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Environmental Consulting & Technology, Inc.

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JUL 29 1999
BUREAU OF AIR REGULATION

July 28, 1999

SENT BY OVERNIGHT MAIL ON 7/28/99

Mr. Cleve Halliday
New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Champion International Corporation
McDavid Sawmill – Air Construction Permit Application
DEP File No. 0330260-001-AC (PSD-FL-271)

Dear Mr. Halliday:

In response to your telephone request, please find enclosed: (a) a graphic showing the fence line receptors and emission points (Attachment I), (b) graphics and data concerning receptor terrain elevations (Attachment II), and (c) explanation of volume source model input data (Attachment III).

Please feel free to contact me at (352) 332-6230, Ext. 351 if there are any further questions.

Sincerely,

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.

Thomas W. Davis, P.E.
Principal Engineer

Attachments

cc: Mr. Dave Stevens, Champion
Mr. John Barone, Champion
Mr. Terry Kassabaum, Champion
Mr. Ed Middleswart, FDEP – NWD

3701 Northwest
98TH Street
Gainesville, FL
32606

(352)
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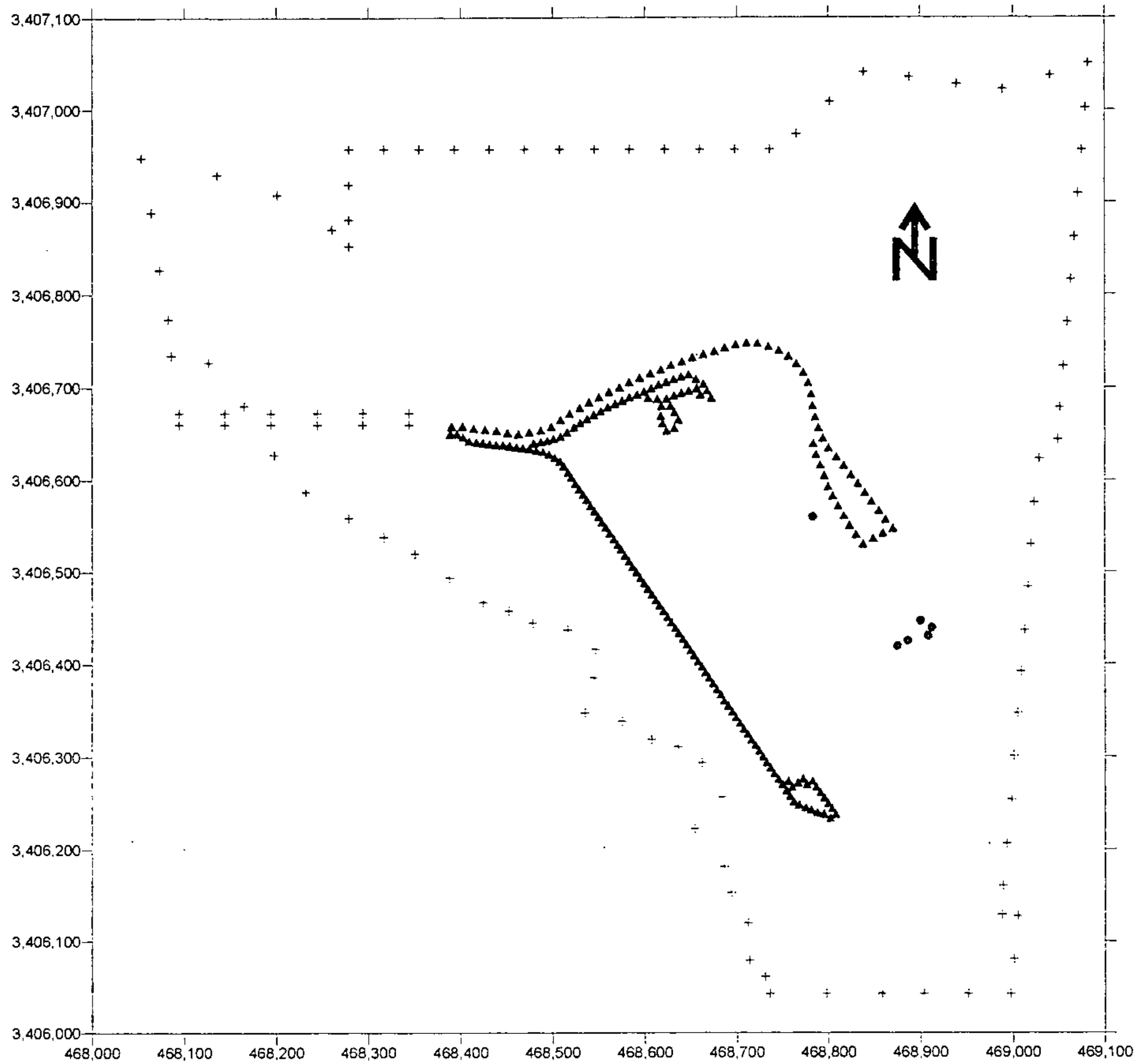
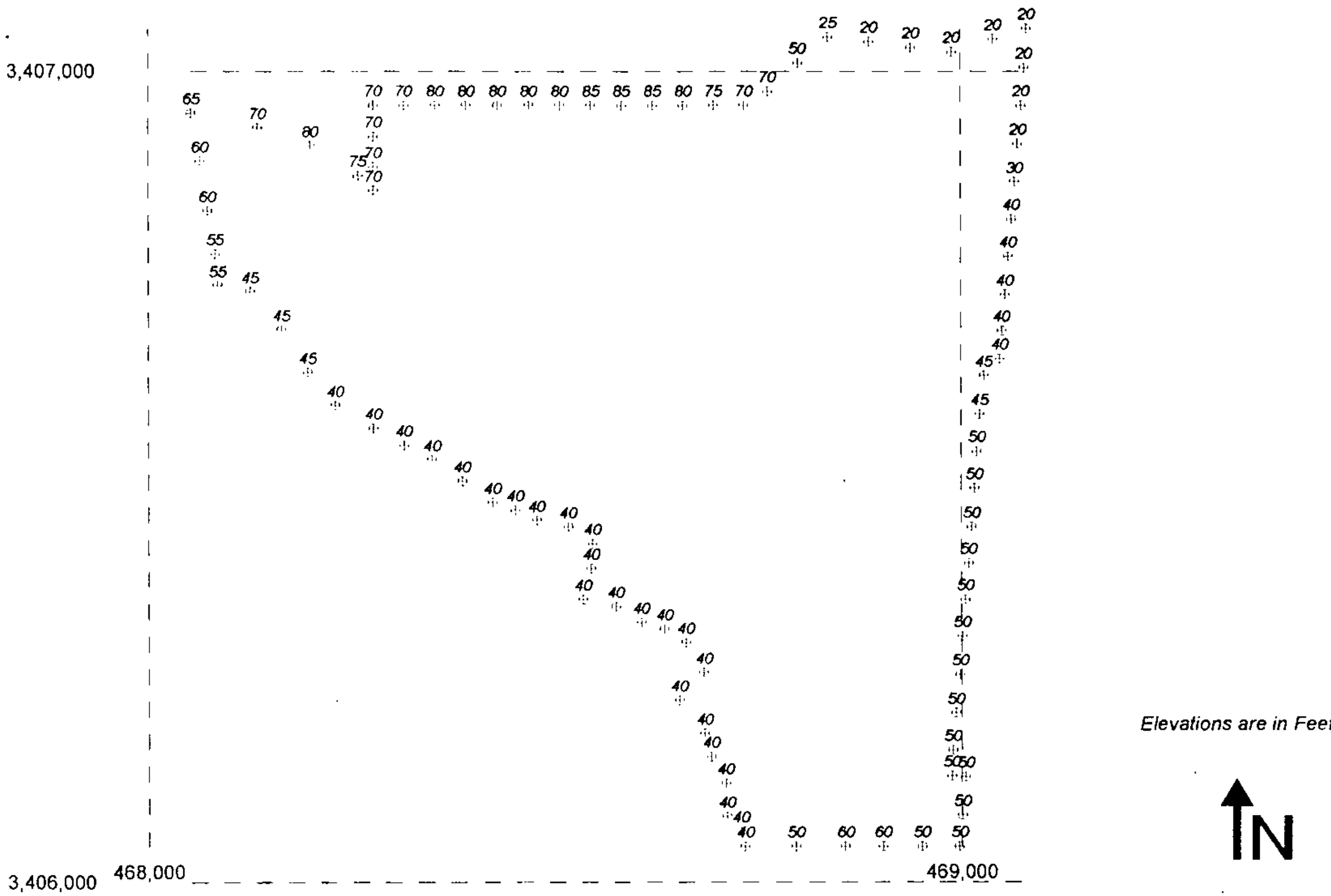
McDavid Sawmill
Fence Line Receptors and Emission Points



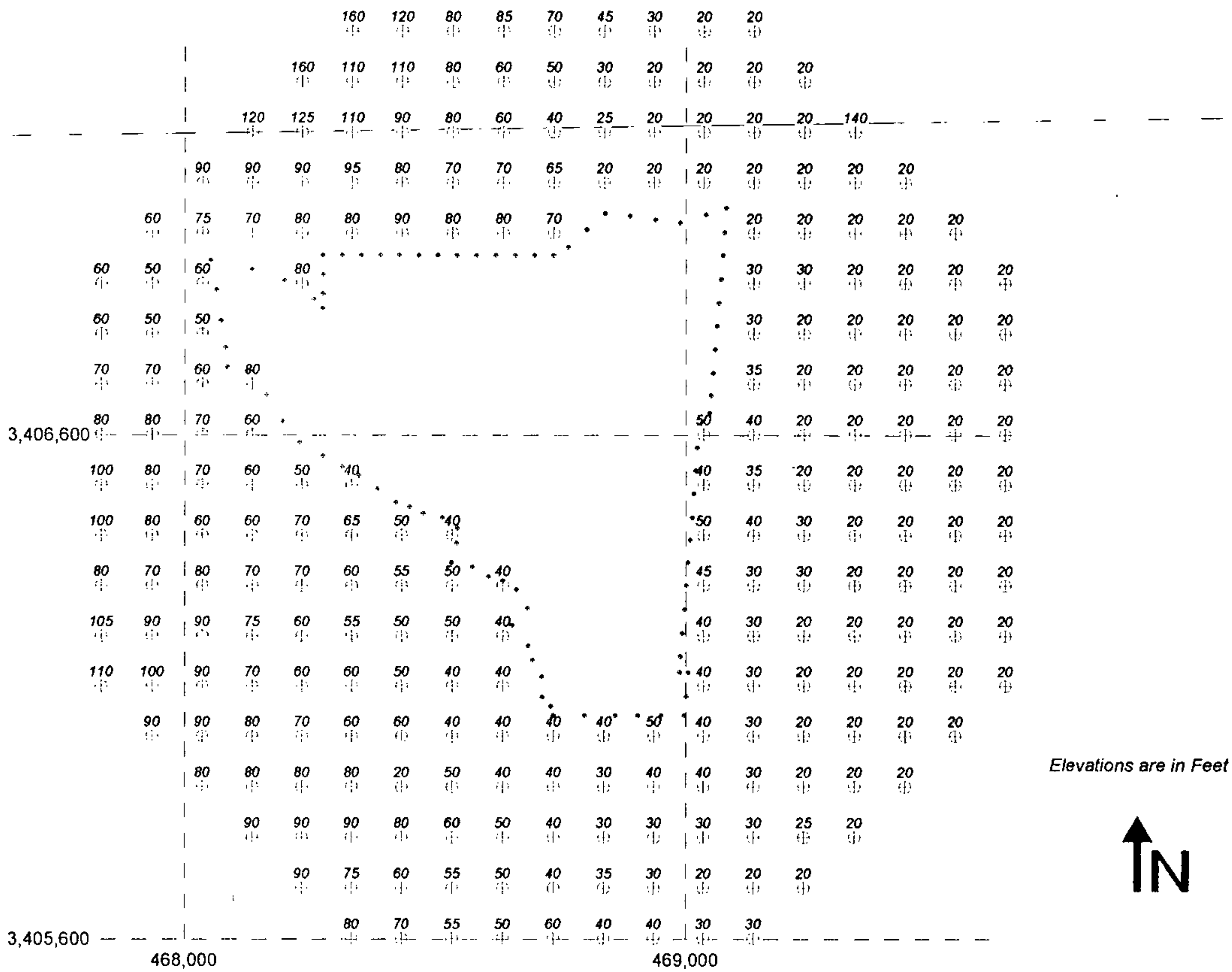
ATTACHMENT II

RECEPTOR ELEVATIONS

Champion International, McDavid Sawmill
Property Boundary Receptor Locations with Elevation



Champion International, McDavid Sawmill
Discrete Receptor Locations with Elevation



Champion 10º Grid Elevations

7/28/99

Direction	Elevations (feet) at These Distances (meters) from Grid Center :-												
(°)	1,250	1,750	2,250	2,750	3,250	3,750	4,250	4,750	5,500	6,500	7,500	8,500	9,500
10	60	30	30	30	30	30	30	30	25	35	30	30	30
20	25	25	30	30	30	30	30	30	30	30	30	30	30
30	20	20	25	25	25	30	30	30	30	30	40	40	60
40	20	20	20	20	20	30	30	30	30	40	40	70	70
50	20	20	20	20	20	30	30	30	60	60	70	80	110
60	20	20	20	20	20	30	30	60	60	60	70	120	170
70	20	20	20	20	20	30	30	40	60	60	70	120	150
80	20	20	20	20	20	25	30	50	50	60	80	130	210
90	20	20	20	20	20	30	50	50	55	70	95	140	130
100	20	20	20	20	20	30	30	50	55	60	140	210	210
110	20	20	20	20	20	20	25	50	50	50	60	175	210
120	20	20	20	20	20	20	20	20	20	50	100	170	60
130	20	20	20	20	20	20	20	20	20	20	20	80	50
140	20	20	20	20	20	20	20	20	10	10	10	10	20
150	25	20	20	20	20	20	20	15	10	10	10	10	10
160	25	20	20	20	20	20	20	20	20	10	10	10	10
170	50	20	20	20	20	20	20	20	10	10	30	30	45
180	90	20	30	40	50	70	95	80	55	30	90	110	110
190	70	30	20	80	140	80	140	60	100	110	180	170	170
200	80	40	20	106	120	175	185	200	170	200	200	180	190
210	60	40	30	50	110	120	130	180	190	210	200	200	175
220	60	50	30	50	60	50	120	180	190	200	210	200	180
230	70	60	30	70	155	120	110	100	150	190	190	130	160
240	105	90	30	60	80	110	160	215	190	210	150	170	130
250	130	40	50	30	80	110	190	190	150	210	185	140	200
260	100	60	60	45	35	120	180	90	200	190	185	180	210
270	120	80	80	55	40	50	120	50	70	100	190	210	190
280	120	90	100	60	65	50	50	70	140	80	130	180	220
290	80	120	70	70	110	75	90	60	150	210	160	140	210
300	70	150	100	90	150	85	80	106	50	100	160	210	170
310	70	95	150	160	150	115	100	170	110	100	70	100	130
320	140	80	160	150	120	140	210	215	130	160	120	120	85
330	160	160	100	140	130	170	210	210	230	250	250	210	210
340	90	90	130	200	120	110	190	200	220	160	220	130	190
350	70	60	60	80	80	80	120	90	110	80	70	200	140
360	7055	30	40	30	35	90	50	80	70	80	70	70	80

Champion 5º Grid Elevations

7/28/99

ection	Elevations (feet) at These Distances (meters) from Grid Center :-											
°)	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	6,000	7,000	8,000
5	55	30	40	30	30	40	40	50	35	50	50	30
15	30	30	30	30	30	30	30	30	30	30	30	30
25	20	25	30	30	30	30	25	30	30	30	30	30
35	20	20	25	25	25	30	20	30	30	30	60	60
45	20	20	20	20	20	25	20	30	40	35	50	70
55	20	20	20	20	20	20	20	30	60	60	60	100
65	20	20	20	20	20	20	30	40	50	60	50	90
75	20	20	20	20	20	20	30	30	40	60	60	115
85	20	20	20	20	20	20	30	50	50	60	80	100
95	20	20	20	20	20	20	50	50	55	60	90	200
05	20	20	20	20	20	20	30	30	50	50	75	140
15	20	20	20	20	20	20	20	30	40	50	70	90
25	20	20	20	20	20	20	20	20	20	20	40	60
35	20	20	20	20	20	20	20	20	20	20	15	20
45	20	20	20	20	20	20	20	20	20	20	10	10
55	20	20	20	20	20	20	20	20	20	20	20	10
65	40	20	20	20	20	20	20	20	20	20	20	20
75	50	35	20	30	20	30	40	40	40	30	40	95
85	60	85	20	50	20	110	100	80	50	90	100	190
95	60	45	20	50	130	130	130	135	140	190	200	190
05	80	65	30	40	70	100	160	210	210	210	200	200
15	80	60	30	30	130	90	100	135	190	210	210	200
25	70	80	40	30	40	110	70	110	160	205	210	180
35	90	105	40	40	70	130	190	175	170	180	195	140
45	110	80	30	30	70	100	150	195	170	190	200	180
55	120	90	85	40	50	70	160	175	100	190	190	200
65	120	80	75	50	30	50	170	110	140	100	210	190
75	80	100	80	70	50	40	40	70	95	70	120	200
85	60	100	120	50	60	70	50	60	70	190	130	180
95	60	120	100	90	90	115	70	70	50	90	190	170
05	75	110	140	155	115	160	140	100	110	80	60	110
15	110	70	130	185	115	160	165	180	210	170	105	110
25	160	140	90	170	160	190	160	210	200	240	210	180
35	160	160	160	150	170	175	200	170	210	230	220	200
45	100	80	100	90	140	80	110	160	130	210	160	80
55	80	50	50	50	50	60	110	70	120	80	55	150

Direction (°)	9,000	10,000
5	40	60
15	30	30
25	40	40
35	50	70
45	80	110
55	125	150
65	140	220
75	180	160
85	160	190
95	200	195
105	100	210
115	100	180
125	65	110
135	40	30
145	10	10
155	10	10
165	10	10
175	120	80
185	160	155
195	160	170
205	185	190
215	190	140
225	180	170
235	160	150
245	120	140
255	210	190
265	160	150
275	210	160
285	210	240
295	130	230
305	190	215
315	70	100
325	180	210
335	220	230
345	150	230
355	155	60

ATTACHMENT III

VOLUME SOURCE MODEL INPUT DATA

Attachment III
Volume Source Model Input Data

PM_{10} emissions due to truck traffic on paved roadways for the McDavid Sawmill were modeled as volume sources using guidance provided in the ISC3 User's Guide.

There are three types of truck traffic and roadways planned for the McDavid Sawmill: (1) by-product trucks [V1-V64], (2) log trucks [V95-V137], and (3) product lumber trucks [V138-V234].

Emission rates for volume for each of the three roadways was calculated by dividing the PM_{10} emissions associated with the roadway. These rates are shown on the revised Table 2-3 included in the 7/16/99 response package submitted to the Department. As an example, hourly PM_{10} emissions for the by-product truck roadway segment is 0.6263 lb/hr. For 64 volumes (V1-V64), each volume has a PM_{10} emission rate of 0.0098 lb/hr or 1.2×10^{-3} g/s. Similar calculations were made for the other roadway segments.

Additional volume source model input parameters include release height, initial lateral dimension (sigma-y), and initial vertical dimension (sigma – z). Guidance for estimating sigma-y and sigma-z are provided in Table 3-1 of the ISC3 User's Guide. The release height for all truck roadway segments was assumed to be 50% of the estimated turbulence-induced truck vertical dimension height of 20 feet or 10 feet (3.05 m). For all truck roadway segments, sigma-z, per the EPA guidance, was set equal to the vertical dimension divided by 2.15 or 9.3 feet (2.84 m). Sigma-y, per the EPA guidance, was set equal to the roadway width divided by 2.15. Roadway widths are 40 feet for the by-product trucks (V1-V64), 24 ft (V95-V98) and 28 ft (V99-V137) for the log trucks, and 24 ft for the product lumber trucks (V138-V234).

All material handling fugitives (F9, F10, F13-F19, F22-F24, F27, and F31-F35) were modeled as one volume source V235. Release height was estimated at 15 ft [4.57 m] (50% of the vertical dimension of 30 ft), sigma-z at 30 ft divided by 2.15 or 13.9 ft (4.25 m), and sigma-y at the volume width of 151 ft divided by 4.3 or 35 ft (10.7 m). The PM_{10} emissions from these fugitive sources are small (totaling only 0.007 lb/hr or 0.0009 g/s) and had little contribution to maximum impacts.

ECT
Environmental Consulting & Technology, Inc.

July 24, 1999

SENT BY OVERNIGHT MAIL ON 7/24/99

Mr. Joseph Kahn, P.E.
New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road, Mail Station #5505
Tallahassee, Florida 32399-2400

Re: Champion International Corporation
McDavid Sawmill – Air Construction Permit Application
DEP File No. 0330260-001-AC (PSD-FL-271)

Dear Mr. Kahn:

On behalf of Champion International Corporation (Champion), four copies of additional responses to the items raised in your July 8th correspondence to Champion regarding the proposed McDavid Sawmill are provided as follows:

Item 1:

An air quality analysis for PM_{10} is attached; referenced revised Section 6.0 (Ambient Impact Analysis Methodology) and a new Section 9.0 (Ambient Impact Analysis Results). The model results demonstrate that the proposed McDavid Sawmill will not cause nor contribute to an exceedance of any National Ambient Air Quality Standard or PSD increment. Diskettes containing the dispersion modeling input and output files is included with one set of submittals.

Item 4.

Copies of vendor emissions data for the package boilers and planermill dust collector were previously provided to you on July 16th. As requested, a revised emissions statement from the package boiler vendor indicating that the emission rate specifications are on a lower heating value (LHV) basis is attached.

3701 Northwest 98TH Street
Gainesville, FL 32606

(352) 332-0444

FAX (352) 332-6722

A Professional Engineer Certification for the July 16th submittal and this submittal is also attached as requested. Your continued expeditious review of the proposed McDavid Sawmill air construction permit will be appreciated. Please feel free to contact me at (352) 332-6230, Ext. 351 or Mr. Dave Stevens at (850) 937-4849 if there are any further questions.

Sincerely,

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.

Thomas W. Davis

Thomas W. Davis, P.E.
Principal Engineer

Attachments

cc: Mr. Dave Stevens, Champion
Mr. John Barone, Champion
Mr. Terry Kassabaum, Champion
Mr. Ed Middleswart, FDEP – NWD

CC: C. Holladay, BAR
EPA
NPS

6.0 AMBIENT IMPACT ANALYSIS METHODOLOGY

6.1 GENERAL APPROACH

The approach used to analyze the potential impacts of the proposed facility, as described in detail in the following sections, was developed in accordance with accepted regulatory agency practice. Guidance contained in EPA manuals and users' guides was sought and followed. The modeling procedures used were discussed and approved by the FDEP.

6.2 POLLUTANTS EVALUATED

Based on an evaluation of anticipated worst-case annual operating scenarios, the McDavid Sawmill will have the potential to emit 39 tpy NO_x; 70.1 tpy of CO; 31.1 tpy of PM (including fugitives), 17.8 tpy of PM_{10} (including fugitives); 0.3 tpy of SO_2, and 325.7 tpy of VOCs. Based on these potential emission rates, PM, PM_{10}, and VOCs are subject to the PSD NSR air quality impact analysis requirements of Rule 62-212. 400(5)(d), F.A.C.

The ambient impact analysis addresses PM and PM_{10}. Because VOCs contribute to the formation of ground-level ozone and because ozone modeling is conducted on a regional scale, modeling of VOC emissions resulting from operation of the McDavid Sawmill is not required. The biogenic VOC emissions projected for the McDavid Sawmill are small relative to area VOC emissions and will not affect the ozone attainment status for the area.

6.3 MODEL SELECTION AND USE

The most recent regulatory version of the Industrial Source Complex (ISC) models (EPA, 1998) is recommended and was used in this analysis for refined modeling. The ISC3 models are steady-state Gaussian plume models that can be used to assess air quality impacts over simple terrain from a wide variety of sources. The ISC3 models are capable of calculating concentrations for averaging times ranging from 1 hour to annual. For this study, the ISC3 short-term (ISCST3, Version 99155) model was used to calculate short-term ambient impacts with averaging times between 1 and 24 hours as well as long-term annual averages.

Procedures applicable to the ISCST3 dispersion model specified in EPA's *Guideline for Air Quality Models* (GAQM) were followed in conducting the refined dispersion modeling. The GAQM is codified in Appendix W of 40 CFR Part 51. In particular, the ISCST3 model control pathway MODELOPT keyword parameters DFAULT, CONC, RURAL, and TERRHGTS were selected. Selection of the parameter DFAULT, which specifies use of the regulatory default options, is recommended by the GAQM. The CONC, RURAL, and TERRHGTS parameters specify calculation of concentrations, use of rural dispersion, and elevated terrain receptors, respectively. As previously mentioned, the ISCST3 model was also used to determine annual average impact predictions, in addition to short-term averages, by using the PERIOD parameter for the AVERTIME keyword. Conservatively, no consideration was given to pollutant exponential decay.

