissions:

Emission Factor: 0.06 lbs/ton (AP42 3-05-025-06, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.0600 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.65 lbs/hr
0.65 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.95 tons/yr
0.95 tons/yr * (1.00 - 0.500) = 0.48 tons/yr
0.65 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 3.89 lbs/day

1/4" to 5" Rock Conveyor Discharge

Process Rate: 60 cu.yds/hr
% of Total throughput: 10%
Material Density: 0.6 ton/cu.yd
Hours of operation: 2940 hr/yr 12 hrs/day

TSP Emissions:

Emission Factor: 0.13 lbs/ton (AP42 3-05-025-06, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.13 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.4680 lbs/hr
0.4680 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.69 tons/yr
0.69 tons/yr * (1.00 - 0.500) = 0.34 tons/yr
0.47 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 2.81 lbs/day

PM-10 Emissions:

Emission Factor: 0.06 lbs/ton (AP42 3-05-025-06, page 129)
Control Efficiency: 50% (Water Sprays or Naturally Wet Material)
Calculations: 0.0600 lbs/ton * 0.60 ton/cu.yd * 60.00 cu.yds/hr * 0.0005 tons/lb = 0.22 lbs/hr
0.22 lbs/hr * 2940 hr/yr * 0.0005 tons/lb = 0.32 tons/yr
0.32 tons/yr * (1.00 - 0.500) = 0.16 tons/yr
0.22 lbs/hr * 12 hrs/day * (1.00 - 0.50) = 1.38 lbs/day

III. 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: Plum Creek Manufacturing, LP - Evergreen Facility, Air Quality Stipulation for Kalispell SIP.

Description of Project: 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 Plum Creek.

Benefits and Purpose of Proposal: This stipulation identifies the emission sources and makes enforceable emission limitations which, when considered with 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 alternative exist.

A listing and appropriate evaluation of mitigation, stipulations and other controls enforceable by the agency or another government agency: A listing of enforceable conditions are contained in the signed stipulation and in permit #2602-01 (or subsequent permits).

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 the plant will not change. this action establishes enforceable emission limitations.

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: Catherine Quiñones

Date: August 4, 1993

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

In the Matter of Compliance of
Stimson Lumber Company, Libby,
Montana with 40 CFR 50.6,
National Ambient Air Quality
Standards 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 Stimson Lumber Company ("Stimson") hereby stipulate and agree to all the following paragraphs and exhibits inclusive 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). The annual standard for particulate matter (PM-10) 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 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 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. Pursuant to the 1990 Federal Clean Air Act Amendments, Libby was designated to nonattainment for PM-10 by operation of law. 42 U.S.C. 7407(d)(4)(B), as amended. Further, the Act designated the Libby 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 implementation plan no later than one year from enactment of the 1990 amendments. 42 U.S.C. 7513a(a)(2). The area encompassed in the moderate nonattainment designation (hereafter "Libby nonattainment area") generally includes the City of Libby and that portion of Lincoln County within the vicinity of the boundaries of the City of Libby. A map of the Libby 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 Libby nonattainment area of the 24-hour and annual standards contained in both the PM-10 NAAQS and the PM-10 MAAQS.

7. On November 25, 1991 Governor Stephens submitted to EPA an implementation plan for Libby, Montana demonstrating attainment of the PM-10 NAAQS. The implementation plan relied upon receptor modeling 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 dust emissions from roadways, emissions from residential woodburning, and industrial emissions from then Champion International (the predecessor to Stimson Lumber Company).

8. On October 7, 1992, EPA conditionally approved the Libby implementation plan pending fulfillment of certain commitments, including a contingency plan, in the event of continued PM-10 nonattainment. Governor Racicot submitted the contingency plan on May 24, 1993. EPA subsequently notified the Department of deficiencies in the plan on May 27, 1994.

9. This stipulation is necessary to ensure a contingency plan which will effectively reduce PM-10 emissions in the event of continued PM-10 nonattainment and which will be approvable by EPA. It does so by including additional reductions in emissions from Stimson Lumber Company. The Department and Stimson agree to the additional fugitive dust controls set forth in Exhibit B.

B. BINDING EFFECT

10. The parties to this stipulation agree that additional emission control measures imposed on Stimson must be enforceable by both the Department and EPA. To this end, the controls constituting the Stimson contingency measures have been negotiated between the parties. The specific contingency measures are contained in Exhibit B to this stipulation which is attached hereto and by this reference is incorporated herein in its entirety as part of this document.

11. Both parties understand and agree that if the Department and EPA determine that Libby has failed to attain or to maintain the PM-10 standards, and if

Stimson is found to be a significant contributor to such nonattainment, this contingency plan shall go into effect automatically within 60 days after notification and without further rulemaking action.

12. The Department is the state agency that is primarily responsible for the development and implementation of the State Implementation Plan under the Federal Clean Air Act. Section 75-2-112(2)(c), MCA. Under Sections 75-2-101, MCA, et seq., the Board is required to protect public health and welfare by limiting the levels and concentrations of air pollutants within the state. Such responsibility includes the adoption of emission standards (Section 75-2-203, 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.

