

1BR(A)

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

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

3 -----
4 In the Matter of Compliance of)
5 A-1 Paving, Kalispell, Montana,)
6 with 40 CFR 50.6, National) STIPULATION
7 Ambient Air Quality Standard for)
8 Particulate Matter and ARM)
9 16.8.821, Montana Ambient Air)
10 Quality Standard for PM-10)
11 -----

12 The Department of Health and Environmental Sciences
13 ("Department"), and A-1 Paving ("A-1 Paving"), hereby stipu-
14 late and agree to all the following Paragraphs 1-18 inclu-
15 sive, including the exhibits as referenced below, in regard
16 to the above-captioned matter and present the same for con-
17 sideration and adoption by the Board of Health and Environ-
18 mental Sciences ("Board"):

19 A. BACKGROUND:

20 1. On July 1, 1987, the United States Environmental
21 Protection Agency ("EPA") promulgated national ambient air
22 quality standards for particulate matter (measured in the
23 ambient air as PM-10, or particles with an aerodynamic diame-
24 ter less than or equal to a nominal 10 micrometers) ("partic-
25 ulate matter NAAQS"). The annual standard of 50 micrograms
26 per cubic meter (annual arithmetic mean), and the 24-hour
27 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

(STIPULATION)

Replaces Pages:
September 19, 1993

Dated:
Page: 2 of 235

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

- 1 amended by the Clean Air Act Amendments of 1990 ("Act").
- 2 2. Section 110 of the Act requires each state to sub-
3 mit an implementation plan for the control of each air pol-
4 lutant for which a national ambient air quality standard has
5 been promulgated. Since a standard has been promulgated for
6 particulate matter, the State of Montana is required to sub-
7 mit an implementation plan for particulate matter to EPA.
- 8 3. Section 75-2-202, MCA, requires the Board to estab-
9 lish ambient air quality standards for the state. Sections
10 75-2-111(3) and 75-2-401, MCA, empower the Board to issue
11 orders upon a hearing before the Board concerning compliance
12 with national and state ambient air quality standards.
- 13 4. On April 29, 1988, the Board adopted state ambient
14 air quality standards for PM-10, including an annual standard
15 of 50 micrograms per cubic meter (annual arithmetic mean),
16 and a 24-hour standard of 150 micrograms per cubic meter (24-
17 hour average concentration). ARM 16.8.821 ("PM-10 MAAQS").
- 18 5. On August 7, 1987, the Kalispell area was designat-
19 ed as a Group I area by EPA. 52 Fed. Reg. 29383. Pursuant
20 to the Federal Clean Air Act of all Group I areas, including
21 Kalispell, are designated by operation of law to be in non-
22 attainment for the particulate matter NAAQS. 42 U.S.C.
23 7407(d)(4)(B), as amended. Further, the Act designated the
24 Kalispell area as a "moderate" PM-10 nonattainment area. 42
25 U.S.C. 7513(a), as amended. For areas designated as "moder-
26 ate", the state was required to submit to EPA an implementa-
27

(STIPULATION)

2

Replaces Pages:
September 19, 1992

Dated:

Page: 3 of 235

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

10 6. Results of air quality sampling and monitoring from
11 1986 through 1991 have demonstrated violations within the
12 Kalispell nonattainment area of the 24-hour standard con-
13 tained in both the particulate matter NAAQS and the PM-10
14 MAAQS.

15 7. On November 25, 1991, Governor Stephens submitted
16 to EPA an implementation plan for Kalispell, Montana, demon-
17 strating attainment of the particulate matter NAAQS. The
18 implementation plan relied upon the receptor modeling tech-
19 nique known as chemical mass balance (CMB) to identify the
20 major emission sources contributing to noncompliance. The
21 implementation plan consisted of an emission control plan
22 that controlled fugitive dusts emissions from roads, parking
23 lots, construction and demolition project, and barren ground.