6.4 DISPERSION OPTION SELECTION

Area characteristics in the vicinity of proposed emission sources are important in determining model selection and use. One important consideration is whether the area is rural or urban, since dispersion rates differ between these two classifications. In general, urban areas cause greater rates of dispersion because of increased turbulent mixing and buoyancy-induced mixing. This is due to the combination of greater surface roughness caused by more buildings and structures and greater amount of heat released from concrete and similar surfaces. EPA guidance provides two procedures to determine whether the character of an area is predominantly urban or rural. One procedure is based on land use typing and the other is based on population density. The land use typing method utilizes the work of Auer (Auer, 1978) and is preferred by EPA and FDEP because it is meteorologically oriented. In other words, the land use factors employed in making a rural/urban designation are also factors that have a direct effect on atmospheric dispersion. These factors include building types, extent of vegetated surface area and water surface area, types of industry and commerce, etc. Auer recommends that these land use factors be considered within 3 km of the source to be modeled to determine urban or rural classifications. The Auer land use typing method was used for the ambient impact analysis.

The Auer technique recognizes four primary land use types: industrial (I), commercial (C), residential (R), and agricultural (A). Practically all industrial and commercial areas come under the heading of urban while the agricultural areas are considered rural. However, those portions of generally industrial and commercial areas that are heavily vegetated can be considered rural in character. In the case of residential areas, the delineation between urban and rural is not as clear. For residential areas, Auer subdivides this land use type into four groupings based on building structures and associated vegetation. Accurate classification of the residential areas into proper groupings is important to determine the most appropriate land use classification for the study area.

USGS 7.5-minute series topographic maps for the area were used to identify the land use types within a 3-km radius area of the proposed site. Based on this analysis, well over 50 percent of the land use surrounding the plant (i.e., primarily forests) was determined to be rural under the Auer land use classification technique. Therefore, rural dispersion coefficients and mixing heights were used for the Ambient Impact Analysis.

6.5 TERRAIN CONSIDERATION

The GAQM defines *flat terrain* as terrain equal to the elevation of the stack base, *simple terrain* as terrain lower than the height of the stack top, and *complex terrain* as terrain above the height of the plume center line (for screening modeling, *complex terrain* is terrain above the height of the stack top). Terrain above the height of the stack top but below the height of the plume center line is defined as *intermediate terrain*.

USGS 7.5-minute series topographic maps were examined for terrain features in the vicinity of the proposed McDavid Sawmill (i.e., within an approximate 10-km radius). Base elevation of the site is approximately 70 feet above mean sea level (ft-msl). Highest elevations in the vicinity of the site are approximately 250 ft-msl. Site base elevation plus the shortest project stack height (i.e., Planermill dust collector stack height of 23 + 70) is 93 ft-msl. Accordingly, terrain in the vicinity of the site would be classified as ranging from *flat* to *complex terrain*. Due to the significant amount of terrain elevation differences in the vicinity, assignment of receptor terrain elevations was conducted; i.e., elevations obtained from the USGS 7.5-minute series topographic maps were assigned to each receptor.

6.6 GOOD ENGINEERING PRACTICE STACK HEIGHT/BUILDING WAKE EFFECTS

The CAA Amendments of 1990 require the degree of emission limitation required for control of any pollutant not be affected by a stack height that exceeds good engineering practice (GEP) or any other dispersion technique. On July 8, 1985, EPA promulgated final stack height regulations (40 CFR 51). GEP stack height is defined as the highest of 65 meters, or a height established by applying the formula:

$$Hg = H + 1.5\,L$$

where: Hg = GEP stack height.
H = height of the structure or nearby structure.
L = lesser dimension (height or projected width) of the nearby structure.

Nearby is defined as a distance up to five times the lesser of the height or width dimension of a structure or terrain feature, but not greater than 800 meters. While GEP stack height regulations require that stack height used in modeling for determining compliance with NAAQS and PSD increments not exceed the GEP stack height, the actual stack height may be greater. Guidelines for determining GEP stack height have been issued by EPA (1985).

The stack heights proposed for the McDavid Sawmill (e.g., package boilers, lumber kilns, and Planermill dust collector) are all less than the *de minimis* GEP height of 65 meters (213 ft) and, therefore, comply with the EPA promulgated final stack height regulations (40 CFR 51).

While the GEP stack height rules address the maximum stack height which can be employed in a dispersion model analysis, stacks having heights lower than GEP stack height can potentially result in higher downwind concentrations due to building downwash effects. The ISC dispersion models contain two algorithms that assess the effect of building downwash; these algorithms are referred to as the Huber-Snyder and Schulman-Scire methods. The following steps are employed in determining the effects of building downwash:

- A determination is made as to whether a particular stack is located in the area of influence of a building (i.e., within five times the lesser of the building's height or projected width). If the stack is not within this area, it will not be subject to downwash from that building.
- If a stack is within a building's area of influence, a determination is made as to whether it will be subject to downwash based on the heights of the stack and building. If the stack height to building height ratio is equal to or greater than 2.5, the stack will not be subject to downwash from that building.
- If both conditions in Items 1 and 2 are satisfied (a stack is within the area of influence of a building and has a stack height to building height ratio of less than 2.5), the stack will be subject to building downwash. The determination is then made as to whether the Huber-Snyder or Schulman-Scire downwash method applies. If the stack height is less than or equal to the building height plus one-half the lesser of the building height or width, the Schulman-Scire method is used. Conversely, if the stack height is greater than this criterion, the Huber-Snyder method is employed.
- The ISCST3 downwash input data consists of an array of 36 wind direction-specific building heights and projected widths for each stack. LB is defined as the lesser of the height and projected width of the building. For directionally dependent building downwash, wake effects are assumed to occur if a stack is situated within a rectangle composed of two lines perpendicular to the wind direction, one line at 5 LB downwind of the building and the other at 2 LB upwind of the building, and by two lines parallel to the wind, each at 0.5 LB away from the side of the building.

For the ambient impact analysis, the complex downwash analysis described above was performed using the current version of EPA's Building Profile Input Program (BPIP—Version 95086). The EPA BPIP program was used to determine the area of influence for each building, whether a particular stack is subject to building downwash, the area of influence for directionally dependent building downwash, and finally to generate the specific building dimension data required by the model. Dimensions of the build-

Table 6-1. Building/Structure Dimensions

Building/Structure	Dimensions Width (meter)	Length (meter)	Height (meter)
Bark Bin	4.3	12.6	14.8
Sawdust (Fines) Bin	4.3	6.4	14.8
Chips Bin	4.3	12.6	14.8
Planermill Cyclone	4.9	6.1	23.2
Planermill Baghouse	5.0	5.0	15.5
Lumber Kilns (each)	10.4	30.5	8.0
Trimmer Building	46.6	55.8	11.2
Sawmill Building	48.2	99.1	13.2
Planermill Building	61.0	213.4	12.3
Rough Green Storage Area	14.6	56.4	9.1
Rough Dry Storage Shed	30.5	53.3	9.1

Sources: ECT, 1999.
Champion, 1999.

-ing/structures evaluated for wake effects are shown in Table 6-1; the locations of these buildings/structures were previously provided on Figure 2-2. BPIP output consists of an array of 36 direction-specific (10 to 360°) building heights and projected building widths for each stack suitable for use as input to the ISCST3 model.

6.7 RECEPTOR GRIDS

Receptors were placed at locations considered to be *ambient air*, which is defined as "that portion of the atmosphere, external to buildings, to which the general public has access." The entire perimeter of the plant site, excluding natural barriers, will be fenced; therefore, the nearest locations of general public access are at the facility property lines.

Consistent with GAQM recommendations, the ambient impact analysis utilized the following receptor grids:

- Fence Line Receptors: Receptors placed on the site boundary spaced 50 meters apart.
- Near-Field Discrete Receptors: Cartesian receptors placed at 100-meter spacings from the site fence line to the first mid-field polar receptor ring located 1 km from the center of the project site.
- Mid-Field Polar Receptors: Receptor rings (with 36 receptors per ring at 10° intervals) starting 1 km from the center of the project site and extending to 5 km at 250-meter spacings.
- Far-Field Polar Receptors: Receptor rings (with 36 receptors per ring at 10° intervals) starting 5.5 km from the site and extending to 10 km at 500-meter spacings.

Each polar receptor ring was offset 5° from the previous ring to improve the spatial distribution.

A depiction of the receptor grids out to distances of 2 and 10 km are shown in Figures 6-1 and 6-2, respectively.

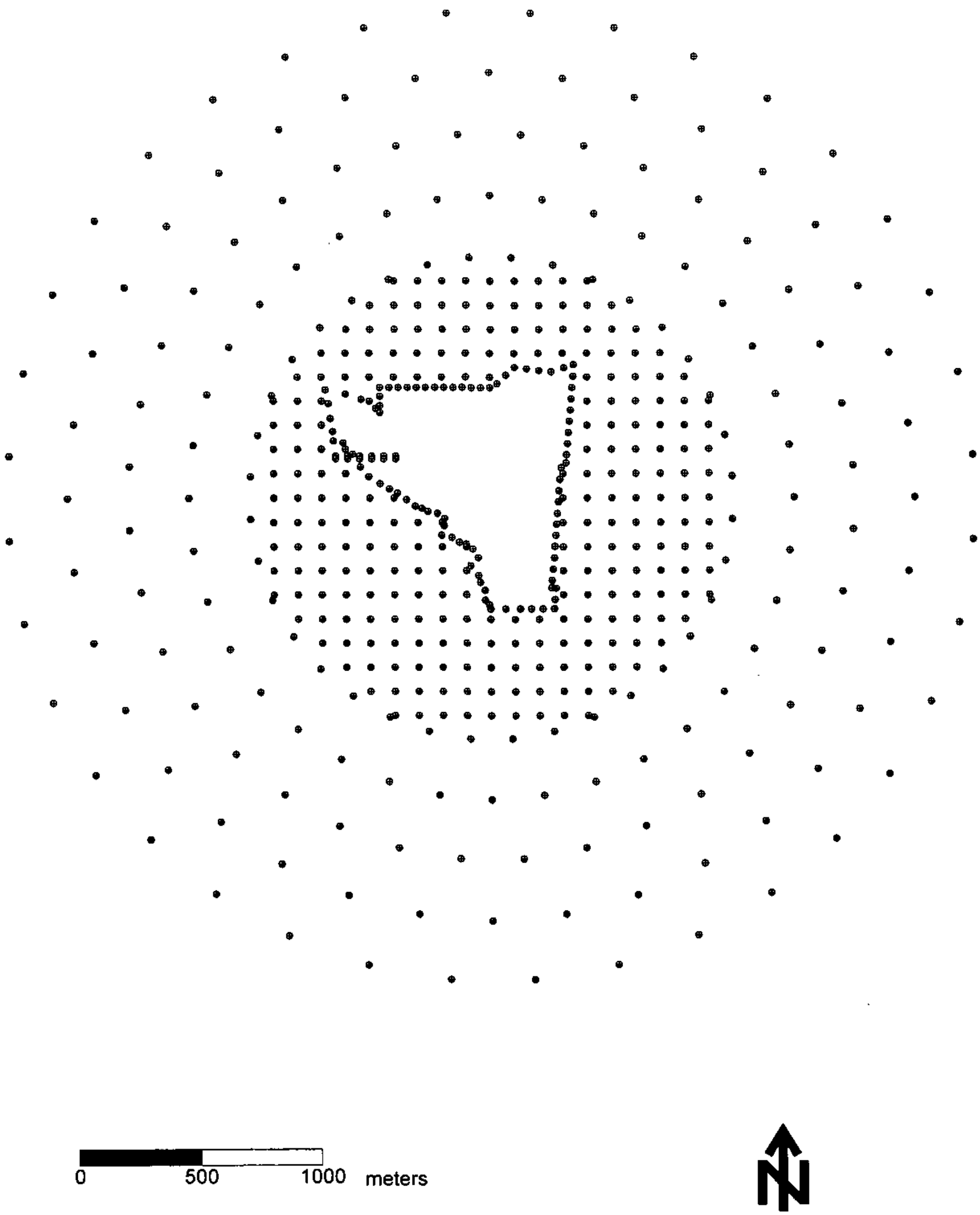


FIGURE 6-1.

RECEPTOR LOCATIONS (WITHIN 2 KM)

Source: ECT, 1999.

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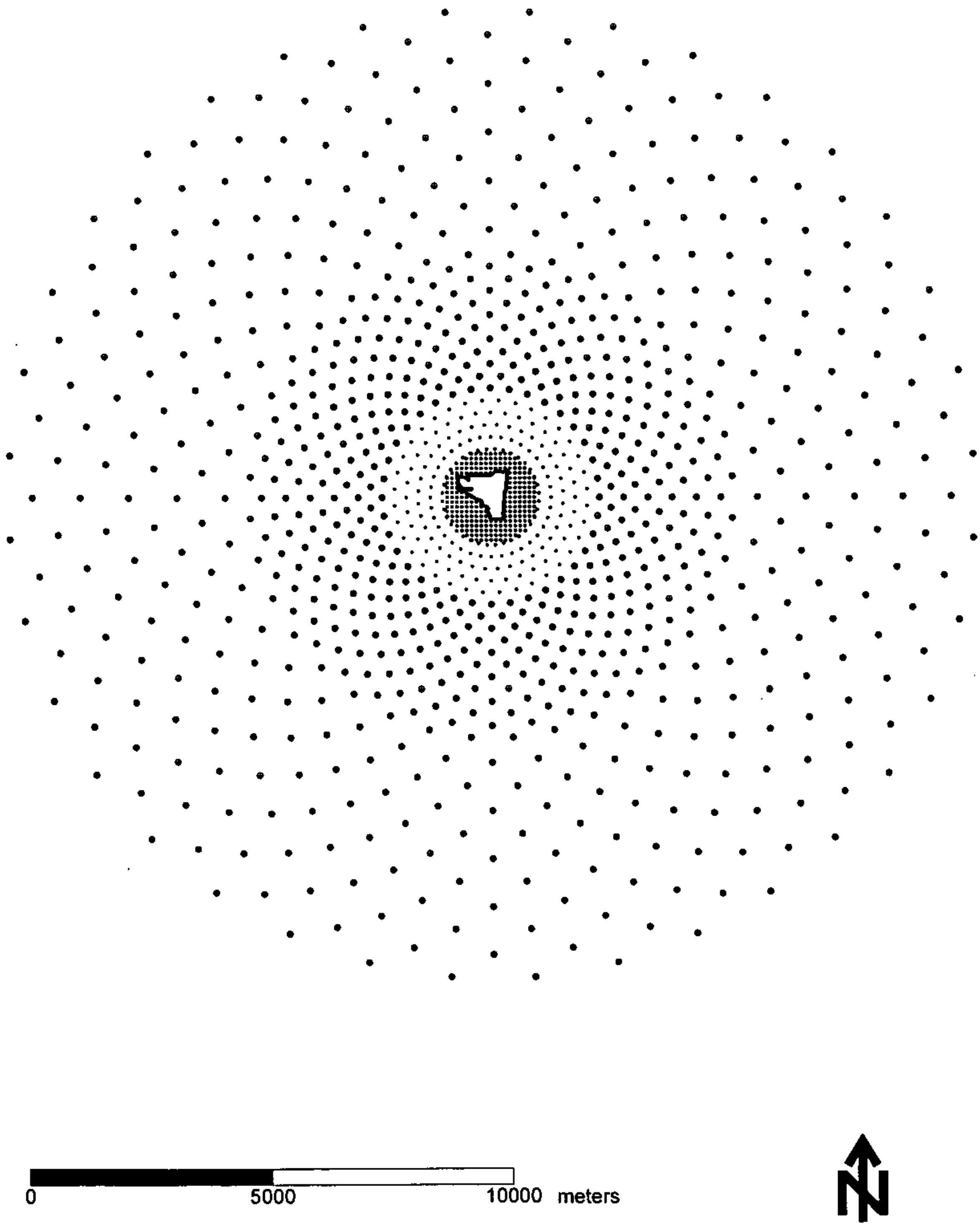

FIGURE 6-2.

RECEPTOR LOCATIONS (FROM 2 TO 10 KM)

Source: ECT, 1999.

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6.8 METEOROLOGICAL DATA

Detailed meteorological data are needed for modeling with the ISC dispersion models. The ISCST3 model requires a preprocessed data file compiled from hourly surface observations and concurrent twice-daily rawinsonde soundings (i.e., mixing height data).

There are no onsite surface or upper meteorological stations. The nearest offsite surface meteorological station is located at the Pensacola Regional Airport approximately 37 km (23 miles) south, southeast of the McDavid Sawmill site. The nearest offsite upper air meteorological station is located at the Apalachicola Municipal Airport approximately 241 km (150 miles) southeast of the McDavid Sawmill site.

Short-Term Meteorological Data

Consistent with the GAQM and FDEP guidance, 5 consecutive years of the most recent, readily available, representative meteorological data were processed for the ambient impact analysis. For Escambia County, FDEP recommends use of Pensacola surface and Apalachicola upper air meteorological data in conducting the air quality analyses. As recommended by FDEP, 1986 through 1990 Pensacola surface (Pensacola Regional Airport—Station No. 13899) and Apalachicola upper air meteorological data were used in the Ambient Impact Analysis.

The surface and mixing height data for each of the 5 years were processed using the current version of EPA's PCRAMMET (Version 95300) meteorological preprocessing program to generate the meteorological data files in the format required by the ISCST3 dispersion model. PCRAMMET input files consist of the surface and mixing height files as obtained from the EPA SCRAM website. The mixing height file for each year must include mixing height records for December 31 of the year preceding the year of record and for January 1 of the year following the year of record. If records for these 2 days are unavailable, duplicate mixing height records are used with the year, month, and day changed appropriately.

In addition to the surface and mixing height meteorological data files, PCRAMMET requires input with respect to: (a) the use of dry or wet deposition calculations; (b) output filename; (c) output file type (UNFORM or ASCII); (d) surface data format (CD144, SAMSON, or SCRAM); and (e) latitude, longitude, and time zone of the surface meteorological station. In processing the Apalachicola and Pensacola meteorological data, the NONE deposition option was selected, ASCII output file chosen, and the SCRAM surface data format utilized. As obtained from the EPA SCRAM web site, Apalachicola surface station latitude and longitude coordinates (in decimal degrees) are 29.733 and 85.033, respectively. The Pensacola surface station latitude and longitude coordinates (in decimal degrees) are 30.467 and 87.200, respectively. The Pensacola surface station is located in time zone 6.

Actual anemometer height for the Pensacola surface station, obtained from the National Climatic Data Center (NCDC), is 22 ft (6.7 meters) for the time period of interest (i.e., 1986 through 1990).

Processing of the Apalachicola and Pensacola station meteorological data did not require any data replacement or substitution.

6.9 MODELED EMISSION INVENTORY

6.9.1 ON-PROPERTY SOURCES

On-property emission sources addressed in the ambient impact analysis consisted of the two package boilers, three lumber kilns, Planermill dust collector, and fugitive PM/PM_{10} emissions sources (i.e., material handling and storage, outdoor storage piles, and truck traffic on paved roadways.

Emission rates and stack parameters for the McDavid Sawmill point were provided in Table 2-4 of the June 1999 permit application. Facility fugitive emission sources were modeled as volume sources in accordance with recommendations contained in the ISC3 User's Guide. Specifically, the facility paved roadways were modeled as multiple, square volume sources. The facility material handling and storage fugitive emission sources were grouped into one volume source situated at the approximate center of these activities.

6.9.2 OFF-PROPERTY SOURCES

As will be discussed in Section 9.0, maximum air quality impacts are projected to be above the PSD significant impact level for PM/PM_{10}. Accordingly, a full, multi-source interactive assessment of PM_{10} NAAQS attainment and PSD Class II increment consumption was required for the proposed sawmill.

An inventory of PM/PM_{10} emission sources within approximately 75 km of the proposed sawmill was obtained from FDEP. A summary of the FDEP off-property PM_{10} emission sources is provided on Table 6-2. A request for modeling data for PM/PM_{10} sources located in Escambia and Baldwin Counties, Alabama was also requested from the Alabama Department of Environmental Management (ADEM). However, ADEM indicated that it may take several weeks to provide the requested inventory. Due to time constraints, the modeling analysis was conducted using only Florida off-site emissions data. As will be further discussed in Section 9.0, Ambient Impact Analysis Results, contributions to maximum McDavid Sawmill impacts from emission sources located in Alabama are expected to be insignificant.

Off-property PM/PM_{10} emission sources included in the dispersion modeling analysis for the McDavid Sawmill consisted of all emission sources listed on Table 6-2 located within approximately 52 km of the project site; i.e., within the 1.3-km area of impact (AOI) distance plus 50 km, having potential/allowable emissions satisfying the "20D" rule. The "20D" rule allows for the screening of small, distant emission sources by means of the following algorithm:

$$E = 20 \times D$$

where,

E = Potential/allowable emission rate in tons per year
D = distance from the proposed sawmill in km

Off-site emission sources having emissions greater than E were included in the dispersion modeling inventory. Modeled off-property PM/PM_{10} emission sources are highlighted on Table 6-2.