13. 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 that Act.

14. Any obligations in this stipulation and attached Exhibit B that are more stringent than conditions set forth in an air quality permit issued to Stimson supersede the less stringent permit conditions.

15. Accordingly, the parties to this stipulation agree that it would be consistent with the intent of this stipulation for the Board to issue an Order imposing the contingency plan contained in Exhibit B of this stipulation and adopting the same as enforceable measures applicable to Stimson.

STIMSON LUMBER COMPANY

BY Scott R Schmeda
Its: VICE PRESIDENT - INLAND OPER.

BY
Attorney
Stimson Lumber Co.

BY

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

BY
Robert J. Robinson
Director

BY
James Madden
Attorney

BY

EXHIBIT A

Libby Nonattainment Area

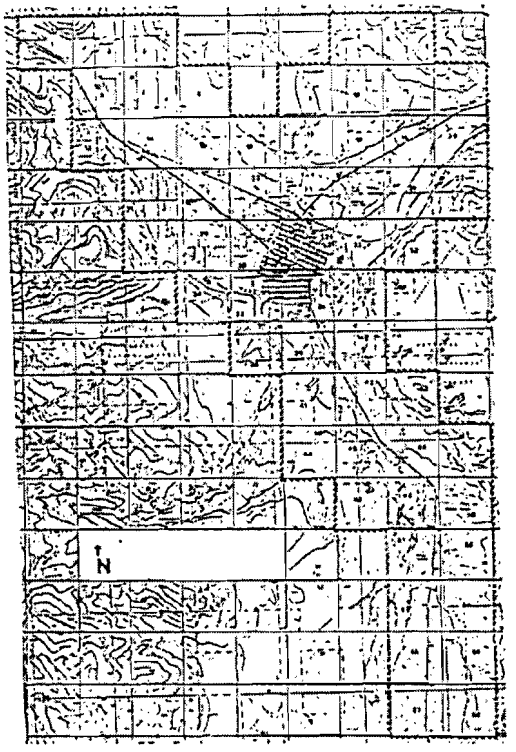

EXHIBIT B

Existing Stimson Lumber Company
Fugitive Dust Controls
and
Additional Contingency Measures

Existing Permit Language

1. Chemical dust suppressant shall be applied to the major haul routes throughout the plant to control fugitive dust from haul trucks. The chemical dust suppressant shall be applied as necessary to maintain compliance with the 20% opacity limitation but shall be applied not less than once per calendar year. Opacity determinations shall be made in compliance with the requirements of EPA Method 9 (40 CFR Part 60, Appendix A) and must be determined at one point on the roadway for these sources.

2. Chemical dust suppressant shall be applied to the major roads on the log yard to control fugitive dust from all log handling equipment. The chemical dust suppressant shall be applied as necessary to maintain compliance with the 20% opacity limitation but shall be applied not less than once per calendar year. Water sprays shall be used as necessary to control dust emissions on active areas of the log yard. Opacity determinations shall be made in compliance with the requirements of EPA Method 9 (40 CFR Part 60, Appendix A and must be determined at one point on the roadway for these sources.

Addition of Fugitive Dust Contingency Measures

1. Upon notification by the Department that Libby has failed to attain or to maintain the NAAQS for PM-10 and that the Stimson Lumber Co. has been found to be a significant contributor to nonattainment, the following measures will become effective within 60 days and without further negotiation between the Montana Department of Health and Environmental Sciences and Stimson.

   (A) The facility entrance and Plywood Plant access road shall be surfaced with either asphalt, concrete, or chip seal from Highway 2 to the Plywood Plant. Sweeping and flushing shall be conducted, as necessary, to maintain compliance with a 5% opacity limitation but shall be conducted not less than twice annually, with one application during the months of April-June and one application during the months September-

November.[1,2]

(B) The chip sealed portions of the Plywood Plant access road shall consist of a double layer of oil base and chips. They shall be watered, as necessary, to maintain compliance with a 5% opacity limitation. They shall also be maintained to avoid deterioration by evaluating the chip seal for cracking at a minimum of every 2 years, and by applying a crack sealer (e.g., rubberized asphalt) as needed. A thorough evaluation and assessment of the need to reseal the roadway shall be conducted no less than every 5 years.

(C) Chemical dust suppressant shall be applied to all remaining active, unpaved areas within the facility. The chemical dust suppressant shall be applied as necessary to maintain compliance with the 5% opacity limitation but shall be applied not less than twice annually, with one application during the months of April-June and one application during the months September-November.

(D) The facility shall maintain a written record of all implemented contingency measures which shall be made available to the Department upon request.

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

[2] Sweeping and flushing shall not be required on chip sealed portions of the Plywood Plant access road since this practice would degrade the road surface.

EXHIBIT C

Stimson Lumber Company
Facility Map