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

27

(STIPULATION)
3

Replaces Pages:
September 19, 1993

Dated:

Page: 4 of 235

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

1 deficiency identified by EPA was that the emission limita-
2 tions set for industrial sources (or in some cases for indus-
3 trial sources where there was no emission limitation set at
4 all) could result in significant emission increases above the
5 emission levels occurring during the source apportionment
6 modeling study (CMB). Furthermore, such potential emissions
7 increases were not accounted for in the particulate matter
8 NAAQS demonstration of attainment.

9 9. On June 15, 1992, Governor Stephens submitted a
10 letter to EPA committing to additional analysis utilizing
11 dispersion modeling technique on the Kalispell area industri-
12 al sources. If the dispersion modeling indicted that a
13 source significantly impacted the nonattainment area, the
14 Governor further committed to developing new emission limita-
15 tions on the Kalispell area industrial sources which would
16 demonstrate attainment of the particulate matter NAAQS.

17 10. The department has determined that emission limita-
18 tions applicable to A-1 Paving were in some cases nonexistent
19 (no permit requirements) or significantly higher than actual
20 emissions during the CMB modeling study.

21 11. Dispersion modeling analysis has been conducted by
22 the department for the Kalispell nonattainment area. The
23 dispersion modeling incorporates the allowable emission rates
24 from the sources of PM-10 emissions in the Kalispell non-
25 attainment area to determine the extent of their respective
26 contributions to the ambient levels of PM-10. Based upon the
27

(STIPULATION)

4

Replaces Pages:
September 19, 1993

Dated:

Page: 5 of 235

1 results of this modeling, the PM-10 emissions from A-1 Paving
2 were identified as a significant contributor to ambient lev-
3 els of PM-10 in the Kalispell nonattainment area. Further-
4 more, both parties agree that based upon these modeling re-
5 sults, revised emission limitation for A-1 Paving are neces-
6 sary to demonstrate compliance with the particulate matter
7 NAAQS. The department has performed additional modeling
8 using revised emission rates for A-1 Paving and other sources
9 in the Kalispell area to determine the level of emissions
10 which achieves the particulate matter NAAQS. Based upon
11 these modeling results, both parties agree that revised emis-
12 sion limitation must be imposed upon A-1 Paving.

13

14 B. BINDING EFFECT

15 12. The parties to this Stipulation agree that any such
16 emission limitations placed on A-1 Paving must be enforceable
17 by both the department and EPA. To this end, the parties
18 have negotiated specific limitations and conditions that are
19 to be applicable to A-1 Paving. The specific conditions
20 which comprise these limitations are contained in Exhibit B
21 to this Stipulation (entitled "Emission Limitations and Con-
22 ditions, A-1 Paving") which is attached hereto and by this
23 reference is incorporated herein in its entirety as part of
24 this document.

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

27

(STIPULATION)

5

Replaces Pages:
September 19, 1993

Dated:

Page: 6 of 235

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

6 14. The Board is the state agency that is primarily
7 responsible for the development and implementation of the
8 State Implementation Plan under the Federal Clean Air Act.
9 Under Sections 75-2-101, et seq., the Board is required to
10 protect public health and welfare by limiting the levels and
11 concentrations of air pollutants within the state and such
12 responsibility includes the adoption of emission standards
13 (Section 75-2-203, MCA) and the issuance of orders (Sections
14 75-2-111(3), 75-2-401, MCA) to effectuate compliance with
15 national and state ambient air quality standards.

16 15. The parties to this Stipulation agree that upon
17 finding the limitations and conditions contained in Exhibit B
18 to this Stipulation to be necessary for the Kalispell non-
19 attainment area to meet the particulate matter NAAQS and the
20 PM-10 MAAQS, the Board has jurisdiction to require the im-
21 position of such limitations and conditions, and may adopt the
22 same as enforceable measures applicable to A-1 Paving.

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

27

(STIPULATION)

6

Replaces Pages:

September 19, 1985

Dated:

Page: 7 of 235

1 17. Any obligations in this Stipulation and attached
2 Exhibit B that are more stringent than conditions set forth
3 in the permit issued to the air source/party to this agree-
4 ment (if issued), supersede the less stringent permit condi-
5 tions.