Table 6-2. FDEP PM/PM_{10} Emission Inventory

AIRS_ID	OWNER/COMPANY	UTM Coordinates EAST (km)	UTM Coordinates NORTH (km)	Distance From McDavid (km)	EU ID	STACK HT (ft)	DIAM (ft)	EXIT TEMP (°F)	FLOW (acfm)	VEL (ft/sec)	POLLUTANT	Pot (lb/hr)	Pot (tpy)	Allow. (lb/hr)	Allow. (tpy)
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	3	12	2.7	78	26,004	75	PM	17.8	77.92	17.6	77.92
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	3	12	2.7	78	26,004	75	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	6	35	0.4	70	352	46	PM	6.15	5.6		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	6	35	0.4	70	352	46	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	9	30	6.8	70	28,200	12	PM	4	16.2		16.1
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	9	30	6.8	70	28,200	12	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	10	32	5.5	70	4,007	2	PM	4.9			21.5
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	10	32	5.5	70	4,007	2	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	11	12	3.3	70	49,813	97	PM	11.2			49.1
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	11	12	3.3	70	49,813	97	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	12	31	5.5	70	49,300	34	PM	5.9			25.9
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	12	31	5.5	70	49,300	34	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	14	30	6.8	70	30,000	13	PM	3.5			14.1
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	14	30	6.8	70	30,000	13	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	15	32	1.7	117	2,903	21	PM	0.2958	1.29		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	15	32	1.7	117	2,903	21	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	21	35	5.7	150	43,021	28	PM		7.19		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	21	35	5.7	150	43,021	28	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	25	28	7.3	135	71,015	28	PM		4.84		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	25	28	7.3	135	71,015	28	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	28	28	1.5	70	2,737	25	PM				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	28	28	1.5	70	2,737	25	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	29	35	3.4	177	10,568	19	PM	0.63	2.7594		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	29	35	3.4	177	10,568	19	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	31	35	6.4	242	57,900	29	PM		1.13		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	31	35	6.4	242	57,900	29	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	42	40	2	77			PM	9.33	40.66		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	42	40	2	77			PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	48	40	0.5	86	900	76	PM	8.97	39.29	8.97	
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	48	40	0.5	86	900	76	PM10	7.5	33		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	50	57	6.3	437	123,242	65	PM	18.1			79.3
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	50	57	6.3	437	123,242	65	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	54	32	5.5	82	35,911	25	PM	13.9			60.9
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	54	32	5.5	82	35,911	25	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	55	50	3.5	144	20,175	34	PM	9		9	39.4
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	55	50	3.5	144	20,175	34	PM10	7.46	32.7		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	56	32	5.5	70	30,000	21	PM	7.3			32
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	56	32	5.5	70	30,000	21	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	60	10	0.5		950	80	PM	0.037	0.0062		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	60	10	0.5		950	80	PM10	0.0019	0.0085		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	65	19	3.4	96	37,500	68	PM	2.4			10.5
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	65	19	3.4	96	37,500	68	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	66	19	3.4	96	37,500	68	PM				10.5
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	66	19	3.4	96	37,500	68	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	68	35	0.5	179	8,000	679	PM				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	68	35	0.5	179	8,000	679	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	70	35	2.3	70	15,000	60	PM				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	70	35	2.3	70	15,000	60	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	71	35	2.3	70	15,000	60	PM				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	71	35	2.3	70	15,000	60	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	72	35	1.5	500	4,000	37	PM		0.007		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	72	35	1.5	500	4,000	37	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	73	35	1.5	500	4,000	37	PM		0.007		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	73	35	1.5	500	4,000	37	PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	74	18	1.2	77			PM	0	0		
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	74	18	1.2	77			PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	76						PM				

Table 6-2. FDEP PM/PM_{10} Emission Inventory

AIRS_ID	OWNER/COMPANY	UTM Coordinates EAST (km)	UTM Coordinates NORTH (km)	Distance From McDavid (km)	EU ID	STACK HT (ft)	DIAM (ft)	EXIT TEMP (°F)	FLOW (acfm)	VEL (ft/sec)	POLLUTANT	Pot (lb/hr)	Pot (tpy)	Allow. (lb/hr)	Allow. (tpy)
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	76						PM10				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	78						PM				
0330006	ARMSTRONG WORLD INDUSTRIES	475.9	3,363.5	43.6	78						PM10				
0330024	APAC-FLORIDA INC., E.M. CHADBOURN	454.5	3,414.6	16.4	1	31	5	250	45,000	38	PM		21.25		
0330024	APAC-FLORIDA INC., E.M. CHADBOURN	454.5	3,414.6	16.4	1	31	5	250	45,000	38	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	1	20	0.8	1400	169	5	PM	0.145	0.64		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	1	20	0.8	1400	169	5	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	2	60	4	435	71,000	94	PM	2.8	12.28		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	2	60	4	435	71,000	94	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	3	125	12	230	236,943	34	PM	0.63	2.75		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	3	125	12	230	236,943	34	PM10	0.63	2.75		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	4	125	12	230	236,943	34	PM	0.63	2.75		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	4	125	12	230	236,943	34	PM10	0.63	2.75		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	5	125	2.7	311	6,318	18	PM				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	5	125	2.7	311	6,318	18	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	7	125	2.7	311	7,198	20	PM	0.17	0.745		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	7	125	2.7	311	7,198	20	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	8	125	2.7	311	7,198	20	PM				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	8	125	2.7	311	7,198	20	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	9	125	2.7	311	7,198	20	PM	0.17	0.745		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	9	125	2.7	311	7,198	20	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	10	125	2.7	311	7,198	20	PM	0.17	0.745		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	10	125	2.7	311	7,198	20	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	11	125	2.7	311	7,198	20	PM	0.17	0.745		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	11	125	2.7	311	7,198	20	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	12	70	0.8	1400	169	5	PM	0.005	0.01		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	12	70	0.8	1400	169	5	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	13	125	2.7	311	9,798	28	PM	0.4	1.752		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	13	125	2.7	311	9,798	28	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	14	150	10	360	168,664	35	PM	9.2	40.3		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	14	150	10	360	168,664	35	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	15	150	10	360	168,664	35	PM	0.37			
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	15	150	10	360	168,664	35	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	16	150	10	360	168,664	35	PM	0.3			
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	16	150	10	360	168,664	35	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	28	60	1	70	3,530	74	PM	0.91	3.9	0.91	3.9
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	28	60	1	70	3,530	74	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	30	70	0.8	1400	169	5	PM	0.005	0.01		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	30	70	0.8	1400	169	5	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	31	70	0.8	1400	169	5	PM	0.005	2.1	0.005	2.1
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	31	70	0.8	1400	169	5	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	32	100	15	300	799	75	PM	3.9	17.1		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	32	100	15	300	799	75	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	38	33	0.3	200	100	23	PM				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	38	33	0.3	200	100	23	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	44	35	0.3	435	20	4	PM	2.4	10.512		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	44	35	0.3	435	20	4	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	45	115	0.9	77	2,100	55	PM	8.48		8.48	37
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	45	115	0.9	77	2,100	55	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	47	64	1	120	2,500	53	PM	4.73	20.72	4.73	
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	47	64	1	120	2,500	53	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	49	90	4.8	393	50,257	46	PM				7.9
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	49	90	4.8	393	50,257	46	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	50	60	1	86	12,000	254	PM	14.97			
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	50	60	1	86	12,000	254	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	51	60	1	77	2,000	42	PM	19.24	84.2712		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	51	60	1	77	2,000	42	PM10				

Table 6-2. FDEP PM/PM_{10} Emission Inventory

AIRS_ID	OWNER/COMPANY	UTM Coordinates EAST (km)	NORTH (km)	Distance From McDavid (km)	EU ID	STACK HT (ft)	DIAM (ft)	EXIT TEMP (°F)	FLOW (acfm)	VEL (ft/sec)	POLLUTANT	Pot (lb/hr)	Pot (tpy)	Allow. (lb/hr)	Allow. (tpy)
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	52	120	0.3		330	77	PM	0.08	0.35		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	52	120	0.3		330	77	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	53	60	3.3	1600	2,289	4	PM				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	53	60	3.3	1600	2,289	4	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	54	60	3	1500	9,100	21	PM				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	54	60	3	1500	9,100	21	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	59	20	0.8	1400	350	11	PM	0.61	0.22		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	59	20	0.8	1400	350	11	PM10	0.0325	0.154		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	60	54	1	136	7,000	148	PM	1.34	5.87		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	60	54	1	136	7,000	148	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	61	25	1.4	80	9,000	97	PM	9.5		9.5	42
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	61	25	1.4	80	9,000	97	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	62	25	1.4	80	9,000	97	PM	9.5		9.5	42
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	62	25	1.4	80	9,000	97	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	63	25	1.4	80	9,000	97	PM	9.5		9.5	
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	63	25	1.4	80	9,000	97	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	64	25	1.4	80	9,000	97	PM	9.5		9.5	41
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	64	25	1.4	80	9,000	97	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	65	115	1.5	110	9,000	84	PM	9.5	41.61	9.5	
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	65	115	1.5	110	9,000	84	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	66	25	1.4	80	9,000	97	PM	10.9	47.742	10.9	47.742
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	66	25	1.4	80	9,000	97	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	67	30	1	1500	630	13	PM	0.01			
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	67	30	1	1500	630	13	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	68	50	0.5	2930	380	32	PM				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	68	50	0.5	2930	380	32	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	69	70	0.8	1400	169	5	PM	0.005	0.01		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	69	70	0.8	1400	169	5	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	70						PM				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	70						PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	71						PM	4.73	20.72	4.73	
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	71						PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	72						PM	4.73	20.72	4.73	
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	72						PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	73	25	3	72	19,080	44	PM	27	118	4.9	21.5
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	73	25	3	72	19,080	44	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	75	125	2.7	311	9,798	28	PM				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	75	125	2.7	311	9,798	28	PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	76	125	3.5	158			PM	1.19	5.21		
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	76	125	3.5	158			PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	79	54	1	136			PM	1.35	5.91	1.35	5.91
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	79	54	1	136			PM10				
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	80	50	0.3	80			PM	0.21	0.92	0.21	0.92
0330040	SOLUTIA, INC.	476.0	3,385.0	22.7	80	50	0.3	80			PM10				
0330041	SACRED HEART HEALTH SYSTEM	480.0	3,372.0	36.3	3	73	3	300	3,280	7	PM	0.28	1.23		
0330041	SACRED HEART HEALTH SYSTEM	480.0	3,372.0	36.3	3	73	3	300	3,280	7	PM10				
0330041	SACRED HEART HEALTH SYSTEM	480.0	3,372.0	36.3	4	38	3	1800	16,041	37	PM	0.592	2.59		
0330041	SACRED HEART HEALTH SYSTEM	480.0	3,372.0	36.3	4	38	3	1800	16,041	37	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	2	47	4	500	65,000	86	PM				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	2	47	4	500	65,000	86	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	3	125	8.5	350	161,000	47	PM	2.67	11.7	2.67	11.7
0330042	CHAMPION INTERNATIONAL CORPOR/	469.0	3,385.8	20.8	3	125	8.5	350	161,000	47	PM10	2.67	11.7	2.67	11.7
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	28	136	6.5	157	57,208	28	PM	10.9	47.7	10.9	47.7
0330042	CHAMPION INTERNATIONAL CORPOR/	469.0	3,385.8	20.8	28	136	6.5	157	57,208	28	PM10	10.9	47.7		
0330042	CHAMPION INTERNATIONAL CORPOR/	469.0	3,385.8	20.8	29	182	9	418	274,172	71	PM	111	486.18	111	486.18
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	29	182	9	418	274,172	71	PM10				
0330042	CHAMPION INTERNATIONAL CORPOR/	469.0	3,385.8	20.8	30	182	9	430	252,670	66	PM	111	486.18	111	

Table 6-2. FDEP PM/PM_{10} Emission Inventory

AIRS_ID	OWNER/COMPANY	UTM Coordinates EAST (km)	UTM Coordinates NORTH (km)	Distance From McDavid (km)	EU ID	STACK HT (ft)	DIAM (ft)	EXIT TEMP (°F)	FLOW (acfm)	VEL (ft/sec)	POLLUTANT	Pot (lb/hr)	Pot (tpy)	Allow. (lb/hr)	Allow. (tpy)
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	30	182	9	430	252,670	66	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	32	172	4	160	17,200	22	PM	26.4	104	26.4	
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	32	172	4	160	17,200	22	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	33	148	8	146	110,300	36	PM	26.8	118.3		118.3
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	33	148	8	146	110,300	36	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	36	88	4	153	23,600	31	PM	7.61			
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	36	88	4	153	23,600	31	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	37	221	11	144	229,000	40	PM	766	3355.1		240.9
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	37	221	11	144	229,000	40	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	38	172	4	160	17,200	22	PM	26.4	115.63	26.4	115.63
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	38	172	4	160	17,200	22	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	39	75	2	77	9,500	50	PM				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	39	75	2	77	9,500	50	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	40						PM				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	40						PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	44	80	0.7	77	794	34	PM				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	44	80	0.7	77	794	34	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	45	35	1	1000	2,700	57	PM				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	45	35	1	1000	2,700	57	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	46	90	2.3	190	12,500	50	PM	1.59	6.96	1.59	6.96
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	46	90	2.3	190	12,500	50	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	47	60	0.3	50	146	34	PM				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	47	60	0.3	50	146	34	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	48	60	0.3	50	146	34	PM				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	48	60	0.3	50	146	34	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	49	60	0.3	50	146	34	PM				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	49	60	0.3	50	146	34	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	51	67	1.5	158	8,227	77	PM				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	51	67	1.5	158	8,227	77	PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	52			77			PM	44.846	196.4		
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	52			77			PM10				
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	58	38	1.5	77	5,500	51	PM	0.846	2.21		
0330042	CHAMPION INTERNATIONAL CORPORA	469.0	3,385.8	20.8	58	38	1.5	77	5,500	51	PM10	0.312	0.786		
0330043	REICHHOLD, INC.	478.6	3,364.8	42.9	16	25	2.1	285	7,546	36	PM	0.1	0.438		
0330043	REICHHOLD, INC.	478.6	3,364.8	42.9	16	25	2.1	285	7,546	36	PM10				
0330043	REICHHOLD, INC.	478.6	3,364.8	42.9	17	25	2.1	285	10,733	51	PM	0.13	0.57		
0330043	REICHHOLD, INC.	478.6	3,364.8	42.9	17	25	2.1	285	10,733	51	PM10				
0330045	GULF POWER CO	478.3	3,381.4	26.9	1	450	18	290	802,500	52	PM	0.32	1.4		
0330045	GULF POWER CO	478.3	3,381.4	26.9	1	450	18	290	802,500	52	PM10				
0330045	GULF POWER CO	478.3	3,381.4	26.9	2	450	18	290	802,500	52	PM	32.009	140.2		
0330045	GULF POWER CO	478.3	3,381.4	26.9	2	450	18	290	802,500	52	PM10				
0330045	GULF POWER CO	478.3	3,381.4	26.9	3	450	18	290	802,500	52	PM	55	240.9		
0330045	GULF POWER CO	478.3	3,381.4	26.9	3	450	18	290	802,500	52	PM10	55	240.9		
0330045	GULF POWER CO	478.3	3,381.4	26.9	4	450	18	290	802,500	52	PM	1.02	4.49		
0330045	GULF POWER CO	478.3	3,381.4	26.9	4	450	18	290	802,500	52	PM	1.02	4.49		
0330045	GULF POWER CO	478.3	3,381.4	26.9	4	450	18	290	802,500	52	PM10				
0330045	GULF POWER CO	478.3	3,381.4	26.9	5	450	18	290	802,500	52	PM	47.64	208.7		
0330045	GULF POWER CO	478.3	3,381.4	26.9	5	450	18	290	802,500	52	PM	47.64	208.7		
0330045	GULF POWER CO	478.3	3,381.4	26.9	5	450	18	290	802,500	52	PM10	2.2	9.64		
0330045	GULF POWER CO	478.3	3,381.4	26.9	6	450	23.2	320	2,462,700	97	PM	313.64	1152		
0330045	GULF POWER CO	478.3	3,381.4	26.9	6	450	23.2	320	2,462,700	97	PM	313.64	1152		
0330045	GULF POWER CO	478.3	3,381.4	26.9	6	450	23.2	320	2,462,700	97	PM10				
0330045	GULF POWER CO	478.3	3,381.4	26.9	7	450	23.2	270	2,462,700	97	PM	450.8	1975		
0330045	GULF POWER CO	478.3	3,381.4	26.9	7	450	23.2	270	2,462,700	97	PM	450.8	1975		
0330045	GULF POWER CO	478.3	3,381.4	26.9	7	450	23.2	270	2,462,700	97	PM10				
0330045	GULF POWER CO	478.3	3,381.4	26.9	8	125	2.8	100	5,452	14	PM				
0330045	GULF POWER CO	478.3	3,381.4	26.9	8	125	2.8	100	5,452	14	PM10				

Table 6-2. FDEP PM/PM_{10} Emission Inventory

AIRS_ID	OWNER/COMPANY	UTM Coordinates EAST (km)	UTM Coordinates NORTH (km)	Distance From McDavid (km)	EU ID	STACK HT (ft)	DIAM (ft)	EXIT TEMP (°F)	FLOW (acfm)	VEL (ft/sec)	POLLUTANT	Pot (lb/hr)	Pot (tpy)	Allow. (lb/hr)	Allow. (tpy)
0330054	FUNERAL SERVICES ACQUISITION GRC	478.7	3,368.0	39.8	1	16	1.7	700	5,220	38	PM				
0330054	FUNERAL SERVICES ACQUISITION GRC	478.7	3,368.0	39.8	1	16	1.7	700	5,220	38	PM10				
0330055	SOUTHERN PRESTRESSED, INC.	478.4	3,372.7	35.2	1	30	3.9	70	500		PM				
0330055	SOUTHERN PRESTRESSED, INC.	478.4	3,372.7	35.2	1	30	3.9	70	500		PM10				
0330060	COASTAL FUELS MARKETING, INC.	479.6	3,363.4	44.5	4	30	2.5	665	4,640	15	PM	0.151	0.663		
0330060	COASTAL FUELS MARKETING, INC.	479.6	3,363.4	44.5	4	30	2.5	665	4,640	15	PM10				
0330060	COASTAL FUELS MARKETING, INC.	479.6	3,363.4	44.5	5	30	2.5	665	4,640	15	PM	0.151	0.663		
0330060	COASTAL FUELS MARKETING, INC.	479.6	3,363.4	44.5	5	30	2.5	665	4,640	15	PM10				
0330063	SHEAR CONCRETE PRODUCTS, INC.	474.2	3,380.2	26.9	3	60	0.8	90			PM				
0330063	SHEAR CONCRETE PRODUCTS, INC.	474.2	3,380.2	26.9	3	60	0.8	90			PM10				
0330063	SHEAR CONCRETE PRODUCTS, INC.	474.2	3,380.2	26.9	4	60	0.8	90			PM				
0330063	SHEAR CONCRETE PRODUCTS, INC.	474.2	3,380.2	26.9	4	60	0.8	90			PM10				
0330063	SHEAR CONCRETE PRODUCTS, INC.	474.2	3,380.2	26.9	5	60	0.7	75	800	34	PM	0.0025	0.0033		
0330063	SHEAR CONCRETE PRODUCTS, INC.	474.2	3,380.2	26.9	5	60	0.7	75	800	34	PM10				
0330063	SHEAR CONCRETE PRODUCTS, INC.	474.2	3,380.2	26.9	6	60	0.7	75	800	34	PM	0.0007	0.0009		
0330063	SHEAR CONCRETE PRODUCTS, INC.	474.2	3,380.2	26.9	6	60	0.7	75	800	34	PM10				
0330063	SHEAR CONCRETE PRODUCTS, INC.	474.2	3,380.2	26.9	7	50	0.4	70			PM	0.0025	0.0033		
0330063	SHEAR CONCRETE PRODUCTS, INC.	474.2	3,380.2	26.9	7	50	0.4	70			PM10				
0330064	UNIVERSITY OF WEST FLORIDA	479.8	3,379.5	29.2	1	50	6	320	2,600	1	PM				
0330064	UNIVERSITY OF WEST FLORIDA	479.8	3,379.5	29.2	1	50	6	320	2,600	1	PM10				
0330064	UNIVERSITY OF WEST FLORIDA	479.8	3,379.5	29.2	2	50	6	320	2,600	1	PM				
0330064	UNIVERSITY OF WEST FLORIDA	479.8	3,379.5	29.2	2	50	6	320	2,600	1	PM10				
0330064	UNIVERSITY OF WEST FLORIDA	479.8	3,379.5	29.2	3						PM				
0330064	UNIVERSITY OF WEST FLORIDA	479.8	3,379.5	29.2	3						PM10				
0330067	ESCAMBIA COUNTY UTILITIES AUTHOR	478.9	3,363.7	44.0	1	86	4.5	110	95,000	99	PM	2.28	9.96	2.28	9.96
0330067	ESCAMBIA COUNTY UTILITIES AUTHOR	478.9	3,363.7	44.0	1	86	4.5	110	95,000	99	PM10				
0330067	ESCAMBIA COUNTY UTILITIES AUTHOR	478.9	3,363.7	44.0	2	86	4.5	110	95,000	99	PM	2.28	9.96	2.28	9.96
0330067	ESCAMBIA COUNTY UTILITIES AUTHOR	478.9	3,363.7	44.0	2	86	4.5	110	95,000	99	PM10				
0330070	FLORIDA MINING & MATERIALS (W FL (	476.0	3,375.3	32.1	1	20	0.5	70	100	8	PM				
0330070	FLORIDA MINING & MATERIALS (W FL (	476.0	3,375.3	32.1	1	20	0.5	70	100	8	PM10				
0330070	FLORIDA MINING & MATERIALS (W FL (	476.0	3,375.3	32.1	2	20	0.5	86	100	8	PM				
0330070	FLORIDA MINING & MATERIALS (W FL (	476.0	3,375.3	32.1	2	20	0.5	86	100	8	PM10				
0330071	BUILDERS READY MIX CONCRETE COM	473.9	3,380.4	26.7	1	40	0.5	70	100	8	PM				
0330071	BUILDERS READY MIX CONCRETE COM	473.9	3,380.4	26.7	1	40	0.5	70	100	8	PM10				
0330071	BUILDERS READY MIX CONCRETE COM	473.9	3,380.4	26.7	2	40	0.5	86	750	63	PM				
0330071	BUILDERS READY MIX CONCRETE COM	473.9	3,380.4	26.7	2	40	0.5	86	750	63	PM10				
0330071	BUILDERS READY MIX CONCRETE COM	473.9	3,380.4	26.7	3	40	0.5	86	750	63	PM				
0330071	BUILDERS READY MIX CONCRETE COM	473.9	3,380.4	26.7	3	40	0.5	86	750	63	PM10				
0330071	BUILDERS READY MIX CONCRETE COM	473.9	3,380.4	26.7	4	60	0.5	86	750	63	PM				
0330071	BUILDERS READY MIX CONCRETE COM	473.9	3,380.4	26.7	4	60	0.5	86	750	63	PM10				
0330080	G.S.I. RECYCLING, INC.	475.0	3,366.5	40.5	1	32	2	2200	5,445	28	PM	2.878	2.94		
0330080	G.S.I. RECYCLING, INC.	475.0	3,366.5	40.5	1	32	2	2200	5,445	28	PM10				
0330081	SOUTHERN SCRAP COMPANY, INC.	478.2	3,367.7	40.0	1	32	2	1335	5,445	28	PM				
0330081	SOUTHERN SCRAP COMPANY, INC.	478.2	3,367.7	40.0	1	32	2	1335	5,445	28	PM10				
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	15	27	2	500	6,073	32	PM	0.14	0.48		
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	15	27	2	500	6,073	32	PM10				
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	16	27	2	500	6,073	32.2	PM				
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	16	27	2	500	6,073	32.2	PM10				
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	24	24	1.5	340	655	6	PM	0.029	0.126		
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	24	24	1.5	340	655	6	PM10	0.0288	0.126		
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	27	62	3	500	11,928	28	PM	0.231	1.0118		
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	27	62	3	500	11,928	28	PM10	0.231	1.0118		
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	39						PM				
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	39						PM10				
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	40						PM				
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	40						PM10				
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	42						PM				

Table 6-2. FDEP PM/PM_{10} Emission Inventory

AIRS_ID	OWNER/COMPANY	UTM Coordinates EAST (km)	UTM Coordinates NORTH (km)	Distance From McDavid (km)	EU ID	STACK HT (ft)	DIAM (ft)	EXIT TEMP (°F)	FLOW (acfm)	VEL (ft/sec)	POLLUTANT	Pot (lb/hr)	Pot (tpy)	Allow. (lb/hr)	Allow. (tpy)
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	42						PM10				
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	44						PM				
0330082	UNITED STATES NAVY	472.3	3,358.3	48.4	44						PM10				
0330086	NAVAL HOSPITAL	471.2	3,362.3	44.3	2	27	1	1800	895	18	PM	0.13	0.56		
0330086	NAVAL HOSPITAL	471.2	3,362.3	44.3	2	27	1	1800	895	18	PM10	0.13	0.56		
0330086	NAVAL HOSPITAL	471.2	3,362.3	44.3	3	12	1.2	360	8,268	121	PM	0.37	1.6		
0330086	NAVAL HOSPITAL	471.2	3,362.3	44.3	3	12	1.2	360	8,268	121	PM10	0.6	2.63		
0330086	NAVAL HOSPITAL	471.2	3,362.3	44.3	4	12	1.6	360	8,268	68	PM	0.37	1.6		
0330086	NAVAL HOSPITAL	471.2	3,362.3	44.3	4	12	1.6	360	8,268	68	PM10	0.6	2.63		
0330086	NAVAL HOSPITAL	471.2	3,362.3	44.3	5	12	1.6	360	8,268	68	PM	0.36	1.6		
0330086	NAVAL HOSPITAL	471.2	3,362.3	44.3	5	12	1.6	360	8,268	68	PM10	0.6	2.63		
0330091	SCI OF FL/GUARDIAN CHAPELS/D.B.A.	473.5	3,364.2	42.6	1	18	2.6	588	2,092	6	PM				
0330091	SCI OF FL/GUARDIAN CHAPELS/D.B.A.	473.5	3,364.2	42.6	1	18	2.6	588	2,092	6	PM10				
0330091	SCI OF FL/GUARDIAN CHAPELS/D.B.A.	473.5	3,364.2	42.6	2	18	1.7	1200	2,200	16.2	PM	0.43	1.9		
0330091	SCI OF FL/GUARDIAN CHAPELS/D.B.A.	473.5	3,364.2	42.6	2	18	1.7	1200	2,200	16.2	PM10				
0330093	SOUTHDOWN INCORPORATED	475.5	3,374.9	32.4	1	40	1.7	86	2,300	16	PM	0.887	0.059		
0330093	SOUTHDOWN INCORPORATED	475.5	3,374.9	32.4	1	40	1.7	86	2,300	16	PM10				
0330096	NAVY PUBLIC WORKS CENTER	467.0	3,370.0	36.6	2	60	2	400			PM	0.04	0.12		
0330096	NAVY PUBLIC WORKS CENTER	467.0	3,370.0	36.6	2	60	2	400			PM10				
0330096	NAVY PUBLIC WORKS CENTER	467.0	3,370.0	36.6	3	60	2	400			PM	0.92	2.76		
0330096	NAVY PUBLIC WORKS CENTER	467.0	3,370.0	36.6	3	60	2	400			PM10				
0330096	NAVY PUBLIC WORKS CENTER	467.0	3,370.0	36.6	4	60	2	400			PM	0.92	2.76		
0330096	NAVY PUBLIC WORKS CENTER	467.0	3,370.0	36.6	4	60	2	400			PM10				
0330097	NAVY PUBLIC WORKS CENTER	472.2	3,363.8	42.9	3	30	2	500	5,000	26	PM	0.05	0.1		
0330097	NAVY PUBLIC WORKS CENTER	472.2	3,363.8	42.9	3	30	2	500	5,000	26	PM10				
0330097	NAVY PUBLIC WORKS CENTER	472.2	3,363.8	42.9	4	30	2	500	5,000	26	PM	0.99	1.98		
0330097	NAVY PUBLIC WORKS CENTER	472.2	3,363.8	42.9	4	30	2	500	5,000	26	PM10				
0330097	NAVY PUBLIC WORKS CENTER	472.2	3,363.8	42.9	5	30	2	500	5,000	26	PM				
0330097	NAVY PUBLIC WORKS CENTER	472.2	3,363.8	42.9	5	30	2	500	5,000	26	PM10				
0330097	NAVY PUBLIC WORKS CENTER	472.2	3,363.8	42.9	6	38	2.3	582	9,151	36	PM		1.37		
0330097	NAVY PUBLIC WORKS CENTER	472.2	3,363.8	42.9	6	38	2.3	582	9,151	36	PM10		1.37		
0330098	SHEAR CONCRETE PRODUCTS COMPA	462.0	3,361.2	45.9	1	40	0.5	86	1,000	84	PM				
0330098	SHEAR CONCRETE PRODUCTS COMPA	462.0	3,361.2	45.9	1	40	0.5	86	1,000	84	PM10				
0330100	SIKES CONCRETE PIPE COMPANY	475.1	3,374.6	32.6	1	40	0.5	86	750	63	PM				
0330100	SIKES CONCRETE PIPE COMPANY	475.1	3,374.6	32.6	1	40	0.5	86	750	63	PM10				
0330105	ABB SERVICES COMPANY	472.6	3,377.0	29.8	1	26	1.7	1400	2,383	17	PM	0.141	0.618		
0330105	ABB SERVICES COMPANY	472.6	3,377.0	29.8	1	26	1.7	1400	2,383	17	PM10				
0330110	COUCH, INC.	478.6	3,367.5	40.3	1	65	0.5	86	400	33	PM				
0330110	COUCH, INC.	478.6	3,367.5	40.3	1	65	0.5	86	400	33	PM10				
0330112	APAC-FLORIDA INC., E.M. CHADBOURN	472.7	3,361.1	45.6	1	29	2.5	325	38,500	130	PM	6.19	27.11		
0330112	APAC-FLORIDA INC., E.M. CHADBOURN	472.7	3,361.1	45.6	1	29	2.5	325	38,500	130	PM10				
0330114	PENSACOLA CHRISTIAN COLLEGE, INC	477.8	3,371.0	36.7	3	37	1.3	1000	7,500	94.2	PM	0.0033	0.015		
0330114	PENSACOLA CHRISTIAN COLLEGE, INC	477.8	3,371.0	36.7	3	37	1.3	1000	7,500	94.2	PM10		0.57		
0330114	PENSACOLA CHRISTIAN COLLEGE, INC	477.8	3,371.0	36.7	5	37	1.1	1000	7,500	131.5	PM	0.0066	0.029		
0330114	PENSACOLA CHRISTIAN COLLEGE, INC	477.8	3,371.0	36.7	5	37	1.1	1000	7,500	131.5	PM10	0.26	1.13		
0330114	PENSACOLA CHRISTIAN COLLEGE, INC	477.8	3,371.0	36.7	6						PM				
0330114	PENSACOLA CHRISTIAN COLLEGE, INC	477.8	3,371.0	36.7	6						PM10				
0330114	PENSACOLA CHRISTIAN COLLEGE, INC	477.8	3,371.0	36.7	7						PM10				
0330118	HARRIS CONCRETE AND PATIO CENTE	470.7	3,362.5	44.1	1	35	0.9	90	468	12	PM	0.3	0.54		
0330118	HARRIS CONCRETE AND PATIO CENTE	470.7	3,362.5	44.1	1	35	0.9	90	468	12	PM10	3	5.4		
0330119	WESTINGHOUSE ELECTRIC COMPANY	483.9	3,375.6	34.5	1	34	2.8	86			PM	2.25	9.86	2.25	9.86
0330119	WESTINGHOUSE ELECTRIC COMPANY	483.9	3,375.6	34.5	1	34	2.8	86			PM10	2.25	9.86		
0330119	WESTINGHOUSE ELECTRIC COMPANY	483.9	3,375.6	34.5	3						PM10		8.69		8.69
0330121	AUTOSHRED RECYCLING, L.L.C.	475.8	3,363.4	43.7	1	65	5	90	1,500	1	PM	4.1	8.61		
0330121	AUTOSHRED RECYCLING, L.L.C.	475.8	3,363.4	43.7	1	65	5	90	1,500	1	PM10				
0330122	HUDSCO, INC.	480.8	3,375.8	33.0	1	26	2	400	18,000	95	PM	3.8	3.8		
0330122	HUDSCO, INC.	480.8	3,375.8	33.0	1	26	2	400	18,000	95	PM10				

Table 6-2. FDEP PM/PM_{10} Emission Inventory

AIRS_ID	OWNER/COMPANY	UTM Coordinates EAST (km)	NORTH (km)	Distance From McDavid (km)	EU ID	STACK HT (ft)	DIAM (ft)	EXIT TEMP (°F)	FLOW (acfm)	VEL (ft/sec)	POLLUTANT	Pot (lb/hr)	Pot (tpy)	Allow. (lb/hr)	Allow. (tpy)
0330123	MAACO AUTO PAINTING & BODYWORK:	475.2	3,373.2	34.0	1	20	2.8	90	1,500	4	PM	1	1		
0330123	MAACO AUTO PAINTING & BODYWORK:	475.2	3,373.2	34.0	1	20	2.8	90	1,500	4	PM10				
0330126	ARIZONA CHEMICAL - DIV OF IPCO	476.6	3,363.9	43.4	1	60	0.5	90			PM				
0330126	ARIZONA CHEMICAL - DIV OF IPCO	476.6	3,363.9	43.4	1	60	0.5	90			PM10				
0330126	ARIZONA CHEMICAL - DIV OF IPCO	476.6	3,363.9	43.4	12	11	1.1	70	4,500	78	PM	4.2			
0330126	ARIZONA CHEMICAL - DIV OF IPCO	476.6	3,363.9	43.4	12	11	1.1	70	4,500	78	PM10		1.83		
0330126	ARIZONA CHEMICAL - DIV OF IPCO	476.6	3,363.9	43.4	24			77			PM				
0330126	ARIZONA CHEMICAL - DIV OF IPCO	476.6	3,363.9	43.4	24			77			PM10				
0330126	ARIZONA CHEMICAL - DIV OF IPCO	476.6	3,363.9	43.4	25	16	0.5	120	500	42	PM	4.6			
0330126	ARIZONA CHEMICAL - DIV OF IPCO	476.6	3,363.9	43.4	25	16	0.5	120	500	42	PM10		2		
0330127	PALL MEMBRANE TECHNOLOGY CENTI	480.3	3,376.4	32.3	9	17	1	77	2,800	59.4	PM		0.14		
0330127	PALL MEMBRANE TECHNOLOGY CENTI	480.3	3,376.4	32.3	9	17	1	77	2,800	59.4	PM10				
0330129	ENVIRO-MATES, INCORPORATED	474.6	3,383.0	44.0	1						PM	14.97	65.57	14.97	65.57
0330132	FREEPORT-MCMORAN SULPHUR LLC	480.0	3,363.2	44.8	1	30	2.5	76	1,455	4	PM	3.92	16.97		
0330132	FREEPORT-MCMORAN SULPHUR LLC	480.0	3,363.2	44.8	1	30	2.5	76	1,455	4	PM10	3.46	14.98		
0330132	FREEPORT-MCMORAN SULPHUR LLC	480.0	3,363.2	44.8	2	15	2.5	76	1,455	4	PM	0.68	0.85		
0330132	FREEPORT-MCMORAN SULPHUR LLC	480.0	3,363.2	44.8	2	15	2.5	76	1,455	4	PM10	0.6	0.75		
0330132	FREEPORT-MCMORAN SULPHUR LLC	480.0	3,363.2	44.8	3	15	2.5	76	1,455	4	PM	0.68	2.98		
0330132	FREEPORT-MCMORAN SULPHUR LLC	480.0	3,363.2	44.8	3	15	2.5	76	1,455	4	PM10	0.6	0.3942		
0330133	ADVANCED ELASTOMER SYSTEMS, L.P	476.5	3,384.6	23.3	6						PM	7.3	4.8	7.3	4.8
0330133	ADVANCED ELASTOMER SYSTEMS, L.P	476.5	3,384.6	23.3	6						PM10				
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	1	30	3	90	6,000	14	PM	7.68	9.6		
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	1	30	3	90	6,000	14	PM10				
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	2	30	1.5	90	12,000	113	PM	4.32	5.4		
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	2	30	1.5	90	12,000	113	PM10				
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	3	30	2	90	8,000	42	PM	2.4	3		
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	3	30	2	90	8,000	42	PM10				
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	4	30	3.8	90	12,000	17	PM	14.4	18		
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	4	30	3.8	90	12,000	17	PM10				
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	5	40	3	90	2,000	4	PM	1.92	2.4		
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	5	40	3	90	2,000	4	PM10				
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	6	35	3.8	90	2,000	2	PM	19.44	24.3		
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	6	35	3.8	90	2,000	2	PM10				
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	7	25	1.7	90	2,000	14	PM	12.24	15.3		
0330136	WEST FLORIDA COTTON GIN	453.4	3,427.9	26.3	7	25	1.7	90	2,000	14	PM10				
0330141	ECONO AUTOPAINTING OF PENSACOL	477.6	3,369.4	38.2	1	30	2	70	9,100	48	PM	0.43	0.67		
0330141	ECONO AUTOPAINTING OF PENSACOL	477.6	3,369.4	38.2	1	30	2	70	9,100	48	PM10				
0330144	FACT-O-BAKE OF PENSACOLA, INC.	476.5	3,371.0	36.4	1	18	2.7	70	16,755	48	PM	0.23	0.44		
0330144	FACT-O-BAKE OF PENSACOLA, INC.	476.5	3,371.0	36.4	1	18	2.7	70	16,755	48	PM10				
0330248	SPECIALTY MINERALS, INC.	469.6	3,374.6	31.9	1	9	0.67				PM	0.43	1.9		
0330248	SPECIALTY MINERALS, INC.	469.6	3,374.6	31.9	1	9	0.67				PM10	0.43	1.9		
0330248	SPECIALTY MINERALS, INC.	469.6	3,374.6	31.9	2	65	2	125	8,600	45.6	PM	1.53	6.4		
0330248	SPECIALTY MINERALS, INC.	469.6	3,374.6	31.9	2	65	2	125	8,600	45.6	PM10	1.53	6.4		
0330250	BORAL MATERIAL TECHNOLOGIES INC.	478.4	3,381.8	26.7	1						PM		0.011		
0330258	HENRY CHAMBERLAIN	480.3	3,363.5	44.6	1	25	3.5	220			PM				
0330258	HENRY CHAMBERLAIN	480.3	3,363.5	44.6	1	25	3.5	220			PM10				
0910016	CRESTVIEW READY MIX	541.9	3,407.5	73.1	2	50	0.5	86	1,000	84	PM				
0910016	CRESTVIEW READY MIX	541.9	3,407.5	73.1	2	50	0.5	86	1,000	84	PM10				
0910016	CRESTVIEW READY MIX	541.9	3,407.5	73.1	3	50	0.5	86	1,000	84	PM				
0910016	CRESTVIEW READY MIX	541.9	3,407.5	73.1	3	50	0.5	86	1,000	84	PM10				
0910025	FLORIDA MINING & MATERIALS	548.5	3,364.3	90.2	1	50	0.2	77	100	53	PM		3.47		
0910025	FLORIDA MINING & MATERIALS	548.5	3,364.3	90.2	1	50	0.2	77	100	53	PM10		3.47		
0910027	FLORIDA MINING & MATERIALS	536.0	3,368.5	77.2	2	5	0.2	77	100	53	PM	0.5	0.65		
0910027	FLORIDA MINING & MATERIALS	536.0	3,368.5	77.2	2	5	0.2	77	100	53	PM10				
0910027	FLORIDA MINING & MATERIALS	536.0	3,368.5	77.2	3	5	0.2	77	100	53	PM	0.5	0.65		
0910027	FLORIDA MINING & MATERIALS	536.0	3,368.5	77.2	3	5	0.2	77	100	53	PM10				
0910031	UNITED STATES AIR FORCE	542.6	3,369.6	82.6	2	25	3.5	147	14,370	24	PM	31.23	15.61	31.23	15.61

Table 6-2. FDEP PM/PM_{10} Emission Inventory

AIRS_ID	OWNER/COMPANY	UTM Coordinates EAST (km)	UTM Coordinates NORTH (km)	Distance From McDavid (km)	EU ID	STACK HT (ft)	DIAM (ft)	EXIT TEMP (°F)	FLOW (acfm)	VEL (ft/sec)	POLLUTANT	Pot (lb/hr)	Pot (tpy)	Allow. (lb/hr)	Allow. (tpy)
0910031	UNITED STATES AIR FORCE	542.6	3,369.6	82.6	2	25	3.5	147	14,370	24	PM10				
0910031	UNITED STATES AIR FORCE	542.6	3,369.6	82.6	6	59	2	77			PM	0.4	1.76		
0910031	UNITED STATES AIR FORCE	542.6	3,369.6	82.6	6	59	2	77			PM10	0.4	1.76		
0910033	FLEMING LUMBER CO	534.7	3,402.5	66.0	1	36	1.8	425	7,478	48	PM		2		
0910033	FLEMING LUMBER CO	534.7	3,402.5	66.0	1	36	1.8	425	7,478	48	PM10		1.5		
0910042	FUNERAL SERVICES ACQUISITION GRC	541.7	3,403.6	73.0	1	18	1.7	588	2,092	15	PM		5		
0910042	FUNERAL SERVICES ACQUISITION GRC	541.7	3,403.6	73.0	1	18	1.7	588	2,092	15	PM10				
0910050	PANHANDLE ANIMAL WELFARE SOCIET	530.4	3,365.5	74.0	1						PM	0.81	0.84		
0910050	PANHANDLE ANIMAL WELFARE SOCIET	530.4	3,365.5	74.0	1						PM10				
0910061	COX BUILDING CORPORATION	532.8	3,365.4	76.1	1	30		70	680	720	PM	26.4	33	26.4	33
0910061	COX BUILDING CORPORATION	532 8	3,365.4	76.1	1	30		70	680	720	PM10				
0910063	MARBLE WORKS	532.0	3,364.3	76 0	1	40	2	70	700	3.7	PM	0.0003	0.0004		
0910063	MARBLE WORKS	532.0	3,364.3	76.0	1	40	2	70	700	3.7	PM10				
0910063	MARBLE WORKS	532.0	3,364.3	76.0	2	20	2	70	5,000	26.5	PM	1.58	2.22		
0910063	MARBLE WORKS	532.0	3,364.3	76.0	2	20	2	70	5,000	26.5	PM10				
0910063	MARBLE WORKS	532.0	3,364.3	76.0	3			77			PM	0.13	0.18		
0910063	MARBLE WORKS	532.0	3,364.3	76.0	3			77			PM10				
0910064	HURLBURT FIELD, USAF	529.7	3,364.7	73.9	3						PM				
0910064	HURLBURT FIELD, USAF	529.7	3,364.7	73.9	3						PM10				
0910064	HURLBURT FIELD, USAF	529.7	3,364.7	73.9	4			400			PM				
0910064	HURLBURT FIELD, USAF	529.7	3,364.7	73.9	4			400			PM10				
0910064	HURLBURT FIELD, USAF	529.7	3,364.7	73.9	6			900			PM				
0910064	HURLBURT FIELD, USAF	529.7	3,364.7	73.9	6			900			PM10				
0910064	HURLBURT FIELD, USAF	529.7	3,364.7	73.9	7			400			PM	4.14	2.78		
0910064	HURLBURT FIELD, USAF	529.7	3,364.7	73.9	7			400			PM10				
0910065	CHROMALLOY-FLORIDA	553.4	3,366.4	93.6	1						PM	0.056	0.24		
0910065	CHROMALLOY-FLORIDA	553.4	3,366.4	93.6	1						PM10	0.056	0.24		
0910065	CHROMALLOY-FLORIDA	553.4	3,366.4	93.6	5						PM	0 2	0.7		
0910065	CHROMALLOY-FLORIDA	553.4	3,366.4	93.6	5						PM10				
1130003	STERLING FIBERS, INC.	489.2	3,380.2	33.3	4	50	4.8	325	52,100	47	PM	28.66	81.7308		
1130003	STERLING FIBERS, INC.	489.2	3,380.2	33.3	4	50	4.8	325	52,100	47	PM10				
1130003	STERLING FIBERS, INC.	489.2	3,380.2	33.3	5	50	4.8	325	52,100	47	PM	18.66	81.7308		
1130003	STERLING FIBERS, INC.	489.2	3,380.2	33.3	5	50	4 8	325	52,100	47	PM10				
1130003	STERLING FIBERS, INC.	489.2	3,380.2	33.3	6	30	6	76	2,200	1	PM				
1130003	STERLING FIBERS, INC.	489.2	3,380.2	33.3	6	30	6	76	2,200	1	PM10				
1130003	STERLING FIBERS, INC.	489.2	3,380.2	33.3	9	50	6.3	350	63,200	33	PM	24.11	105.6		
1130003	STERLING FIBERS, INC.	489.2	3,380.2	33.3	9	50	6.3	350	63,200	33	PM10				
1130003	STERLING FIBERS, INC.	489.2	3,380.2	33.3	65			77			PM				
1130003	STERLING FIBERS, INC.	489.2	3,380.2	33.3	65			77			PM10				
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	1	41	6 2	250	48,100	26	PM	0.864	3.627		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	1	41	6.2	250	48,100	26	PM10	0.6517	2.854		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	3	40	5	750	42,000	35	PM	1.592	6.974		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	3	40	5	750	42,000	35	PM10	1.59	6.97		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	5	36	0.8	700	1,963	65.1	PM		0.159		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	5	36	0.8	700	1,963	65.1	PM10	0.35	1.55		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	6	25	0.8	557	90	2	PM		0.27		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	6	25	0.8	557	90	2	PM10		0.27		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	7	25	2.8	1300	745	2	PM	0 09	0.394		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	7	25	2.8	1300	745	2	PM10				
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	8	82	3.7	450	62,750	97	PM	1.849315	8.1		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	8	82	3.7	450	62,750	97	PM10		8.1		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	10	90	7.5	325	344,003	129	PM	2.553	11.182		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383 4	29.5	10	90	7.5	325	344,003	129	PM10				
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	11	25	2.5	350	18,400	62	PM	0.5644	2.472		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	11	25	2.5	350	18,400	62	PM10				
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	14	52	2.5	224	7,800	26	PM	0.4539	1.988	137.4	601.812
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	14	52	2.5	224	7,800	26	PM10	0.4539	1.988		

Table 6-2. FDEP PM/PM_{10} Emission Inventory

AIRS_ID	OWNER/COMPANY	UTM Coordinates EAST (km)	UTM Coordinates NORTH (km)	Distance From McDavid (km)	EU ID	STACK HT (ft)	DIAM (ft)	EXIT TEMP (°F)	FLOW (acfm)	VEL (ft/sec)	POLLUTANT	Pot (lb/hr)	Pot (tpy)	Allow. (lb/hr)	Allow. (tpy)
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	15	55	5	102	43,000	36	PM	3.04	13.3152		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	15	55	5	102	43,000	36	PM10	3.04	13.3152		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	16	55	5	102	48,000	40	PM	31	135.78	31	135.78
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	16	55	5	102	48,000	40	PM10	25.73	112.6974		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	22	71	3	350	41,612	98	PM	0.26	1.13		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	22	71	3	350	41,612	98	PM10				
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	23	94	2.5	340	29,797	101	PM	0 22	0.97		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	23	94	2.5	340	29,797	101	PM10		0.97		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	26	20	1.7	900	18,400	135	PM		1.732		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	26	20	1.7	900	18,400	135	PM10		1.732		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	27	15	0.25	100	50	17	PM		0.047		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	27	15	0.25	100	50	17	PM10		0.018		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	41			90			PM10	2.8	12.5		
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	42						PM				
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	42						PM10				
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	43	60	4	325	41,058	54 5	PM				
1130004	AIR PRODUCTS AND CHEMICALS, INC.	487.0	3,383.4	29.5	43	60	4	325	41,058	54.5	PM10	1.21	5.29		
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	36	35	2.5	800	6,465	22	PM				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	36	35	2.5	800	6,465	22	PM10				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	37	35	2.5	800	17,333	58.9	PM				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	37	35	2.5	800	17,333	58.9	PM10				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	38	30	1	800	3,726	79.1	PM				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	38	30	1	800	3,726	79.1	PM10				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	40						PM				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	40						PM10				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	41						PM				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	41						PM10				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	42						PM				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	42						PM10				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	43						PM				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	43						PM10				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	44						PM				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	44						PM10				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	45						PM				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	45						PM10				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	46						PM				
1130005	EXXON CO., USA (A DIV. OF EXXON COI	482.8	3,425.6	23.6	46						PM10				
1130014	PETRO OPERATING COMPANY	488.8	3,412.7	20.9	1	160	1.5	500	1,912	18	PM				
1130014	PETRO OPERATING COMPANY	488.8	3,412.7	20.9	1	160	1.5	500	1,912	18	PM10				
1130014	PETRO OPERATING COMPANY	488.6	3,412.7	20.9	11	20	2.5	500			PM				
1130014	PETRO OPERATING COMPANY	488.6	3,412.7	20.9	11	20	2.5	500			PM10				
1130015	GULF COAST PAVING & GRADING	493.6	3,384.0	33.7	2	31	3	200	42,592	100	PM	1.2	1.5		
1130015	GULF COAST PAVING & GRADING	493.6	3,384.0	33.7	2	31	3	200	42,592	100	PM10				
1130017	SANTA ROSA CONCRETE CO	496.8	3,386.5	34.5	2	60	0.5	77	900	76	PM	0.808	1.26		
1130017	SANTA ROSA CONCRETE CO	496.8	3,386.5	34.5	2	60	0.5	77	900	76	PM10				
1130017	SANTA ROSA CONCRETE CO	496.8	3,386.5	34.5	3	50	14	100	11		PM	0.16	0.25		
1130017	SANTA ROSA CONCRETE CO	496.8	3,386.5	34.5	3	50	14	100	11		PM10				
1130022	U.S. NAVY	497.6	3,398.2	30.2	1	44	4	430	82,190	109	PM	0.24	1.05		
1130022	U.S. NAVY	497.8	3,398.2	30.2	1	44	4	430	82,190	109	PM10				
1130022	U.S. NAVY	497.8	3,398.2	30.2	2	44	4	430	82,190	109	PM	0.24	1.05		
1130022	U.S. NAVY	497.6	3,398.2	30.2	2	44	4	430	82,190	109	PM10				
1130026	GOLDEN GIN & WAREHOUSE	484.8	3,426.1	25.3	1	20	2.8	86	1,000	2	PM	13.075	14.71		
1130026	GOLDEN GIN & WAREHOUSE	484.6	3,426.1	25.3	1	20	2.8	86	1,000	2	PM10				
1130026	GOLDEN GIN & WAREHOUSE	484.6	3,426.1	25.3	2	35	3	76			PM	13.075	14.71		
1130026	GOLDEN GIN & WAREHOUSE	484.6	3,426.1	25.3	2	35	3	76			PM10				
1130026	GOLDEN GIN & WAREHOUSE	484.8	3,426.1	25.3	3	35	3	76			PM	13.075	14.71		
1130026	GOLDEN GIN & WAREHOUSE	484.6	3,426.1	25.3	3	35	3	76			PM10				