6 18. Accordingly, the parties to this Stipulation agree
7 that it would be consistent with the terms and intent of this
8 Stipulation for the Board to issue an Order which requires
9 the imposition of the terms in this Stipulation and the limi-
10 tations and conditions contained in Exhibit B of this Stipu-
11 lation, and adopts the same as enforceable measures applica-
12 ble to A-1 Paving.

13
14 A-1 PAVING

MONTANA DEPARTMENT OF
HEALTH AND ENVIRONMENTAL
SCIENCES

15
16 BY [Signature]

16 BY [Signature]
17 Robert J. Robinson
18 Director

18
19 BY _____
20 Attorney

19 BY [Signature]
20 Timothy R. Baker
21 Attorney

21 DATE 9-25-93

21 DATE 9/15/93

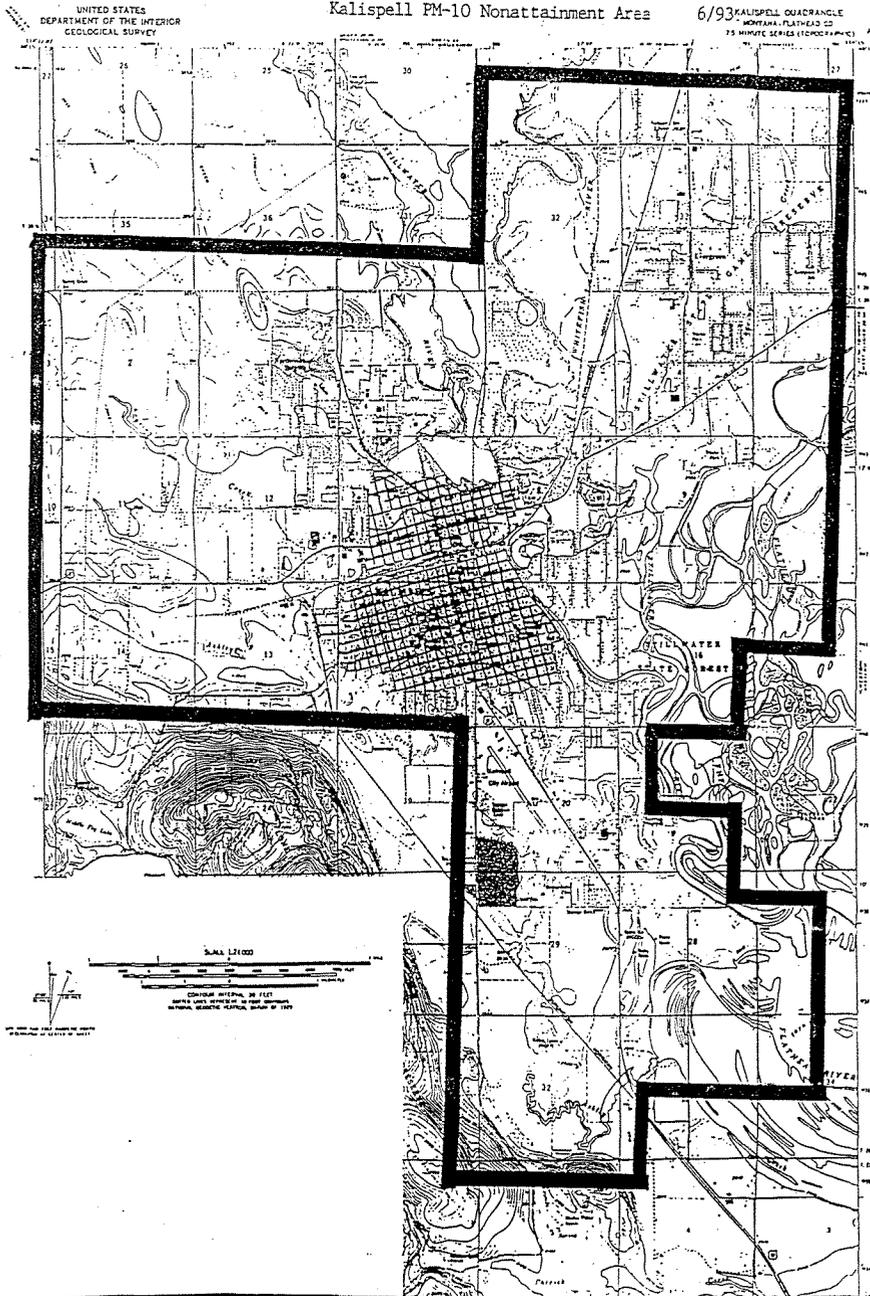
(STIPULATION)
7

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

EXHIBIT A



Replaces Pages:
September 19, 1993

Dated:

Page: 9 of 235

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

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 8828 Drum Mix asphalt plant (350 TPH) Serial #37455 with a wet scrubber.
- B. Original Location: 3131 Highway 2 East (NW¼, Sec 22, T23N, 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 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.

Replaces Pages:
September 19, 1993

Dated:

Page: 10 of 235

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

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.

Replaces Pages:
September 19, 1993

Dated:

Page: 11 of 235

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

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.

E. 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)

E. 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:

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

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

Replaces Pages:
September 19, 1993

Dated:

Page: 12 of 235

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

subject: Flathead County
Air Quality Control
Program

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.

Replaces Pages:
September 19, 1993

Dated:

Page: 13 of 235

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

IV. Emission Inventory

1980 Cedar Rapids Model 8328
Drum Mix Portable Asphalt Plant #37455

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	13.97	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	13.97	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	255.20	319.20	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	255.20	319.20	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