Table 6-2. FDEP PM/PM_{10} Emission Inventory

AIRS_ID	OWNER/COMPANY	UTM Coordinates EAST (km)	UTM Coordinates NORTH (km)	Distance From McDavid (km)	EU ID	STACK HT (ft)	DIAM (ft)	EXIT TEMP (°F)	FLOW (acfm)	VEL (ft/sec)	POLLUTANT	Pot (lb/hr)	Pot (tpy)	Allow. (lb/hr)	Allow. (tpy)
1130026	GOLDEN GIN & WAREHOUSE	484.8	3,426.1	25.3	4	35	3	76			PM	13.075	14.71		
1130026	GOLDEN GIN & WAREHOUSE	484.8	3,426.1	25.3	4	35	3	76			PM10				
1130027	BURKHEAD GIN	485.3	3,425.8	25.4	1	20	1	86	1,000	21	PM	12.032	12.13		
1130027	BURKHEAD GIN	485.3	3,425.8	25.4	1	20	1	86	1,000	21	PM10				
1130027	BURKHEAD GIN	485.3	3,425.8	25.4	2	20	1	86	1,000	21	PM	10.53	10.61		
1130027	BURKHEAD GIN	485.3	3,425.8	25.4	2	20	1	86	1,000	21	PM10				
1130027	BURKHEAD GIN	485.3	3,425.8	25.4	3	20	1	86	1,000	21	PM	43.24	43.581		
1130027	BURKHEAD GIN	485.3	3,425.8	25.4	3	20	1	86	1,000	21	PM10				
1130027	BURKHEAD GIN	485.3	3,425.8	25.4	4	20	1	86	1,000	21	PM	6.392	6.443		
1130027	BURKHEAD GIN	485.3	3,425.8	25.4	4	20	1	86	1,000	21	PM10				
1130028	SHEAR CONCRETE PRODUCTS COMPA	496.4	3,362.4	52.1	1	40	9.5	86	999		PM				
1130028	SHEAR CONCRETE PRODUCTS COMPA	496.4	3,362.4	52.1	1	40	9.5	86	999		PM10				
1130028	SHEAR CONCRETE PRODUCTS COMPA	496.4	3,362.4	52.1	2	40	9.5	86	999		PM				
1130028	SHEAR CONCRETE PRODUCTS COMPA	496.4	3,362.4	52.1	2	40	9.5	86	999		PM10				
1130030	SOUTHDOWN, INC.			3,438.7	2	30	2	100	800	4	PM		6.98		
1130030	SOUTHDOWN, INC.			3,438.7	2	30	2	100	800	4	PM10		6.98		
1130030	SOUTHDOWN, INC.			3,438.7	3						PM		0.9		
1130030	SOUTHDOWN, INC.			3,438.7	3						PM10		0.9		
1130031	THE QUIKRETE COMPANIES	497.1	3,383.5	36.5	1				9		PM	26.7333	40.1	32.87	49.3
1130031	THE QUIKRETE COMPANIES	497.1	3,383.5	36.5	1				9		PM10	4.93	21.6		
1130031	THE QUIKRETE COMPANIES	497.1	3,383.5	36.5	2				9		PM	0	8.8		
1130031	THE QUIKRETE COMPANIES	497.1	3,383.5	36.5	2				9		PM10		8.8		
1130032	PETRO OPERATING COMPANY	515.2	3,427.8	51.0	1	10	0.3	1010	480	113	PM				
1130032	PETRO OPERATING COMPANY	515.2	3,427.8	51.0	1	10	0.3	1010	480	113	PM10				
1130032	PETRO OPERATING COMPANY	515.2	3,427.8	51.0	2	10	0.3	1010	480	113	PM				
1130032	PETRO OPERATING COMPANY	515.2	3,427.8	51.0	2	10	0.3	1010	480	113	PM10				
1130032	PETRO OPERATING COMPANY	515.2	3,427.8	51.0	7	25	0.7	1200	300	12	PM	0.002	0.0089		
1130032	PETRO OPERATING COMPANY	515.2	3,427.8	51.0	7	25	0.7	1200	300	12	PM10				
1130032	PETRO OPERATING COMPANY	515.2	3,427.8	51.0	8		0.2	1300	559	296	PM				
1130032	PETRO OPERATING COMPANY	515.2	3,427.8	51.0	8		0.2	1300	559	296	PM10				
1130033	SANTA ROSA CO. B. OF COMMISSIONEI	493.1	3,384.7	32.7	1	4	9	800			PM	39	60.84		
1130033	SANTA ROSA CO. B. OF COMMISSIONEI	493.1	3,384.7	32.7	1	4	9	800			PM10				
1130037	FLORIDA GAS TRANSMISSION COMPAN	510.8	3,419.6	44.0	6	35	2.1	495	35,820	172	PM	0.14	0.61	0.14	0.61
1130037	FLORIDA GAS TRANSMISSION COMPAN	510.8	3,419.6	44.0	6	35	2.1	495	35,820	172	PM10	0.14	0.61	0.14	0.61
1130037	FLORIDA GAS TRANSMISSION COMPAN	510.8	3,419.6	44.0	7						PM				
1130037	FLORIDA GAS TRANSMISSION COMPAN	510.8	3,419.6	44.0	7						PM10				
1130038	MOLD-EX RUBBER CO.,INC.	501.2	3,389.7	36.5	1						PM				
1130038	MOLD-EX RUBBER CO.,INC.	501.2	3,389.7	36.5	1						PM10				
1130038	MOLD-EX RUBBER CO.,INC.	501.2	3,389.7	36.5	7						PM				
1130038	MOLD-EX RUBBER CO.,INC.	501.2	3,389.7	36.5	7						PM10				
1130038	MOLD-EX RUBBER CO.,INC.	501.2	3,389.7	36.5	8	4	0.5	77	1,560	132	PM	0.0008	0.0037		
1130038	MOLD-EX RUBBER CO.,INC.	501.2	3,389.7	36.5	8	4	0.5	77	1,560	132	PM10				
1130039	COUCH, INC.	492.2	3,382.2	33.8	1	65	0.5	86	300	25	PM	0.065	0.2838		
1130039	COUCH, INC.	492.2	3,382.2	33.8	1	65	0.5	86	300	25	PM10	3.24	14.19		
1130040	ODOM FIBERGLASS, INCORPORATED	472.7	3,378.8	28.1	1	18	3	70	15,000	35	PM		0.2		
1130040	ODOM FIBERGLASS, INCORPORATED	472.7	3,378.8	28.1	1	18	3	70	15,000	35	PM10				
1130168	SANTA ROSA ENERGY LLC	489.1	3,381.3	32.4	1						PM				
1130169	LONE STAR INDUSTRIES, INC.	494.2	3,383.5	34.3	1						PM		0.77		
1130172	SANTA ROSA CO BOARD OF CO COMMI	494.3	3,382.7	34.9	1						PM		5		
1130172	SANTA ROSA CO BOARD OF CO COMMI	494.3	3,382.7	34.9	1						PM10				
1130173	GULF POWER COMPANY	485.6	3,381.6	30.1	1	60	4	325	41,058	54.5	PM				
1130173	GULF POWER COMPANY	485.6	3,381.6	30.1	1	60	4	325	41,058	54.5	PM10		4.64		
7770024	JOSEPH CONCRETE COMPANY	496.1	3,387.9	33.1	1	50	0.2	86	100	53	PM				
7770024	JOSEPH CONCRETE COMPANY	496.1	3,387.9	33.1	1	50	0.2	86	100	53	PM10				
7770024	JOSEPH CONCRETE COMPANY	496.1	3,387.9	33.1	2	60		70	750	0	PM	0.0006	0.0009		
7770024	JOSEPH CONCRETE COMPANY	496.1	3,387.9	33.1	2	60		70	750	0	PM10				
7770024	JOSEPH CONCRETE COMPANY	496.1	3,387.9	33.1	3	60		70	750	0	PM	0.0001	0.0002		

Table 6-2. FDEP PM/PM_{10} Emission Inventory

AIRS_ID	OWNER/COMPANY	UTM Coordinates EAST (km)	UTM Coordinates NORTH (km)	Distance From McDavid (km)	EU ID	STACK HT (ft)	DIAM (ft)	EXIT TEMP (°F)	FLOW (acfm)	VEL (ft/sec)	POLLUTANT	Pot (lb/hr)	Pot (tpy)	Allow. (lb/hr)	Allow. (tpy)
7770024	JOSEPH CONCRETE COMPANY	496.1	3,387.9	33.1	3	60		70	750	0	PM10				
7770024	JOSEPH CONCRETE COMPANY	496.1	3,387.9	33.1	4	30		70	108	432	PM	4.28	6.45		
7770024	JOSEPH CONCRETE COMPANY	496.1	3,387.9	33.1	4	30		70	108	432	PM10				
7770024	JOSEPH CONCRETE COMPANY	496.1	3,387.9	33.1	5						PM				
7770024	JOSEPH CONCRETE COMPANY	496.1	3,387.9	33.1	5						PM10				
7770032	FORT WALTON CONCRETE COMPANY	538.3	3,364.4	81.3	1	25	0.5	86	999	84	PM				
7770032	FORT WALTON CONCRETE COMPANY	538.3	3,364.4	81.3	1	25	0.5	86	999	84	PM10				
7770032	FORT WALTON CONCRETE COMPANY	538.3	3,364.4	81.3	3	60	0.5	86	700	59	PM				
7770032	FORT WALTON CONCRETE COMPANY	538.3	3,364.4	81.3	3	60	0.5	86	700	59	PM10				
7770043	EWELL INDUSTRIES, INC.	533.4	3,370.5	74.0	1	30	1	76			PM				
7770043	EWELL INDUSTRIES, INC.	533.4	3,370.5	74.0	1	30	1	76			PM10				
7770058	NWF CONTRACTORS, INC.	482.6	3,370.3	38.8	1	64	0.4	90	900	119	PM	27.06	1.407	27.06	1.407
7770058	NWF CONTRACTORS, INC.	482.6	3,370.3	38.8	1	64	0.4	90	900	119	PM10				
7770058	NWF CONTRACTORS, INC.	482.6	3,370.3	38.8	2	64	0.4	90	900	119	PM	27.06	0.704	27.06	0.704
7770058	NWF CONTRACTORS, INC.	482.6	3,370.3	38.8	2	64	0.4	90	900	119	PM10				
7770058	NWF CONTRACTORS, INC.	482.6	3,370.3	38.8	3	22	0.2	90	140	74	PM	41.88	16.33	41.88	16.33
7770058	NWF CONTRACTORS, INC.	482.6	3,370.3	38.8	3	22	0.2	90	140	74	PM10				
7770147	ANDERSON COLUMBIA COMPANY, INC.	502.0	3,388.9	37.6	1	19	1.7	241	42,212	309	PM	5.33	8		
7770147	ANDERSON COLUMBIA COMPANY, INC.	502.0	3,388.9	37.6	1	19	1.7	241	42,212	309	PM10				
7774802	COUCH CONSTRUCTION, L.P.	540.6	3,370.6	80.3	1	42	10	130	76,400	16	PM	33.7	52.572	33.7	52.572
7774802	COUCH CONSTRUCTION, L.P.	540.6	3,370.6	80.3	1	42	10	130	76,400	16	PM10				
7774803	FT WALTON CONCRETE	546.2	3,375.6	83.4	1	40	1	86	900	19	PM				
7774803	FT WALTON CONCRETE	546.2	3,375.6	83.4	1	40	1	86	900	19	PM10				
7774803	FT WALTON CONCRETE	546.2	3,375.6	83.4	2						PM				
7774803	FT WALTON CONCRETE	546.2	3,375.6	83.4	2						PM10				
7774806	COUCH CONSTRUCTION, L.P.	493.7	3,385.1	32.9	1	20	2	130	27,000	143	PM	7.88	8.2		
7774806	COUCH CONSTRUCTION, L.P.	493.7	3,385.1	32.9	1	20	2	130	27,000	143	PM10	7.88	8.2		
7774806	COUCH CONSTRUCTION, L.P.	493.7	3,385.1	32.9	2						PM				
7774806	COUCH CONSTRUCTION, L.P.	493.7	3,385.1	32.9	2						PM10				
7774809	FLORIDA MINING & MATERIALS	476.9	3,427.1	22.1	1						PM				
7774809	FLORIDA MINING & MATERIALS	476.9	3,427.1	22.1	1						PM10				
7774809	FLORIDA MINING & MATERIALS	476.9	3,427.1	22.1	2						PM				
7774809	FLORIDA MINING & MATERIALS	476.9	3,427.1	22.1	2						PM10				
7774810	GROUP III ASPHALT, INC.	469.6	3,375.9	30.7	1	30	7	77			PM	3.2	2		
7774810	GROUP III ASPHALT, INC.	469.6	3,375.9	30.7	1	30	7	77			PM10	3.2	2		
7775006	GROUP III ASPHALT,INC.	469.9	3,375.9	30.7	1	41	4	300	50,025	66.4	PM	10.724	46.971	10.724	16.086
7775006	GROUP III ASPHALT,INC.	469.9	3,375.9	30.7	1	41	4	300	50,025	66.4	PM10				
7775030	COMPRESSION COAT, INC.	476.1	3,363.4	43.8	1	1	0.5		400	34	PM		5		
7775030	COMPRESSION COAT, INC.	476.1	3,363.4	43.8	1	1	0.5		400	34	PM10		5		
7775043	SHEAR CONCRETE PRODUCTS, INC.	494.3	3,383.7	34.3	1	60	0.5	77	550	46.7	PM		5		
7775073	COUCH CONSTRUCTION L.P.	469.8	3,390.9	15.7	1						PM	13.72	20.58		
7775073	COUCH CONSTRUCTION L.P.	469.8	3,390.9	15.7	1						PM10				
7775074	PANHANDLE LAND & TIMBER	470.4	3,386.4	20.2	1						PM	14.57	8.09		
7775074	PANHANDLE LAND & TIMBER	470.4	3,386.4	20.2	1						PM10				

Source: FDEP, 1999.

9.0 AMBIENT IMPACT ANALYSIS RESULTS

MAXIMUM FACILITY IMPACTS AND SIGNIFICANT IMPACT AREAS

The refined ISCST3 model was used to model the proposed McDavid point and fugitive PM_{10} emission sources. ISCST3 model results for each year of meteorology evaluated (1986—1990) are summarized on Table 9-1 (annual PM_{10} impacts) and Table 9-2 (24-hour PM_{10} impacts).

Tables 9-1 and 9-2 indicate that McDavid Sawmill PM_{10} impacts will exceed the PSD significant impact levels previously shown in Table 4-2. A summary of maximum McDavid Sawmill impacts and PSD significant impact levels is provided on Table 9-3.

NAAQS ANALYSIS

An assessment of McDavid Sawmill emission source impacts, together with other major sources within approximately 52 km, was performed for comparison to the annual and 24-hour average PM_{10} NAAQS. The modeled emission inventory included the McDavid Sawmill point and fugitive PM_{10} emission sources, and all other sources contained in the FDEP PM emission inventory retrieval that are located within 52 km of the McDavid Sawmill site and that satisfied the "20D" rule. Conservatively, the PM emission rates provided by FDEP were assumed to be equal to PM_{10} emission rates.

The receptor grids for the refined NAAQS analysis consisted of the fence line, near-field discrete, and mid-field polar receptors extending to 1.5 km consistent with the approximate 1.3 km AOI; i.e., the grid extended from the sawmill site out to 1.5 km.

The results of the annual and 24-hour average PM_{10} NAAQS modeling are provided on Tables 9-4 and 9-5, respectively. These tables demonstrates that McDavid Sawmill emission source impacts, together with all other off-property PM emission sources and including background, are well below the annual and 24-hour average PM_{10} NAAQS.

Table 9-1. ISCST3 Model Results - Maximum Annual Average PM/PM_{10} Impacts

Maximum Annual Impacts	1986	1987	1988	1989	1990
ISCST3 Impact ($\mu g/m^3$)	1.89	1.87	2.12	1.85	2.48
PSD Significant Impact ($\mu g/m^3$)	1.0	1.0	1.0	1.0	1.0
Exceed PSD Significant Impact (Y/N)	Y	Y	Y	Y	Y
Percent of PSD Significant Impact (%)	189.3	187.3	211.7	185.3	247.7
Receptor UTM Easting (m)	468,545.8	468,343.1	468,343.4	468,545.8	468,343.4
Receptor UTM Northing (m)	3,406,416.0	3,406,672.5	3,406,672.5	3,406,416.0	3,406,672.5
Receptor Elevation (m)	12.2	15.2	15.2	12.2	15.2
Distance From DC1 (m)	277	453	453	277	453
Direction From DC1 (Vector °)	239	284	284	239	284

Source: ECT, 1999.

Table 9-2. ISCST3 Model Results - Maximum 24-Hour Average PM/PM_{10} Impacts

Maximum 24-Hour Impacts	1986	1987	1988	1989	1990
ISCST3 Impact ($\mu g/m^3$)	12.85	15.52	15.50	11.86	18.64
PSD Significant Impact ($\mu g/m^3$)	5.0	5.0	5.0	5.0	5.0
Exceed PSD Significant Impact (Y/N)	Y	Y	Y	Y	Y
Percent of PSD Significant Impact (%)	257.0	310.4	310.0	237.2	372.8
PSD *de minimis* Ambient Impact Threshold ($\mu g/m^3$)	10.0	10.0	10.0	10.0	10.0
Exceed PSD *de minimis* Ambient Impact (Y/N)	Y	Y	Y	Y	Y
Percent of PSD *de minimis* Ambient Impact (%)	128.5	155.2	155.0	118.6	186.4
Receptor UTM Easting (m)	468,343.4	468,343.4	468,343.4	469,004.3	468,343.4
Receptor UTM Northing (m)	3,406,660.3	3,406,660.3	3,406,660.3	3,406,347.5	3,406,672.5
Receptor Elevation (m)	15.2	15.2	15.2	15.2	15.2
Distance From DC1 (m)	450	450	450	308	453
Direction From DC1 (Vector °)	283	283	283	134	284
Date of Maximum Impact	2/1/86	11/25/87	12/15/88	12/9/89	1/5/90
Julian Date of Maximum Impact	32	329	350	343	5

Source: ECT, 1999.

Table 9-3. McDavid Sawmill Emission Sources—Maximum PM_{10} Impacts

Pollutant	Averaging Time	Maximum Impact ($\mu g/m^3$)	Significant Impact ($\mu g/m^3$)
PM/PM_{10}	Annual	2.5	1.0
	24-hour	18.6	5.0

Source: ECT, 1999.

Table 9-4. ISCST3 Model Results - Maximum Annual Average PM_{10} Impacts; NAAQS Analysis

Maximum Annual Impacts	1986	1987	1988	1989	1990
ISCST3 Impact ($\mu g/m^3$)	2.60	2.46	2.93	2.61	3.17
Background ($\mu g/m^3$)	24.0	24.0	24.0	24.0	24.0
Total Impact ($\mu g/m^3$)	26.6	26.46	26.93	26.61	27.17
NAAQS ($\mu g/m^3$)	50.0	50.0	50.0	50.0	50.0
Exceed NAAQS (Y/N)	N	N	N	N	N
Percent of NAAQS (%)	53.2	52.9	53.9	53.2	54.3
Receptor UTM Easting (m)	468,545.8	468,343.4	468,343.4	468,545.8	468,343.4
Receptor UTM Northing (m)	3,406,416.0	3,406,672.5	3,406,672.5	3,406,416.0	3,406,672.5
Distance From Grid Origin (m)	277	453	453	277	453
Direction From Grid Origin (Vector °)	239	284	284	239	284

Source: ECT, 1999.

Table 9-5. ISCST3 Model Results - High, Second Highest 24-Hour Average PM_{10} Impacts; NAAQS Analysis

High, Second Highest 24-Hour Impacts	1986	1987	**1988**	1989	1990
ISCST3 Impact ($\mu g/m^3$)	17.2	14.3	**18.9**	15.4	16.5
Background ($\mu g/m^3$)	67.0	67.0	**67.0**	67.0	67.0
Total Impact ($\mu g/m^3$)	84.2	81.26	**85.86**	82.37	83.54
NAAQS ($\mu g/m^3$)	150.0	150.0	**150.0**	150.0	150.0
Exceed NAAQS (Y/N)	N	N	**N**	N	N
Percent of NAAQS (%)	56.1	54.2	**57.2**	54.9	55.7
Receptor UTM Easting (m)	468,763.9	468,506.4	**468,582.6**	468,763.9	468,343.4
Receptor UTM Northing (m)	3,406,974.3	3,406,957.3	**3,406,957.3**	3,406,974.3	3,406,672.5
Distance From DC1 (m)	415	483	**444**	415	453
Direction From DC1 (Vector °)	357	325	**333**	357	284
Date of Maximum Impact	10/1/86	12/26/87	**2/2/88**	6/4/89	1/16/90
Julian Date of Maximum Impact	274	360	**33**	155	16

Source: ECT, 1999.

The dispersion model results show that impacts from Florida off-site PM/PM_{10} sources at receptors located within the McDavid Sawmill area of influence are insignificant. For example, the maximum 24-hour impact of the Gulf Power PM/PM_{10} emission sources (totaling 3,524 tons per year) was less than 1.0 $\mu g/m^3$. Because the Alabama PM/PM_{10} emission sources are located at greater distances than the Florida off-site sources (and are expected to have lower emission rates), impacts from Alabama PM/PM_{10} emission sources would also be expected to be insignificant in the vicinity of the McDavid Sawmill.

The NAAQS impact analyses was conducted using conservative premises for background PM_{10} levels and off-property source PM_{10} emission rates. The *highest* 24-hour and annual average PM_{10} value obtained from the FDEP PM_{10} monitoring site located in Cantonment, Escambia for 1997 and 1998 was used as background. This approach results in an over-estimation of total impacts due to "double-counting"; i.e., a portion of the FDEP monitored ambient PM_{10} data would be expected to have been caused by the same PM_{10} emission sources which are also included in the modeled emission inventory. As noted above, all PM emission rates provided by FDEP for the off-property sources were conservatively assumed to be equal to PM_{10} emission rates.

Because of the conservative approach used in conducting the air quality analysis for PM_{10} NAAQS impacts, there is reasonable assurance that the proposed McDavid Sawmill will not cause nor contribute to an exceedance of the PM_{10} NAAQS.

PSD CLASS II INCREMENT ANALYSIS

An assessment of McDavid Sawmill impacts, together with other sources within 52 km, was performed for comparison to the annual and 24-hour average PSD Class II PM_{10} increments. The modeled emission inventory included the McDavid Sawmill point and fugitive PM_{10} emission sources, and all other sources contained in the FDEP PM emission inventory retrieval that are located within 52 km of McDavid Sawmill site and that satisfied the "20D" rule. The FDEP PM_{10} emission inventory did not identify the specific emission sources which consume PSD PM_{10} increment. Conservatively, *all* off-property PM_{10} emission sources located within 52 km of McDavid Sawmill site were assumed to consume PSD increment. In addition, the PM emission rates provided by FDEP were conservatively assumed to be equal to PM_{10} emission rates.

The receptor grids for the refined PSD Class II PM_{10} increment analysis consisted of the same receptors used for the NAAQS analysis; i.e., the grid extended from the McDavid Sawmill site out to 1.5 km. The results of the 24-hour and annual average PSD Class II PM_{10} increment modeling are provided in Table 9-6 and 9-7, respectively. These tables demonstrate that maximum McDavid Sawmill impacts, together with all other PSD PM_{10} increment consuming emission sources, are below the 24-hour and annual average PSD Class II PM_{10} increments.

Similar to the NAAQS air quality analysis, the assessment of PSD Class II PM_{10} increment consumption was conducted using conservative premises. As noted above, *all* off-property PM emission sources were assumed to consume PSD PM_{10} increment. In addition, the PM emission rates provided by FDEP for the off-property sources were assumed to be equal to PM_{10} emission rates.

Because of the conservative approach used in conducting the air quality analysis for PM_{10} PSD Class II increment consumption, there is reasonable assurance that McDavid Sawmill will not cause nor contribute to an exceedance of the PSD Class II PM_{10} increments.

CONCLUSIONS

Comprehensive dispersion modeling, using the refined ISCST3 model, demonstrates that McDavid Sawmill emission sources, together with all off-property PM/PM_{10} emission sources located within 52 km of sawmill site and including background concentrations, will result in ambient air quality impacts that are:

- Below the NAAQS for PM_{10}; and
- Below the PSD Class II increment for PM_{10}.

Table 9-6. ISCST3 Model Results - Maximum Annual PM_{10} Impacts; PSD Class II Increment Analysis

Maximum Annual Impacts	1986	1987	1988	1989	1990
ISCST3 Impact ($\mu g/m^3$)	2.60	2.46	2.93	2.61	3.17
PSD Class II Increment ($\mu g/m^3$)	17.0	17.0	17.0	17.0	17.0
Exceed PSD Class II Increment (Y/N)	N	N	N	N	N
Percent of PSD Class II Increment (%)	15.3	14.5	17.2	15.4	18.6
Receptor UTM Easting (m)	468,545.8	468,343.4	468,343.4	468,545.8	468,343.4
Receptor UTM Northing (m)	3,406,416.0	3,406,672.5	3,406,672.5	3,406,416.0	3,406,672.5
Distance From Grid Origin (m)	277	453	453	277	453
Direction From Grid Origin (Vector °)	239	284	284	239	284

Source: ECT, 1999.

Table 9-7. ISCST3 Model Results - High, Second Highest 24-Hour Average PM_{10} Impacts; PSD Class II Increment Analysis

High, Second Highest 24-Hour Impacts	1986	1987	**1988**	1989	1990
ISCST3 Impact ($\mu g/m^3$)	17.2	14.3	**18.9**	15.4	16.5
PSD Class II Increment ($\mu g/m^3$)	30.0	30.0	**30.0**	30.0	30.0
Exceed PSD Class II Increment (Y/N)	N	N	**N**	N	N
Percent of PSD Class II Increment (%)	57.2	47.5	**62.9**	51.2	55.1
Receptor UTM Easting (m)	468,763.9	468,506.4	**468,582.6**	468,763.9	468,343.4
Receptor UTM Northing (m)	3,406,974.3	3,406,957.3	**3,406,957.3**	3,406,974.3	3,406,672.5
Distance From DC1 (m)	415	483	**444**	415	453
Direction From DC1 (Vector °)	357	325	**333**	357	284
Date of Maximum Impact	10/1/86	12/26/87	**2/2/88**	6/4/89	1/16/90
Julian Date of Maximum Impact	274	360	**33**	155	16

Source: ECT, 1999.

Based on the conservative nature of the air quality analysis, there is reasonable assurance that McDavid Sawmill will:

- Not cause nor contribute to an exceedance of any NAAQS or Florida AAQS.
- Not cause nor contribute to an exceedance of any PSD Class I or Class II increment.

A summary of the NAAQS and PSD Class II Increment model results is provided in Table 9-8.

Table 9-8. McDavid Sawmill—NAAQS and PSD Class II Increment PM_{10} Impacts

Pollutant	Averaging Time	Maximum Impact ($\mu g/m^3$)	Standard ($\mu g/m^3$)
NAAQS			
PM/PM_{10}	Annual	27.7	50.0
	24-hour (HSH)	85.9	150.0
PSD Class II			
PM/PM_{10}	Annual	3.2	17.0
	24-hour (HSH)	18.9	30.0

Source: ECT, 1999.

BOILER VENDOR EMISSIONS DATA

McBurney
4274 Shackleford Rd., Norcross, GA 30093 USA
P.O. Box 1827, Norcross, GA 30091-1827 USA
TEL: (770) 925-7100 / FAX: (770) 925-7400

FAX / MEMO

DATE: 7/21/99 **Page:** 1 of 2

TO: Mark Culpepper
Mid-South Engineering

PHONE: **FAX:** 501-624-4214

FROM: Dave Heinzmann

REFERENCE: Champion New Mill

This will confirm emission data given to you over the phone earlier. For a 55,000 PPH natural gas fired boiler, the following emission levels are achievable.

NOx – 0.1 #/MMBtu
CO – 0.1 #/MMBtu
VOC – 0.05 #/MMBtu
Particulate – 0.0035 #/MMBtu
SOx – 0.0006 #/MMBtu

Notes:

1) Particulate Matter is based on:
   A. TSP level is based on conducting the first portion of EPA test method #5, which measures "filterable" or "non-condensable" particulate.
   B. TSP level is based on the Natural Gas analysis outlined in Item B-05 of the project specifications.
   C. TSP level is to exclude PM/PM10 contributions from the ambient combustion air.
2) SOx is based on maximum sulfur content in natural gas of 0.20 grains per 100 SCF of fuel gas.
3) Emissions based on 15% excess air and no flue gas recirculation (FGR).
4) Based on use of a Nebraska Model NS-E-58 or similarly sized boiler equipped with a feedwater economizer.
5) The above emission rates are applicable on the LHV basis of natural gas.

Hope this helps. We look forward to working with you on this project.

Dave Heinzmann

~~Attachment – Coen~~ letter of July 10, 1999
cc: Tom Davis
~~ECT~~ – Fax 352-332-6722
Ed Mockridge
Mike Cantrell

PROFESSIONAL ENGINEER CERTIFICATION

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [ ], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [✔], if so), I further certify that the engineering features of each such emissions unit described in this application have been ~~designed or~~ examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Thomas [signature] — Date: 7/24/99

Signature

(seal)

* Attach any exception to certification statement.

This certification is applicable to the July 16th and July 24th submittals to the Department regarding Champion International Corporation's McDavid Sawmill project.

ECT
Environmental Consulting & Technology, Inc.

RECEIVED
JUL 16 1999
BUREAU OF AIR REGULATION

July 16, 1999

HAND DELIVERED ON JULY 16, 1999

Mr. Joseph Kahn, P.E.
New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road, Mail Station #5505
Tallahassee, Florida 32399-2400

Re: Champion International Corporation
McDavid Sawmill – Air Construction Permit Application
DEP File No. 0330260-001-AC (PSD-FL-271)

Dear Mr. Kahn:

On behalf of Champion International Corporation (Champion), responses to the items raised in your July 8th correspondence to Champion regarding the proposed McDavid Sawmill are provided as follows:

Item 1:

A BACT analysis for PM/PM_{10} is attached, reference Supplemental Best Available Control Technology Analysis. The supplemental analysis confirms that the stringent PM/PM_{10} emission limits proposed in Champion's permit application represent BACT for the proposed sawmill point and fugitive PM/PM_{10} emission sources. An air quality analysis for PM_{10} is being prepared. This analysis is expected to be completed and provided to the Department for review during the week of July 19th.

Item 2.

In order to submit a complete permit application, efforts were made to identify and quantity all fugitive PM/PM_{10} emission sources associated with the proposed McDavid Sawmill project. The fugitive PM/PM_{10} emission sources and estimated emission rates were summarized on Page 17, Table 2-3, of the permit application. Supporting calculations for the emission estimates were provided in Appendix C.

As discussed at the July 8th meeting in Tallahassee, the fugitive emission estimates were based on the best available information. While fugitive emissions from any activity can be quantified using assumed emission factors and control efficiencies, the accuracy of such estimates depends on the quality of the factors and efficiencies utilized. For the McDavid Sawmill project, many estimates were developed based on out-dated emission factors and factors from other industries.

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Gainesville, FL 32606
(352) 332-0444
FAX (352) 332-6722

Based on this information Champion is revising its application to reflect the fact that emissions from the following fugitive sources are not quantifiable and should not be included in any additional analysis:

- Log sawing operations
- Log debarking operations
- Chipping and screening operations.

Details of the origin of the emission factors for these operations and the rationale for excluding them from the application are contained below.

1. Log Debarking and Sawing (F1 – F8)

Estimates for log debarking and sawing were developed using a 19-year old section of EPA's *AP-42 Compilation of Air Pollutant Emission Factors* document. Specifically, factors were obtained from Table 10.3.1 of Section 10.3, Plywood Veneer and Layout Operations dated February 1980. Factors from Table 10.3.1 had a rating of E or poor. E ratings are the lowest quality rating found in AP-42. A copy of the February 1980 Section 10.3 has been provided to the Department.

In order to more thoroughly evaluate the emissions estimates for log debarking and sawing, Champion has reviewed the background information document (BID) that was used to develop the emissions factors contained in the previous version of AP-42. The BID used to develop the AP-42 Section 10.3 emission factors for fugitive PM is EPA's *Technical Guidance for Control of Industrial Process Fugitive Particulate Emissions* dated March 1977. Pertinent sections of this document have been included as an attachment to this letter. The BID noted that most particles are expected to be greater than 991um and few are expected to be less than 30um. The document concludes that it is doubtful that much particulate would remain airborne. The BID further indicates that the data presented on log sawing and debarking are all based on visual observations and engineering judgement. The document further notes that "...emission factors are at best an order of magnitude estimate."

The current edition of AP-42, the 5th Edition, has moved information regarding plywood operations to Section 10.5, Plywood Manufacturing; this section is dated September 1997. Table 10.5-6. of Section 10.5 lists no data available for log debarking and bucking (sawing) operations. Accordingly, the current edition of AP-42 no longer contains the old Section 10.3 emission factors for log debarking and sawing. Based on this information Champion believes that emission estimates for these activities would not be considered to be accurately quantifiable.

2. Screening and Chipping (F11, F12, F20, F21, F25, and F26)

Estimates of wood by-product screening and chipping operations were developed using emission factors from Table 11.19.2-2 of AP-42, Section 11.19.2, Crushed Stone Processing dated January 1995. The factors from Table 11.19.2-2 for screening and primary crushing (used for chipping sources) have emission factor ratings of C and E (average and poor), respectively. Because crushed stone would be expected to have significantly different particle characteristics compared to wood by-products, the crushed stone processing factors are considered to be of low quality when applied to wood by-product screening and chipping. Hence Champion believes these operations are also not accurately quantifiable.

Item 2. Summary

As noted in Section 2.3 on Page 11 of the permit application, potential emissions of fugitive PM/PM_{10} emissions upstream of the planermill are considered to be low due to the high moisture content of the wood materials being processed. The debarking and sawing machine centers direct wood by-product material downward to conveyors located below these operations. Observations of log debarking and sawing and wood by-product screening and chipping operations at a similar lumber mill indicate that these processes generate little, if any, visible emissions. Based on this information and the fact that such emissions are not considered to be accurately quantifiable, Champion has revised Table 2-3 and Appendix C, Fugitive Emission Sources; a revised Table 2-3 and Appendix C are attached.

Item 3.

Truck traffic PM emissions due to travel on paved facility roadways were estimated using the procedures in AP-42, Section 13.2.1. A conservative silt loading factor of 8 g/m^2 (silt loading factor for quarries) was employed to estimate uncontrolled truck traffic emission rates. A control efficiency of 90 percent was then applied to account for emission reductions resulting from as-needed roadway sweeping and watering. Use of an overall 90 percent control efficiency is equivalent to a controlled silt loading factor of 0.23 g/m^2.

Section 13.2.1 of AP-42 contains a wide range of silt loading factors. Silt loading factors range as high as 292 g/m^2 for roadways located at copper smelters to as low as 0.02 g/m^2 for limited access roadways. Section 13.2.1 recommends a silt loading factor of 0.1 g/m^2 for short periods of time on limited access roadways following application of snow/ice controls.

Because there is little potential for PM/PM_{10} silt accumulation on the proposed sawmill plant roadways and because as-needed roadway sweeping and watering will be conducted, the controlled silt loading rate of 0.23 g/m^2 is considered to be a conservative estimate for the proposed McDavid Sawmill plant paved roads. Based on observations at an existing sawmill, fugitive dust generated by on-site truck traffic is minimal.

Item 4.

Copies of vendor emissions data for the package boilers and planermill dust collector are attached. The emission rates shown for the package boiler represent use of a low NO_x burner. Boiler vendors have confirmed that a NO_x emission rate of 0.10 lb/MMBtu is achievable with the installation of a low-NO_x burner in lieu of a standard burner. Similarly, the boiler vendors have indicated that a PM/PM_{10} emission rate of 0.035 lb/MMBtu is achievable based on natural gas combustion and measurement using EPA Reference Method 5B. The 0.035 lb/MMBtu level for natural gas combustion is also considered reasonable with respect to AP-42, Table 1.4-2 estimates; i.e., AP-42 provides a PM (filterable) emission factor of 1.9 lb/MMscf or 0.002 lb/MMBtu assuming 1,020 Btu/scf.

The planermill dust collector vendor emissions estimate (i.e., 0.002 gr/dscf) was not based on a specific particle size distribution for particulate generated at the McDavid mill. To account for uncertainties in dust loading particle size and the resulting controlled emission rate , an emission level of 0.004 gr/scf was specified in the permit application. The Air Pollution Engineering Manual (1992 Edition) states that "Well-designed and operated baghouses have been shown to be capable

(1992 Edition) states that "Well-designed and operated baghouses have been shown to be capable of reducing overall particulate emissions to less than 0.010 gr/dscf, and in a number of cases, to as low as 0.001 – 0.005 gr/dscf". Accordingly, the requested PM/PM_{10} exhaust concentration of 0.004 gr/dscf is 60 percent *lower* than the well-designed fabric filter technology performance level of 0.010 gr/dscf. Therefore as noted in our BACT analysis (attached to this response) Champion believes that the proposed emission rate of 0.004 gr/dscf is a conservative and achievable emission rate limit consistent with the vendor estimate.

Item 5.

In addition to the two vendor quotes provided in Appendix C of the permit application, a quote for a regenerative thermal oxidizer (RTO) was received from Geoenergy; a copy of this vendor quote is attached. The Geoenergy RTO capital cost quote is comparable to that provided in Appendix C by Eisenmann Corporation; i.e., $1,785,000 for Geoenergy vs. $1,900,000 for the Eisenmann system or a difference of only 6 percent. This difference is well within the "study" cost estimate range of ±30 percent.

EPA BACT guidance (reference New Source Review Workshop Manual dated October 1990) does not suggest that multiple vendor quotes need to be obtained for the control technology being evaluated. Obtaining vendor quotes in a timely manner is typically difficult to accomplish and as noted above not generally necessary since quotes of this type are generally similar. The VOC control technology vendor quotes provided are considered to reasonably represent control technology costs; i.e., with an accuracy of ± 30 percent. For the RTO VOC control technology, two vendor quotes agreed within 6 percent. Accordingly, Champion does not believe that additional quotes from VOC control technology vendors are necessary for the McDavid sawmill BACT analysis.

Item 6.

As noted in the permit application, there are no existing lumber drying kilns which are equipped with VOC control systems. Because VOC control technology has not been demonstrated on lumber drying kilns and because of the many technical problems associated with applying VOC control technology to lumber drying kilns (reference Section 5.3.2.2, Pages 44 through 46, of the application for a discussion of VOC control technology feasibility), a contingency of 50 percent was employed in the BACT cost analysis. This contingency is considered reasonable for the first-time installation of a VOC control technology to a lumber kiln. Potential significant increases in VOC control system costs include pre-control device exhaust stream conditioning (e.g., PM removal and/or temperature control to prevent condensation), re-design of inlet ducting due to the cyclical nature of lumber kiln operations, etc.

The contingency used in the lumber kiln VOC BACT analysis is consistent with experience for the first time control of similar sources. For example, RTO's have been applied to plywood and veneer dryers in the wood products industry. When first installed, many problems were encountered due to the sticky nature of the condensable particulates that are generated in such processes. As a result, systems were required to be taken off line and cleaned as often as every 4-12 weeks.. In order to remedy this problem, some facilities were required to install electrostatic precipitators (ESP) to pre-treat the gas stream and remove the particulates that were causing the problem. The emissions associated with the lumber drying kilns proposed for the McDavid Mill are similar to those generated in the plywood or veneer drying process. Hence, similar problems could be encountered if a veneer dryer with an exhaust gas flow rate similar to the exhaust flow rate from one of the proposed McDavid Sawmill lumber drying kilns exceeded $1,000,000. This cost is consistent with the contingency factor identified in the proposed McDavid Sawmill VOC BACT analysis.

Item 7.

The estimate of 6.0 hrs/shift for maintenance labor was based on the complexity, number of individual VOC control devices (three), and the unproven application of VOC control technology to lumber drying kilns. As noted above potential problems with PM condensation could result in significant maintenance activity; e.g., repairing damaged/inoperative valves and cleaning the system due to pluggage.

Maintenance materials were estimated using the recommended EPA factor of 100 percent of maintenance labor; reference Section 2.4.5.3, Page 2-24 of the EPA OAQPS Control Cost Manual, Fifth Edition dated February 1996.

Note that labor and maintenance costs constitute approximately 12 percent of total annual control system costs. Reducing the estimate of maintenance labor hours would not alter the conclusion that VOC control technology is not economically feasible. For example, assuming only 3.0 hr/shift for maintenance would decrease the regenerative thermal oxidizer (RTO) cost-effectiveness from $8,351 to $7,817 per ton of VOC controlled.

Your continued expeditious review of the proposed McDavid Sawmill air construction permit will be appreciated. Please feel free to contact me at (352) 332-6230, Ext. 351 or Mr. Dave Stevens at (850) 937-4849 if there are any further questions.

Sincerely,

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.

Thomas W. Davis

Thomas W. Davis, P.E.
Principal Engineer

Attachments

cc: Mr. Dave Stevens, Champion
Mr. John Barone, Champion
Mr. Terry Kassabaum, Champion
Mr. Ed Middleswart, FDEP – NWD

SUPPLEMENTAL PM/PM_{10} BACT ANALYSIS

SUPPLEMENTAL PM/PM_{10} BEST AVAILABLE CONTROL TECHNOLOGY ANALYSIS

INTRODUCTION

Both point and fugitive emission sources at the mill will generate PM/PM_{10} emissions. Point sources of PM/PM_{10} will include the two package boilers, the three lumber drying kilns, and the planer mill building cyclone/baghouse control system. The combustion of natural gas in the two package boilers will generate PM/PM_{10} emissions due to oxidation of ash and sulfur contained in the fuel. Due to its low ash and sulfur content, natural gas combustion generates inherently low PM/PM_{10} emissions. Emissions generated due to the lumber drying process are inherently low due to the nature of the drying process. The emissions generated by planning and trimming operations in the planner mill building will be collected and vented to a cyclone/baghouse control system for treatment prior to discharge to the atmosphere.

Various sawmill activities will also have the potential to generate fugitive PM/PM_{10} emissions. Plant operations that will potentially generate fugitive PM/PM_{10} emissions include log processing (debarking and sawing), wood by-product (bark, sawdust, chips, and shavings) screening, handling and storage, truck traffic (log, wood by-products, and finished lumber trucks) on paved plant roads, and windblown dust from temporary outdoor wood by-product storage piles. Each of the point and fugitive sources of PM/PM_{10} emissions are addressed below.

POTENTIAL CONTROL TECHNOLOGIES

Available technologies used for controlling PM/PM_{10} include the following:

- Centrifugal collectors.
- Electrostatic precipitators (ESPs).
- Fabric filters or baghouses.
- Wet scrubbers.

Centrifugal (cyclone) separators are primarily used to recover material from an exhaust stream before the stream is ducted to the principal control device since cyclones are effective in removing only large (greater than 10 microns) size particles. Particles generated from natural gas combustion are typically less than 1.0 micron in size. ESPs remove particles from a gas stream through the use of electrical forces. Discharge electrodes apply a negative charge to particles passing through a strong electrical field. These charged particles then migrate to a collecting electrode having an opposite, or positive, charge. Collected particles are removed from the collecting electrodes by periodic mechanical rapping of the electrodes. Collection efficiencies are typically 95 percent for particles smaller than 2.5 microns in size.

A fabric filter system consists of a number of filtering elements, bag cleaning system, main shell structure, dust removal system, and fan. PM is filtered from the gas stream by various mechanisms (inertial impaction, impingement, accumulated dust cake sieving, etc.) as the gas passes through the fabric filter. Accumulated dust on the bags is periodically removed using mechanical or pneumatic means. In pulse jet pneumatic cleaning, a sudden pulse of compressed air is injected into the top of the bag. This pulse creates a traveling wave in the fabric that separates the cake from the surface of the fabric. The cleaning normally proceeds by row, all bags in the row being cleaned simultaneously. Typical air-to-cloth ratios range from 2 to 8 cubic feet per minute-square foot (cfm-ft^2). Collection efficiencies are on the order of 99 percent for particles smaller than 2.5 microns in size.

Wet scrubbers remove PM from gas streams principally by inertial impaction of the particulate onto a water droplet. Impingement, diffusion, or condensation mechanisms can be used to wet particles. To be wetted, PM must either make contact with a spray droplet or impinge upon a wet surface. In a venturi scrubber, the gas stream is constricted in a throat section. The large volume of gas passing through a small constriction gives a high gas velocity and a high pressure drop across the system. As water is introduced into the throat, the gas is forced to move at a higher velocity causing the water to shear into droplets. Particles in the gas stream then impact onto the water droplets produced. The entrained water droplets are subsequently removed from the gas stream by a cyclone separator. Venturi scrubber collection efficiency increases with increasing pressure drops for a given particle size. Collection efficiency will also increase with increasing liquid-to-gas ratios up to the point where flooding of the system occurs. Packed-bed and venturi scrubber collection efficiencies are typically 90 percent for particles smaller than 2.5 microns in size.

Planermill Control Options

All of the post-process technologies identified above are technically feasible for controlling PM/PM_{10} emissions from the planermill planing and trimming operations because these processes are amenable to the installation of local exhaust ventilation (LEV) to capture what would otherwise be fugitive PM/PM_{10} emissions. The McDavid Sawmill planermill operations will be enclosed within the planermill building and include LEV to capture PM/PM_{10} from the planing and trimming machine centers. The captured PM/PM_{10} shavings will be transferred pneumatically to a cyclone/baghouse control system prior to exhausting the air conveying stream to the atmosphere. The baghouse outlet exhaust will contain no more than 0.004 grains of PM/PM_{10} per dry standard cubic foot (gr/dscf). Use of LEV and a cyclone/baghouse control system is considered to represent the "top" case with respect to PM/PM_{10} BACT for the planermill planing and trimming operations.

Lumber Kiln Control Options

The indirect, steam heated lumber drying kilns will generate PM/PM_{10} emissions due to dust present on the surface of the drying lumber or potential condensation of the exhaust stream that may occur prior to release to the atmosphere. Based on NCASI test data, each kiln is estimated to generate 0.32 lb/hr of PM/PM_{10} with an average exhaust flow rate of 34,502 actual cubic feet per minute (acfm) and average exhaust temperature of 209 °F. This data translates to an exhaust PM/PM_{10} concentration of 0.0014 gr/scf. Exhaust stream PM/PM_{10} concentrations of such low magnitude (i.e., well below the *outlet* concentration of a high efficiency PM/PM_{10} control system) are not amenable to control using available technologies because removal efficiencies would be unreasonably low and costs excessive. There are no existing lumber kilns which are equipped with PM/PM_{10} stack control systems. Accordingly, PM/PM_{10} BACT for the indirect, steam, heated lumber drying kilns is considered to be the proper installation, operation, and maintenance of the kilns.

Package Boiler Control Options

The two package boilers will be fired exclusively with pipeline-quality natural gas and therefore will generate low PM/PM_{10} emissions. Based on boiler vendor emissions data, each boiler is estimated to generate 0.19 lb/hr of PM/PM_{10} with an average exhaust flow rate of 75,984 acfm and average exhaust temperature of 320 °F. This data translates to an exhaust PM/PM_{10} concentration of 0.0004 gr/scf. As was the case with the lumber kilns, exhaust stream PM/PM_{10} concentrations of such low magnitude are not amenable to control using available technologies because removal efficiencies would be unreasonably low and costs excessive. Champion is not aware of any existing natural gas-fired package boiler which is equipped with a post-combustion PM/PM_{10} control system.

Fugitive Emissions Control Options

As noted previously, potential emissions of fugitive PM/PM_{10} emissions upstream of the planermill are considered to be low due to the high moisture content of the wood materials being processed. Observations of log debarking and sawing, wood by-product screening, handling, and storage, sawmill operations, and truck traffic on paved facility roadways at a similar lumber mill indicate that these processes generate little, if any, visible emissions. To further reduce the potential for fugitive PM/PM_{10} emissions, reasonable precautions to abate such emissions will be implemented. These precautions include enclosing wood by-product transfer points and periodic sweeping and/or watering of paved facility roadways, as necessary. Implementation of these reasonable precautions is considered to represent PM/PM_{10} BACT for the various McDavid Sawmill fugitive emission sources.

PROPOSED BACT EMISSION LIMITATIONS

BACT PM/PM_{10} limits obtained from the RBLC database for natural gas-fired boilers are provided in Table 5-12. All determinations are based on the use of good combustion practice.

Because post-process stack controls for PM/PM_{10} are not feasible for the two package boilers and lumber drying kilns, use of good combustion practices and clean, natural gas fuel (for the package boilers) and proper installation, operation, and maintenance (for the indirect, steam heated lumber kilns) is considered to be BACT for PM/PM_{10} for these emission sources. Consistent with recent FDEP BACT determinations for low concentration PM/PM_{10} exhaust streams, a visible emissions limit of 5 percent opacity for the two package boilers and indirect, steam heated kilns is proposed as a surrogate BACT limit for PM/PM_{10}.

Installation of LEV and a cyclone/baghouse control system achieving an outlet PM/PM_{10} exhaust concentration of no more than 0.004 gr/dscf was determined to be BACT for the planermill planing and trimming operations. Implementation of reasonable precautions to abate fugitive PM/PM_{10} is considered to represent BACT for the various McDavid Sawmill fugitive emission sources. PM/PM_{10} BACT emission limits proposed for the McDavid Sawmill are summarized in Table 5-13.