Replaces Pages:
September 19, 1993

Dated:

Page: 14 of 235

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

CO Emissions:

Emission Factor: 0.038 lbs/ton (AFSSC 3-05-002-01, page 114)
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 114)
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 114)
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 114)
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 114)
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 114)
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

Replaces Pages:
September 19, 1993

Dated:

Page: 15 of 235

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

TSP Emissions:

TSP Emission Factor: 1.78 Lbs/VMT

$$E(\text{TSP}) = (346 \text{ VMT/Yr})(1.78 \text{ Lbs/VMT})(0.5)$$
$$E(\text{TSP}) = 308 \text{ Lbs/Yr or } 0.15 \text{ Tons/Yr}$$

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

$$E(\text{PM10}) = (346 \text{ VMT/Yr})(0.64 \text{ Lbs/VMT})(0.5)$$
$$E(\text{PM10}) = 111 \text{ Lbs/Yr or } 0.06 \text{ Tons/Yr}$$

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

$$E(\text{TSP}) = (346 \text{ VMT/Yr})(2.77 \text{ Lbs/VMT})(0.5)$$
$$E(\text{TSP}) = 478 \text{ Lbs/Yr or } 0.24 \text{ Tons/Yr or } 1.31 \text{ Lbs/Day}$$

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

$$E(\text{PM10}) = (346 \text{ VMT/Yr})(1.00 \text{ Lbs/VMT})(0.5)$$
$$E(\text{PM10}) = 172 \text{ Lbs/Yr or } 0.09 \text{ Tons/Yr or } 0.47 \text{ lbs/day}$$

E

Final Simulation: 8-17-93

Replaces Pages:
September 19, 1993

Dated:

Page: 16 of 235

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

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.

Replaces Pages:
September 19, 1993

Dated:

Page: 17 of 235

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

VI. Environmental Assessment

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

Replaces Pages:
September 19, 1993

Dated:

Page: 18 of 235

Volume II
Chapter 15

STATE OF MONTANA
AIR QUALITY CONTROL
IMPLEMENTATION PLAN

Subject: Flathead County
Air Quality Control
Program

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 8023 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

Final Report No. 17-93

Replaces Pages:
September 19, 1993

Dated:

Page: 19 of 235

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			