Table 5-12. RBLC PM/PM$_{10}$ Summary - Natural Gas-Fired Boilers

RBLCID	Facility Name	City	Permit Dates Issue	Permit Dates Last Update	Process Description	Throughput Rates	Emission Limits		Control Description	BASIS
AL-0065	BOISE CASCADE CORPORATION	JACKSON	4/1/92	3/24/95	BOILER, POWER, NAT GAS FIRED, #3	343 4 MMBTU/HR	1.640	LB/HR	NOT DESIGNED	BACT-PSD
AL-0093	COURTAULDS FIBERS, INC.	AXIS	11/2/94	5/31/97	TWO 148.0 MMBTU/HR BOILERS	148.0 MMBTU/HR	0.740	LBS/HR	FUEL SPEC: NATURAL GAS	OTHER
AL-0125	ALABAMA POWER PLANT BARRY	BUCKS	8/7/98	4/15/99	BOILERS, NATURAL GAS COMBUSTION	510 0 MW(TOTAL)	0.011	LB/MMBTU	NATURAL GAS ONLY, EFFICIENT COMBUSTION	BACT-PSD
AR-0017	STAFFORD RAILSTEEL CORPORATION	WEST MEMPHIS	8/17/93	3/24/95	BOILER, VTD	46.5 MMBTU/H	0 200	TPY	FUEL SPEC: NATURAL GAS USAGE	BACT-PSD
CA-0736	O.H. KRUSE GRAIN AND MILLING	PIXLEY	9/19/96	3/26/98	300 HP BOILER USED AS A BACKUP	10.0 MMBTU/HR	0.012	LB/MMBTU	NO CONTROL	LAER
CA-0790	DARLING INTERNATIONAL	FRESNO	12/30/96	3/16/98	NEBRASKA BOILER, MODEL NS B-40	31.2 MMBTU/HR	0 014	LB/MMBTU	NO CONTROL	LAER
GA-0063	MID-GEORGIA COGEN.	KATHLEEN	4/3/96	8/19/96	BOILER, NATURAL GAS	60 0 MMBTU/HR	0.005	LB/MMBTU	COMPLETE COMBUSTION	BACT-PSD
IA-0048	CARGILL INC - SIOUX CITY	SIOUX CITY	6/1/98	4/19/99	BOILER, BACKUP, 77MMBTU/H	4,500 0 T/D	0.700	LB/H	500 HRS/YR RESTRICTION - THE ONLY REVISION MADE TO THE EXISTING PERMIT	BACT-PSD
IA-0048	CARGILL INC - SIOUX CITY	SIOUX CITY	6/1/98	4/19/99	BOILER, BACKUP, 77MMBTU/H	4,500 0 T/D	0.700	LB/H	500 HRS/YR RESTRICTION - THE ONLY REVISION MADE TO THE EXISTING PERMIT.	BACT-PSD
IN-0043	GENERAL ELECTRIC CO	MOUNT VERNON	9/17/89	8/12/94	BOILER, NATURAL GAS	250 0 MMBTU/HR	0.152	LB/MMBTU	LOW NOX BURNERS	OTHER
IN-0043	GENERAL ELECTRIC CO.	MOUNT VERNON	9/17/89	8/12/94	BOILER, NATURAL GAS	93 0 MMBTU/HR	0.157	LB/MMBTU	LOW NOX BURNERS	OTHER
IN-0068	WAUPACA FOUNDRY - PLANT 5	TELL CITY	1/19/96	5/31/96	BOILERS, NATURAL GAS	93.9 MMBTU/HR	1.290	LBS/HR		BACT-PSD
IN-0069	TOYOTA MOTOR CORPORATION SVCS OF N.A.	PRINCETON	8/9/96	10/21/96	BOILERS, NATURAL GAS FIRED (6)	58 0 MMBTU/HR	0.200	LB/MMBTU	LOW NOX BURNERS & FUEL SPEC. USE OF NATURAL GAS AS FUEL.	BACT-PSD
IN-0071	PORTSIDE ENERGY CORP.	PORTAGE	5/13/96	5/31/97	BOILERS, NATURAL GAS-FIRED (2)	260 0 MMBTU/HR	0.005	LB/MMBTU PROPANE	NATURAL GAS, GOOD COMBUSTION PRACTICES, PROPANE LIMIT TO EMERGENCY USE.	BACT-PSD
IN-0075	GRAIN PROCESSING CORP.	WASHINGTON	6/10/97	4/7/98	BOILERS NO. 1 & 2	244 0 MMBTU/HR	5.000	LB/MM CF NG		BACT-PSD
KY-0052	TOYOTA MOTOR MANUFACTURING U S A. INC.	GEORGETOWN	7/17/86	12/22/92	COMBUSTION, NATURAL GAS		2.860	E-3 LB/MMBTU		BACT-PSD
LA-0085	TRANSAMERICAN REFINING CORPORATION (TARC)	NEW SARPY	1/15/93	3/24/95	BOILER	1.2 MMBTU/HR	0.008	LB/HR	GOOD COMBUSTION PRACTICES	BACT-PSD
LA-0090	TRANSAMERICAN REFINING CORPORATION	NORCO	2/10/95	4/17/95	BOILER, NATURAL GAS/RFG FIRED	244 0 MM BTU/HR	1 200	LB/HR	FUEL SPECIFICATION	BACT-PSD
MN-0026	MINNESOTA CORN PROCESSORS	MARSHALL	8/9/95	5/31/96	BOILER, NATURAL GAS		1.160	LB/HR	FUEL SPEC FUEL LIMITED TO NATURAL GAS	BACT-PSD
MN-0026	MINNESOTA CORN PROCESSORS	MARSHALL	8/9/95	5/31/96	BOILER, NATURAL GAS		0 720	LB/HR	FUEL SPEC. FUEL LIMITED TO NATURAL GAS	BACT-PSD
MS-0029	WEYERHAEUSER COMPANY	COLUMBUS	9/10/96	12/30/96	BOILER, NATURAL GAS	400 0 MMBTU/HR	0.005	LB/MMBTU	USE OF NATURAL GAS AS FUEL	BACT-PSD
NJ-0013	LAKEWOOD COGENERATION, L.P.	LAKEWOOD TOWNSHIP	4/1/91	5/29/95	BOILER (NATURAL GAS)	131.0 MMBTU/HR	0.005	LB/MMBTU	BOILER DESIGN	BACT-OTHER
NJ-0017	NEWARK BAY COGENERATION PARTNERSHIP, L.P	NEWARK	6/9/93	5/29/95	BOILER, AUXILIARY, NATURAL GAS-FIRED	200 0 MMBTU/HR	0.005	LB/MMBTU	BOILER DESIGN/FGR	BACT-PSD
NM-0024	MILAGRO, WILLIAMS FIELD SERVICE	BLOOMFIELD		5/29/95	BOILER		5 000	MMSCF	COMBUSTION AIR FILTERS, GOOD COMBUSTION PRACTICE AND MAINTENANCE	BACT-PSD
NY-0046	SARANAC ENERGY COMPANY	PLATTSBURGH	7/31/92	9/13/94	BOILER, AUXILIARY (GAS OR LPG)	249 0 MMBTU/HR	0 005	LB/MMBTU	COMBUSTION CONTROLS	BACT-OTHER
NY-0048	KAMINE/BESICORP CORNING L.P.	SOUTH CORNING	11/5/92	9/13/94	BOILERS, AUXILIARY (3)	33.5 MMBTU/HR	0 005	LB/MMBTU	COMBUSTION CONTROL	BACT-OTHER
NY-0072	KAMINE/BESICORP SYRACUSE LP	SOLVAY	12/10/94	4/27/95	(3) UTILITY BOILER (EP #S 00002-4)	33 0 MMBTU/HR	0.010	LB/MMBTU, 0 34 LB/HR	FUEL SPEC: SULFUR CONTENT NOT TO EXCEED 0.15% BY WEIGHT	BACT-OTHER
NY-0072	KAMINE/BESICORP SYRACUSE LP	SOLVAY	12/10/94	4/27/95	HEAT & STEAM BOILER (EP #00006)	2 5 MMBTU/HR	0 010	LB/MMBTU, 0.03 LB/HR	FUEL SPEC: SULFUR CONTENT NOT TO EXCEED 0.15% BY WEIGHT	BACT-OTHER
WY-0034	SOLVAY SODA ASH JOINT VENTURE TRONA MINE/SODA ASH	GREEN RIVER	2/6/98	2/17/99	BOILER, NATURAL GAS	100 0 MMBTU/H	5.000	LB/MMBTU	MINIMAL PARTICULATE EMISSIONS AND LOW EMITTING FUEL	BACT-PSD
WY-0035	TEXASGULF SODA ASH PLANT	GRANGER	10/13/97	2/10/99	BOILER NATURAL GAS	431 6 MMBTU/H		NEGLIGIBLE	NATURAL GAS FUEL	BACT-PSD

Source: RBLC, 1999

Table 5-13. Proposed PM/PM_{10} BACT Emission Limits

Emission Source	Proposed PM/PM_{10} BACT Emission Limits	
	% Opacity	gr/dscf
Planermill Cyclone/Baghouse	5	0.004
Package Boilers (per boiler)	5	N/A
Lumber Drying Kilns (per kiln)	5	N/A
Fugitive Sources	Implementation of Reasonable Precautions to Abate Unconfined PM/PM_{10}	

Sources: Champion, 1999.
ECT, 1999.

EXCERPTS FROM *TECHNICAL GUIDANCE FOR CONTROL OF INDUSTRIAL PROCESS FUGITIVE PARTICULATE EMISSIONS*

EPA-450/3-77-010
March 1977

PLEASE RETURN TO
PAUL C. SIEBERT

Exhibit 22

TECHNICAL GUIDANCE FOR CONTROL OF INDUSTRIAL PROCESS FUGITIVE PARTICULATE EMISSIONS

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Waste Management
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

2.12 LUMBER AND FURNITURE INDUSTRY

2.12.1 Process Description

The raw materials for a furniture plant may be either logs or cut lumber, depending on the volume and type of final product.

At the sawmill, the cut logs are either stored in a log pond or stacked on the ground. If logs are too long to easily handle, they are cut to smaller lengths. This process is called bucking. The next process is debarking. There are five types of machines used for this: drum barkers, ring barkers, bag barkers, hydraulic barkers, and cutterhead barkers. The ring and cutterhead barkers are dry processes; the other three use water. After debarking the logs are cut to required lengths and then cut lengthwise into standard sizes. After cutting, the lumber is dried either by air or in a kiln. After drying, the lumber is transferred to the furniture plant.

At plants receiving cut lumber, the lumber may be stacked and air dryed or loaded onto carts and fed into a kiln. The natural moisture is about 60-70 percent and kiln drying reduces it to 5-8 percent. This is necessary in order to prevent warping or shrinking of furniture.

The manufacture of furniture can be divided into five main areas: rough milling, finish milling, planing, sanding, assembly, and finishing.

The purpose of rough milling is to cut the lumber to the approximate length and width and to remove the natural defects in the wood. Operations involved may include sawing, planing and molding. Finish molding may include sawing, shaping, lathe work, mortising, and routing. Sanding is usually done by a machine rather than by hand. Assembly involves gluing and stapling the pieces together.

At this point, all of the assembled pieces are put together and minor sanding (by hand) may be necessary. Finishing operations usually involve a series of surface coatings and drying. After the finished pieces are completed and inspected, they are packaged and shipped to the customer.

A process flow diagram for lumber and furniture production is shown in Figure 2-22. Each potential process fugitive emission source is identified and explained in Table 2-59. A dust source which may be found at lumber and furniture plants, but not specifically included in the Figure or Table is plant roads. Proper evaluation of this emission category is explained in Section 2.1.

2.12.2 IPFPE Emission Rates

Table 2-59 presents a summary of uncontrolled emission factors for sawmill and furniture manufacturing IPFPE sources. Since these are potential uncontrolled emission rates, the site-specific level of control must be considered for application to a specific sawmill or furniture manufacturing plant.

The fugitive emission factors are based solely on best engineering judgement and material balance information obtained during plant visits. Thus, listed emission factors are at best order of magnitude estimates.

Sources of fugitive emissions at the sawmill are generally debarking, sawing, and sawdust handling operations. Log handling and bucking are negligible sources of fugitive emissions.

Most processes such as planing, sanding, and sawing within furniture manufacturing plants are normally controlled by hoods and various other vacuum pick-up devices which are ducted to cyclones and/or fabric filters. Emissions which escape these hoods and pick-up devices are minimal. Insignificant amounts are emitted through the

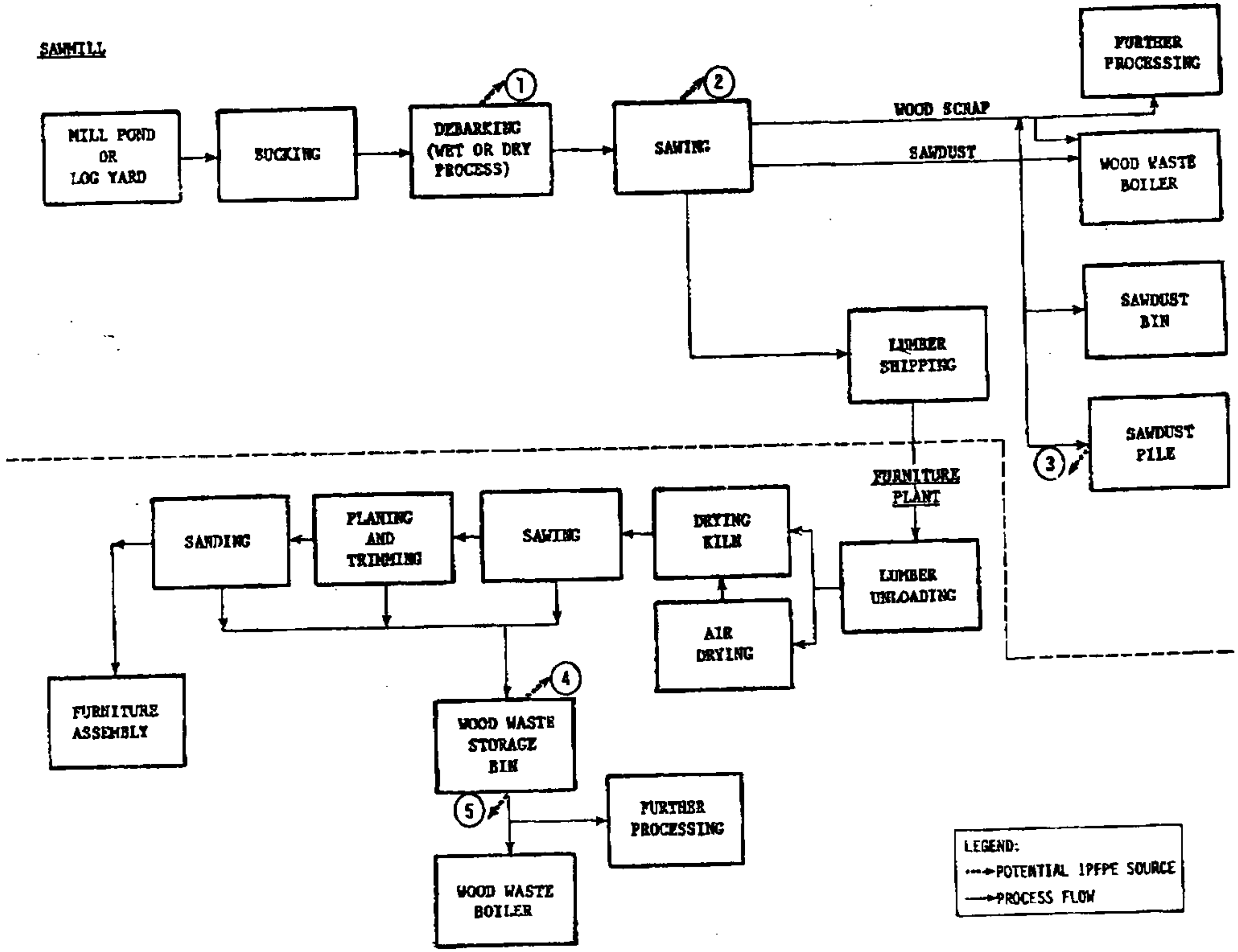

Figure 2-22. Process flow diagram for lumber and furniture production showing potential industrial process fugitive particulate emission points.

Table 2-59. IDENTIFICATION AND QUANTIFICATION OF POTENTIAL FUGITIVE PARTICULATE EMISSION POINTS FOR THE LUMBER AND FURNITURE INDUSTRY

Source of IPFPE	Uncontrolled fugitive emission factor	Emission factor reliability rating	Model plant fugitive emission inventory: Operating parameter, Mg/yr (tons/year)	Model plant fugitive emission inventory: Uncontrolled emissions Mg/yr (tons/yr)
Sawmill				
1. Log debarking	0.012 kg/Mg of logs debarked[a] (0.024 lb/ton of logs debarked)	E	Logs debarked 740,000 (820,000)	9 (10)
2. Sawing	0.18 kg/Mg of logs sawed[a] (0.35 lb/ton of logs sawed)	E	Logs sawed 650,000 (720,000)	117 (126)
3. Sawdust pile loading, unloading, and storage	0.5 kg/Mg sawdust handled[b] (1.0 lb/ton sawdust handled)	E	Sawdust handled 100,000 (110,000)	50 (55)
Furniture Manufacturing				
4. Wood waste storage bin vent	0.5 kg/Mg wood waste stored[b] (1.0 lb/ton wood waste stored)	E	Wood waste stored 1,360 (1,500)	1 (1)
5. Wood waste storage bin loadout	1.0 kg/Mg wood waste loaded out[b] (2.0 lb/ton wood waste loaded out)	E	Wood waste loaded out 1,360 (1,500)	1 (2)

[a] Estimate based on material balance of the waste produced by the specific operation and engineering judgement of the amount which becomes airborne.

[b] Engineering judgement based on observations on plant visits. It is recognized that in some plants this may be more of a severe problem.

furniture plant windows and ventilation system. As a result, fugitive emissions from individual processes are essentially negligible. Management's willingness to provide and maintain good working conditions and Occupational Safety and Health Administration (OSHA) regulations are most likely the two basic reasons for such good control of emissions.

2.12.3 Example Plant Inventory

The example plant inventory for the lumber and furniture industry is presented in Table 2-59. The Table presents potential fugitive emission quantities from both the lumbering and furniture manufacturing processes. The plant inventory is not meant to present a typical plant situation, but merely a potential set of circumstances.

The emission inventory is based on a log yard which receives 740,000 Mg or 350,000 m^3 (820,000 tons or 150,000,000 bd. ft.) per year and a furniture manufacturer which requires 4100 Mg or 7100 m^3 (4,500 tons or 3,000,000 bd. ft.) of lumber per year. Total fugitive emissions from the sawmill and furniture plant were 176 Mg (191 tons) and 2 Mg (3 tons) respectively.

Not included in the inventory are fugitive particulate emissions from plant haul roads. These sources may be calculated using procedures outlined in Section 2.1.

Major sources of emissions from the lumber and furniture industry appear to be sawing, wood waste storage, and wood waste loadout.

2.12.4 Characterization of Fugitive Emissions

Fugitive particulate emissions from sawmills consists primarily of broken bark particulates and sawdust from sawing. Dirt and dust that are embedded in the bark also become airborne when the bark is broken and also during unloading, dragging, debarking, and storage operations. Very limited data are available concerning the characterization of fugitive emissions generated during these operations.

Approximately 91 percent of particulates from sawing operations at lumber yards are greater than 991 µm.[1] Few of these sawdust particles may be expected to be less than 30 µm. Therefore, is is doubtful that much of the particulates remain airborne.

Data collected in a western red cedar furniture factory equipped with exhaust ventilation on most wood working equipment showed most suspended particulates in the working environment to be less than 2 µm in diameter.[2]

2.12.5 Control Technology

Control technology options for lumber and furniture production IPFPE sources (except plant roads covered in Section 2.1) are presented in Table 2-60. Specific dust control systems for the various handling operations are discussed in the following paragraphs.

Since drum debarkers, bag barkers, and hydraulic barkers are all wet process, they are in themselves a good method for reducing fugitive emissions during the debarking process. If logs can be kept in wet storage prior to debarking, fugitive emissions will be miminal during this process. If wet storage is not possible, enclosure of the debarking operation or fixed hoods with ventilation to baghouses or cyclones is an alternative.

Fugitive emissions from sawing can be controlled in several ways. Thinner saw blades will reduce the amount of fugitive emissions generated. This also has an economical benefit since it results in a more efficient use of lumber.[3] Fixed hoods or building evacuation to fabric filters will also help control fugitive emissions.

Table 2-60. CONTROL TECHNIQUES FOR LUMBER AND FURNITURE INDUSTRY IPFPE SOURCES

Industry: Lumber and Furniture	Negligible emissions	IPFPE source typically uncontrolled	Control technologies identified in Section 2.1	FUGITIVE EMISSIONS CAPTURE AND CONTROL METHODS: Preventative procedures and operating changes: Wet suppression (water and/or chemical)	Confinement by enclosure	Better control of raw material quality	Better control of operating parameters and procedures	Improved maintenance and/or construction program	Increase exhaust rate of primary control system	Process change (thin saw blades/wet debarking)	Capture methods: Fixed hoods, curtains, partitions, covers, etc.	Movable hoods with flexible ducts	Closed buildings with evacuation		Removal equipment: Fabric filter	Scrubber	Cyclone
Sawmill																	
1. Log debarking				o						o	+		+		+		+
2. Sawing										+	+		+		+		
3. Sawdust pile loading, unloading and storage			✓	o			+										
Furniture Plant																	
4. Wood waste storage bin vent															+		
5. Wood waste storage bin loadout					x		o						+		+		+

x Typical control technique.

o In use (but not typical) control technique.

+ Technically feasible control technique.

Fugitive emissions from sawdust storage piles can be controlled by wet suppression. However, when it is possible, trucking the waste away as soon as possible can substantially reduce the fugitive emissions generated at these storage piles. Additional fugitive control can be attained by directly blowing sawdust into a boiler or to a particle board facility.

For reasons stated earlier in this chapter, sawing, planing, and sanding operations are normally controlled in furniture manufacturing plants. Thus, the need for fugitive control technology at these operations is unnecessary.

The wood waste storage bin vent is usually partially controlled by a screen. If this screen is replaced by a fabric filter sock, the amount of fugitive emissions released can be significantly reduced. The use of telescopic tubes during loadout from the storage bin to trucks will reduce freefall distance and thus the amount of fugitive emissions generated. This coupled with a canvas covered truck and use of side curtains will give additional control efficiency.[4] Other means of control would be enclosure of the loadout area with the possibility of also venting to a baghouse or cyclone.

REFERENCES FOR SECTION 2.12

1. Simmons, F.A., Charlotte H. Miller. Characterization of Sawdust and Shavings for Pulp. U.S. Department of Agriculture, Forest Products Laboratory, Forest Service. Report No. 2212. March 1961.

2. Industrial Environmental Health, The Worker and the Community. Academic Press. New York and London. 1972.

3. Bulgrin, E. H. Wood. McGraw-Hill Yearbook of Science and Technology. McGraw-Hill, New York. 1974.

4. Observation made from plant tour of Broyhill Furniture manufacturing plant. September 3, 1976.

REVISED TABLE 2-3

Table 2-3. Maximum PM/PM_{10} Pollutant Emission Rates - Fugitive Sources

Emission Source Description	Emission Source ID	Emission Rates			
		PM		PM_{10}	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)
Bark Processing/Handling					
Conveyor Transfer; Main Conveyor to Disc Screen/Hog Conveyor	F-9	0.0004	0.0011	0.0002	0.0005
Conveyor Transfer; Disc Screen/Hog Conveyor to Disc Screen/Hog	F-10	0.0004	0.0011	0.0002	0.0005
Conveyor Transfer; Disc Screen/Hog to Bark Bin Conveyor	F-13	0.0004	0.0011	0.0002	0.0005
Conveyor Transfer; Bark Bin Conveyor to Bark Bin	F-14	0.0004	0.0011	0.0002	0.0005
Bark Bin Truck Loading	F-15	0.0014	0.0036	0.0007	0.0017
Fines (Sawdust) Processing/Handling					
Conveyor Transfer; Fines Chip Screen Conveyor to Fines Bin Conveyor	F-16	0.0002	0.0006	0.0001	0.0003
Conveyor Transfer; Fines Bin Conveyor to Fines Bin	F-17	0.0002	0.0006	0.0001	0.0003
Fines Bin Truck Loading	F-18	0.0007	0.0018	0.0003	0.0009
Baghouse Fines Truck Loading	F-35	0.0001	0.0003	0.0001	0.0001
Chips Processing/Handling					
Conveyor Transfer; Oversize Chips Conveyor to Rechipper Conveyor	F-19	0.0002	0.0004	0.0001	0.0002
Conveyor Transfer; Chips Screen to Chips Bin Conveyor	F-22	0.0018	0.0046	0.0008	0.0022
Conveyor Transfer; Chips Bin Conveyor to Chips Bin	F-23	0.0018	0.0046	0.0008	0.0022
Chips Bin Truck Loading	F-24	0.0058	0.0153	0.0028	0.0072
Planermill Shavings					
Cyclone Bin Truck Loading	F-27	0.0006	0.0016	0.0003	0.0007
Truck Traffic on Paved Roadways					
Raw Material Wood Trucks	F-28	3.9208	5.8109	0.7650	1.1338
Product Lumber Trucks	F-29	2.4539	2.8155	0.4788	0.5494
Wood By-Product Trucks	F-30	3.2099	7.9208	0.6263	1.5455
Outdoor Storage Piles					
Chip Storage	F-31	0.1271	0.0153	0.0607	0.0073
Bark Storage	F-32	0.0370	0.0044	0.0176	0.0021
Sawdust Storage	F-33	0.0330	0.0040	0.0158	0.0019
Shavings Storage	F-34	0.0259	0.0016	0.0123	0.0007
Totals		**9.8221**	**16.6103**	**1.9834**	**3.2586**

Sources: Champion, 1999.
ECT, 1999.

REVISED APPENDIX C
FUGITIVE SOURCES

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM - MATERIAL TRANSFER (DROPS) **Figure: 2-3**

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM - Material Transfer (Drops)
Emission Control Method(s)/ID No.(s):	Enclosures
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

PM Emission (lb/hr) = 0.74 x 0.0032 x [(Wind Speed/5)$^{1.3}$ / (Material Moisture Content/2)$^{1.4}$] x Material Handled (ton/hr)

PM Emission (ton/yr) = 0.74 x 0.0032 x [(Wind Speed/5)$^{1.3}$ / (Material Moisture Content/2)$^{1.4}$] x Material Handled (ton/yr) x (1 ton/2,000 lb)

Source: Section 13.2-4, AP-42, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed: 8.3 mph | Material Moisture Content: 50.0 weight %

Material Transfer Point	Source ID	Material Transfer Rates (lb/hr)	Material Transfer Rates (tpy)	Uncontrolled Emission Factor (lb PM/ton)	Control Efficiency (%)	Controlled Emission Factor (lb PM/ton)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Bark Transfers								
Main Conveyor to Screen/Hog Conveyor	F-9	55,048	144,502	0.000051	70.0	0.000015	0.00042	0.0011
Screen/Hog Conveyor to Screen/Hog	F-10	55,048	144,502	0.000051	70.0	0.000015	0.00042	0.0011
Screen/Hog to Bark Bin Conveyor	F-13	55,048	144,502	0.000051	70.0	0.000015	0.00042	0.0011
Bark Bin Conveyor to Bark Bin	F-14	55,048	144,502	0.000051	70.0	0.000015	0.00042	0.0011
Bark Bin Truck Loading	F-15	55,048	144,502	0.000051	0.0	0.000051	0.0014	0.0036
Fines (Sawdust) Transfers								
Fines Chip Screen Conveyor to Fines Bin Conveyor	F-16	27,827	73,046	0.000051	70.0	0.000015	0.00021	0.0006
Fines Bin Conveyor to Fines Bin	F-17	27,827	73,046	0.000051	70 0	0.000015	0.00021	0.0006
Fines Bin Truck Loading	F-18	27,827	73,046	0.000051	0.0	0.000051	0.00070	0.0018
Baghouse Fines Truck Loading	F-35	4,719	12,387	0.000051	0.0	0.000051	0.00012	0.0003
Chips Transfers								
Oversize Chips Conveyor to Rechipper Conveyor	F-19	20,997	55,116	0.000051	70.0	0.000015	0.00016	0.00042
Chips Screen to Chips Bin Conveyor	F-22	230,963	606,279	0.000051	70.0	0.000015	0.0018	0.0046
Chips Bin Conveyor to Chips Bin	F-23	230,963	606,279	0.000051	70.0	0.000015	0.0018	0.0046
Chips Bin Truck Loading	F-24	230,963	606,279	0.000051	0.0	0.000051	0.0058	0.015
Planermill Shavings Transfers								
Cyclone Bin Truck Loading	F-27	23,595	61,937	0.000051	0.0	0.000051	0.0006	0.002

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed, mph	Gale Research, Pensacola, FL.
Material Moisture Content	Champion, 1999.
Material Transfer Point Identification	Champion, 1999.
Material Transfer Rates	Champion, 1999.
Control Efficiency	Table 3.2.3-2, Workbook on Estimation and Dispersion Modeling
	For Fugitive Particulate Sources, Utility Air Regulatory Group, September 1981.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	Date:	5/99
Evaluated by:	T. Davis	Date:	5/99
Data Entered by:	T. Davis	Date:	5/99

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM_{10} - MATERIAL TRANSFER (DROPS) **Figure: 2-3**

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM_{10} - Material Transfer (Drops)
Emission Control Method(s)/ID No.(s):	Enclosures
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

PM Emission (lb/hr) = 0.35 x 0.0032 x [(Wind Speed/5)$^{1.3}$ / (Material Moisture Content/2)$^{1.4}$] x Material Handled (ton/hr)

PM Emission (ton/yr) = 0.35 x 0.0032 x [(Wind Speed/5)$^{1.3}$ / (Material Moisture Content/2)$^{1.4}$] x Material Handled (ton/yr) x (1 ton/2,000 lb)

Source: Section 13.2-4, AP-42, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed: 8.3 mph Material Moisture Content: 50.0 weight %

Material Transfer Point	Source ID	Material Transfer Rates (lb/hr)	Material Transfer Rates (tpy)	Uncontrolled Emission Factor (lb PM/ton)	Control Efficiency (%)	Controlled Emission Factor (lb PM/ton)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Bark Transfers								
Main Conveyor to Screen/Hog Conveyor	F-9	55,048	144,502	0.000024	70.0	0.000007	0.00020	0.0005
Screen/Hog Conveyor to Screen/Hog	F-10	55,048	144,502	0.000024	70.0	0.000007	0.00020	0.0005
Screen/Hog to Bark Bin Conveyor	F-13	55,048	144,502	0.000024	70.0	0.000007	0.00020	0.0005
Bark Bin Conveyor to Bark Bin	F-14	55,048	144,502	0.000024	70.0	0.000007	0.00020	0.0005
Bark Bin Truck Loading	F-15	55,048	144,502	0.000024	0.0	0.000024	0.0007	0.0017
Fines (Sawdust) Transfers								
Fines Chip Screen Conveyor to Fines Bin Conveyor	F-16	27,827	73,046	0.000024	70.0	0.000007	0.00010	0.0003
Fines Bin Conveyor to Fines Bin	F-17	27,827	73,046	0.000024	70.0	0.000007	0.00010	0.0003
Fines Bin Truck Loading	F-18	27,827	73,046	0.000024	0.0	0.000024	0.00033	0.0009
Baghouse Fines Truck Loading	F-35	4,719	12,387	0.000024	0.0	0.000024	0.00006	0.0001
Chips Transfers								
Oversize Chips Conveyor to Rechipper Conveyor	F-19	20,997	55,116	0.000024	70.0	0.000007	0.00008	0.00020
Chips Screen to Chips Bin Conveyor	F-22	230,963	606,279	0.000024	70.0	0.000007	0.0008	0.0022
Chips Bin Conveyor to Chips Bin	F-23	230,963	606,279	0.000024	70.0	0.000007	0.0008	0.0022
Chips Bin Truck Loading	F-24	230,963	606,279	0.000024	0.0	0.000024	0.0028	0.007
Planermill Shavings Transfers								
Cyclone Bin Truck Loading	F-27	23,595	61,937	0.000024	0.0	0.000024	0.0003	0.001

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed, mph	Gale Research, Pensacola, FL.
Material Moisture Content	Champion, 1999.
Material Transfer Point Identification	Champion, 1999.
Control Efficiency	Table 3.2.3-2, Workbook on Estimation and Dispersion Modeling
	For Fugitive Particulate Sources, Utility Air Regulatory Group, September 1981.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	Date:	5/99
Evaluated by:	T. Davis	Date:	5/99
Data Entered by:	T. Davis	Date:	5/99

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM - ACTIVE OUTDOOR STORAGE — **Figure: 2-3**

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM - Active Outdoor Storage Piles
Emission Control Method(s)/ID No.(s):	Moist Material
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

PM Emission (lb/hr) = Emission Factor (lb PM/acre/day) x Storage Pile Area (acres) x (1 day/24 hrs)

PM Emission (ton/yr) = Emission Factor (lb PM/acre/day) x Storage Pile Area (acres) x Storage Period (dys/yr) x (1 ton/2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Storage Pile Material Type	Source ID	Period of Storage (dys/yr)	Pile Area (acre)	Uncontrolled Emission Factor (lb PM/acre/dy)	Control Efficiency (%)	Controlled Emission Factor (lb PM/acre/dy)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Chip Storage	F-31	10	0.770	13 2	70.0	3.96	0.127	0.015
Bark Storage	F-32	10	0.224	13.2	70.0	3.96	0.037	0.004
Sawdust Storage	F-33	10	0.200	13.2	70.0	3.96	0.033	0.004
Shavings Storage	F-34	5	0.157	13.2	70.0	3.96	0.026	0.002

SOURCES OF INPUT DATA

Parameter	Data Source
Storage Pile Identification	Champion, 1999.
Uncontrolled Emission Factors	Section 8.19.1-1, AP-42, September 1991.
Control Efficiency	Based on high moisture content, Texas Natural Resources Conservation Commission, 1999.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM_{10} - ACTIVE OUTDOOR STORAGE **Figure: 2-3**

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM_{10} - Active Outdoor Storage Piles
Emission Control Method(s)/ID No.(s):	Moist Material
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

PM_{10} Emission (lb/hr) = Emission Factor (lb PM/acre/day) x Storage Pile Area (acres) x (1 day/24 hrs)

PM_{10} Emission (ton/yr) = Emission Factor (lb PM/acre/day) x Storage Pile Area (acres) x Storage Period (dys/yr) x (1 ton/2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Storage Pile Material Type	Source ID	Period of Storage (dys/yr)	Pile Area (acre)	Uncontrolled Emission Factor (lb PM/acre/dy)	Control Efficiency (%)	Controlled Emission Factor (lb PM/acre/dy)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Chip Storage	F-31	10	0.770	6.3	70.0	1.89	0.061	0.007
Bark Storage	F-32	10	0 224	6.3	70.0	1.89	0 018	0.002
Sawdust Storage	F-33	10	0.200	6.3	70.0	1.89	0.016	0.002
Shavings Storage	F-34	5	0 157	6 3	70.0	1.89	0.012	0 001

SOURCES OF INPUT DATA

Parameter	Data Source
Storage Pile Identification	Champion, 1999.
Uncontrolled Emission Factors	Section 8.19.1-1, AP-42, September 1991.
Control Efficiency	Based on high moisture content, Texas Natural Resources Conservation Commission, 1999.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM - TRUCK TRAFFIC ON PAVED ROADS **Figure: 2-3**

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM - Truck Traffic on Paved Roads
Emission Control Method(s)/ID No.(s):	Sweeping and Watering, As Necessary
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

PM Emission (lb/hr) = 0.082 x [(Silt Loading Factor/2)$^{0.65}$] x (Truck Weight/3)$^{1.5}$ x Vehicle Miles Traveled (VMT)/hr

PM Emission (ton/yr) = 0.082 x [(Silt Loading Factor/2)$^{0.65}$] x (Truck Weight/3)$^{1.5}$ x Vehicle Miles Traveled (VMT)/yr x (1 ton/2,000 lb)

Source: Section 13.2-1, AP-42, January 1996.

INPUT DATA AND EMISSIONS CALCULATIONS

Controlled Silt Loading Factor: 0.23

Truck Traffic Type	Source ID	Vehicle Miles Traveled (VMT/hr)	Vehicle Miles Traveled (VMT/yr)	Vehicle Weight (ton)	Control Efficiency (%)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Raw Material Wood Trucks (Empty)	F-28	3.213	9,524	15.5	90.0	0.76	1.13
Raw Material Wood Trucks (Full)	F-28	3.213	9,524	40.0	90.0	3.16	4.68
Product Lumber Trucks (Empty)	F-29	2.011	4,614	15.5	90.0	0.48	0.55
Product Lumber Trucks (Full)	F-29	2.011	4,614	40.0	90.0	1.98	2.27
Wood By-Product Trucks (Empty)	F-30	2.630	12,981	15.5	90.0	0.62	1.54
Wood By-Product Trucks (Full)	F-30	2.630	12,981	40.0	90.0	2.59	6.38

SOURCES OF INPUT DATA

Parameter	Data Source
Controlled Silt Loading Factor	Based on factor for quarries and overall 90% control efficiency, Champion, 1999.
Vehicle Miles Traveled, VMT	Champion, 1999.
Truck Weights, ton	Champion, 1999.
Control Efficiency	Estimated, ECT 1999.

NOTES AND OBSERVATIONS

Truck travel distances (one-way) are 950 ft (log), 2,055 ft (lumber), and 1,970 ft (bark, chips, sawdust, and shavings).

Maximum daily truck counts are 250 (log), 62 (lumber), and 141 (wood by-products).

Maximum hourly VMT based on 14 hrs/dy (log), 12 hrs/dy (lumber), and 20 hrs/dy (wood by-products).

Average annual truck counts are 52,931 (log), 11,856 (lumber), and 34,793 (wood by-products).

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM_{10} - TRUCK TRAFFIC ON PAVED ROADS **Figure: 2-3**

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM_{10} - Truck Traffic on Paved Roads
Emission Control Method(s)/ID No.(s):	Sweeping and Watering, As Necessary
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

PM_{10} Emission (lb/hr) = 0.016 x [(Silt Loading Factor/2)$^{0.65}$] x (Truck Weight/3)$^{1.5}$ x Vehicle Miles Traveled (VMT)/hr

PM_{10} Emission (ton/yr) = 0.016 x [(Silt Loading Factor/2)$^{0.65}$] x (Truck Weight/3)$^{1.5}$ x Vehicle Miles Traveled (VMT)/yr x (1 ton/2,000 lb)

Source: Section 13.2-1, AP-42, January 1996.

INPUT DATA AND EMISSIONS CALCULATIONS

Controlled Silt Loading Factor: 0.23

Truck Traffic Type	Source ID	Vehicle Miles Traveled		Vehicle Weight	Control Efficiency	Potential Emission Rates	
		(VMT/hr)	(VMT/yr)	(ton)	(%)	(lb/hr)	(tpy)
Raw Material Wood Trucks (Empty)	F-28	3.213	9,524	15.5	90.0	0.15	0.22
Raw Material Wood Trucks (Full)	F-28	3.213	9,524	40.0	90.0	0.62	0.91
Product Lumber Trucks (Empty)	F-29	2.011	4,614	15.5	90.0	0.09	0.11
Product Lumber Trucks (Full)	F-29	2.011	4,614	40.0	90.0	0.39	0.44
Wood By-Product Trucks (Empty)	F-30	2.630	12,981	15.5	90.0	0.12	0.30
Wood By-Product Trucks (Full)	F-30	2.630	12,981	40.0	90.0	0.50	1.25

SOURCES OF INPUT DATA

Parameter	Data Source
Controlled Silt Loading Factor	Based on factor for quarries and overall 90% control efficiency, Champion, 1999.
Vehicle Miles Traveled, VMT	Champion, 1999.
Truck Weights, ton	Champion, 1999.
Control Efficiency	Estimated, ECT 1999.

NOTES AND OBSERVATIONS

Truck travel distances (one-way) are 950 ft (log), 2,055 ft (lumber), and 1,970 ft (bark, chips, sawdust, and shavings).

Maximum daily truck counts are 250 (log), 62 (lumber), and 141 (wood by-products).

Maximum hourly VMT based on 14 hrs/dy (log), 12 hrs/dy (lumber), and 20 hrs/dy (wood by-products).

Average annual truck counts are 52,931 (log), 11,856 (lumber), and 34,793 (wood by-products).

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

Champion International
McDavid Sawmill
Storage Pile Dimensions

For 30° angle of repose, pile height/pile diameter ratio = 0.289

Pile Dimension Calculations:

Pile	Pile Dia. (ft)	Pile Height (ft)	Pile Radius (ft)	Pile Base Area (ft^2)	Pile Base Area (acre)	Pile Volume (ft^3)	Pile Surface Area (ft^2)	Pile Slope Length (ft)	Angle of Repose (o)
Chips	206.7	59.7	103.3	33,553	0.770	661,396	38,754	119.4	30.028
Bark	111.5	32.2	55.7	9,759	0.224	103,745	11,272	64.4	30.028
Sawdust	105.4	30.5	52.7	8,722	0.200	87,655	10,074	60.9	30.028
Shavings	93.2	26.9	46.6	6,827	0.157	60,699	7,885	53.8	30.028

Sources: Champion, 1999.
ECT, 1999.

Maximum PM/PM_{10} Pollutant Emission Rates - Fugitive Sources

Emission Source Description	Emission Source ID	Emission Rates			
		PM		PM_{10}	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)
Bark Processing/Handling					
Conveyor Transfer; Main Conveyor to Disc Screen/Hog Conveyor	F-9	0.0004	0.0011	0.0002	0.0005
Conveyor Transfer; Disc Screen/Hog Conveyor to Disc Screen/Hog	F-10	0.0004	0.0011	0.0002	0.0005
Conveyor Transfer; Disc Screen/Hog to Bark Bin Conveyor	F-13	0.0004	0.0011	0.0002	0.0005
Conveyor Transfer; Bark Bin Conveyor to Bark Bin	F-14	0.0004	0.0011	0.0002	0.0005
Bark Bin Truck Loading	F-15	0.0014	0.0036	0.0007	0.0017
Fines (Sawdust) Processing/Handling					
Conveyor Transfer; Fines Chip Screen Conveyor to Fines Bin Conveyor	F-16	0.0002	0.0006	0.0001	0.0003
Conveyor Transfer; Fines Bin Conveyor to Fines Bin	F-17	0.0002	0.0006	0.0001	0.0003
Fines Bin Truck Loading	F-18	0.0007	0.0018	0.0003	0.0009
Baghouse Fines Truck Loading	F-35	0.0001	0.0003	0.0001	0.0001
Chips Processing/Handling					
Conveyor Transfer; Oversize Chips Conveyor to Rechipper Conveyor	F-19	0.0002	0.0004	0.0001	0.0002
Conveyor Transfer; Chips Screen to Chips Bin Conveyor	F-22	0.0018	0.0046	0.0008	0.0022
Conveyor Transfer; Chips Bin Conveyor to Chips Bin	F-23	0.0018	0.0046	0.0008	0.0022
Chips Bin Truck Loading	F-24	0.0058	0.0153	0.0028	0.0072
Planermill Shavings					
Cyclone Bin Truck Loading	F-27	0.0006	0.0016	0.0003	0.0007
Truck Traffic on Paved Roadways					
Raw Material Wood Trucks	F-28	3.9208	5.8109	0.7650	1.1338
Product Lumber Trucks	F-29	2.4539	2.8155	0.4788	0.5494
Wood By-Product Trucks	F-30	3.2099	7.9208	0.6263	1.5455
Outdoor Storage Piles					
Chip Storage	F-31	0.1271	0.0153	0.0607	0.0073
Bark Storage	F-32	0.0370	0.0044	0.0176	0.0021
Sawdust Storage	F-33	0.0330	0.0040	0.0158	0.0019
Shavings Storage	F-34	0.0259	0.0016	0.0123	0.0007
Totals		**9.8221**	**16.6103**	**1.9834**	**3.2586**

Sources: Champion, 1999.
ECT, 1999.

VENDOR DATA

PACKAGE BOILER AND PLANERMILL DUST COLLECTOR

McBurney
4274 Shackleford Rd., Norcross, GA 30093 USA
P.O. Box 1827, Norcross, GA 30091-1827 USA
TEL: (770) 925-7100 / FAX: (770) 925-7400

FAX / MEMO

DATE: 7/12/99 **Page:** 1 of 2

TO: Mark Culpepper
Mid-South Engineering

PHONE: **FAX:** 501-624-4214

FROM: Dave Heinzmann

REFERENCE: Champion New Mill

This will confirm emission data given to you over the phone earlier. For a 50,000 PPH natural gas fired boiler, the following emission levels are achievable.

NOx – 0.1 #/MMBtu
CO – 0.1 #/MMBtu
VOC – 0.05 #/MMBtu
Particulate – 0.0035 #/MMBtu
SOx – 0.0006 #/MMBtu

Notes:

1) Particulate Matter is based on:
   A. TSP level is based on conducting the first portion of EPA test method #5, which measures "filterable" or "non-condensable" particulate.
   B. TSP level is based on the Natural Gas analysis outlined in Item B-05 of the project specifications.
   C. TSP level is to exclude PM/PM10 contributions from the ambient combustion air.
2) SOx is based on maximum sulfur content in natural gas of 0.20 grains per 100 SCF of fuel gas.
3) Emissions based on 15% excess air and no flue gas recirculation (FGR).
4) Based on use of a Nebraska Model NS-E-58 or similarly sized boiler equipped with a feedwater economizer.

Hope this helps. We look forward to working with you on this project.

Dave Heinzmann

Attachment – Coen letter of July 10, 1999
cc: Tom Davis
ECT – Fax 352-332-6722
Ed Mockridge
Mike Cantrell
McBurney

FILTER EMISSIONS STATEMENT
FOR
MID-SOUTH ENGINEERING

Reference:	Quote No.__________
Application:	Wood dust
Moisture:	18% RH
Temperature:	Ambient
Hydrocarbons:	None
Air Volumes:	Total = 60,000 cfm
	Planer Machine = 34,000 cfm
	Trimmer = 7,000 cfm
	Trim Block Hog = 15,000 cfm
	Planer Infeed Pineapple Rolls = 3,000 cfm

MAC Equipment, Inc. warrants its filters to be free of mechanical defects for a period of one year in accordance with the "Warranty and Limitation" statement included with the proposal.

MAC Equipment, Inc. also warrants the emissions of its MCF filters with its polyester filter bags with an expanded PTFE membrane, when properly installed, applied and maintained, and when operated per the design parameters referenced in the original proposal and in accordance with the manufacturers operations manuals, to emit no more than approximately 0.002 gr / dscf based on dry dust particles only. MAC believes that standard 16 oz. singed polyester filter bags have a reasonable probability to attain the stated emissions rate. However, the lack of an actual process dust sample to analyze for particle size distribution enables MAC to only warranty the emissions rate for the polyester/ membrane composite filter bags.

The Buyer will be responsible for any emissions testing expense and MAC Equipment Inc. reserves the right to be present during any emission tests and shall be notified at least 2 weeks prior to the testing. Emissions testing must be conducted within 60 days of start-up, or 60 days from equipment shipment. Upon attainment of the stated emissions rate, Seller shall have no further liability to Buyer under this emissions statement.

Misuse, abuse, operating outside the stated parameters, and / or water, oil, or hydrocarbons on the media will void the emissions warranty. MAC Equipment, Inc. will not be held responsible for any failures or excess emissions due to upset operating conditions. Under no circumstances will MAC Equipment, Inc. be liable or responsible for incidental or consequential damages.

Steve Sargent
Application Engineering Manager
6-9-99 (This document replaces the previous 5-4-99 document which is hereby voided).

MAC Equipment Inc.
7901 NW 107th Terrace
Kansas City, MO 64153-1910
816-891-9300 800-821-2476
Fax 816-891-8978
www.macequipment.com

RTO VENDOR QUOTE

GEOENERGY International Corporation

101 North Virginia Street
Suite 210
Crystal Lake, IL 60014 USA
(815) 477-9173
FAX (815) 477-9174

June 7,1999

Champion
PO Box 200
Camden, TX 75941

Attn: Mr. Terry Kassabaum

Subject: VOC Emission Control Equipment

Reference: Geoenergy Proposal Number 9999-05-259-RTO

Dear Mr. Kassabaum:

Geoenergy International Corporation is pleased to provide you with our revised budgetary proposal as referenced above. This revision is for a GeoTherm® Regenerative Thermal Oxidizer (RTO) system to control VOC emissions from your wood drying kilns in Camden, TX.

The GeoTherm RTO is a versatile, reliable and economic system with the capability to treat a variety of flow rates and VOC loadings to a very high degree of destruction. The system operates by alternately passing the gas stream through heat recovery chambers prior to treatment in the 1,500°F combustion chamber where the VOCs are completely oxidized. Thus, high VOC destruction is achieved with minimum fuel consumption.

With only two moving parts this design is extremely simple so that operation is highly reliable and maintenance requirements are minimal. These features add up to a system that costs less to purchase and operate, but provides the highest possible VOC destruction performance.

Based on your process requirements we have designed the RTO with 95% thermal efficiency to minimized fuel consumption during normal operation.

The following is a brief summary of our recommendations for a GeoTherm RTO system to treat the gas stream that you have described. Included are a description of the recommended scope-of-supply, the estimated operating costs, a suggested project schedule and a budget price estimate.

DESIGN CONDITIONS

Our proposal and design is based on preliminary information supplied for this project as follows:

GeoTherm Design Volume (ACFM)	138,000
Oxidizer Thermal Efficiency (%)	95
Oxidation Temperature (°F)	1,500
Process Exhaust Temperature (°F)	205
Moisture content (% by volume)	56
VOC Loading (#/hr)	85
VOC Gross Heating Value (BTU/#)	12,500
VOC Destruction Requirements (%)	95

Note: The process exhaust air stream is assumed not to contain acids, caustic or halogenated hydrocarbons.

SYSTEM OPERATING COST

RTO SYSTEM

	THREE SYSTEMS @ 46,000 ACFM ea.
Process Exhaust Volume (ACFM)	46,000/unit
Oxidizer Inlet Temperature (°F)	205°F
Oxidation Temperature (°F)	1,500°F
Oxidizer Outlet Temperature (°F)	270°F
Heat Load Requirement @ 28.4 #/hr VOC	3,061,000 BTU/hr
Heat Load Requirement @ 0 #/hr VOC	3,473,000 BTU/hr
Oxidizer Force Draft Fan (Bhp)	160
Power Requirement (kW)	131
Fuel Cost @ $3.50/MMBTU (@ 28.4#/hr)	$10.71/hr
Fuel Cost @ $3.50/MMBTU (@ 0#/hr)	$12.16/hr
Power Cost @ $0.037/kW-hr	$4.85/hr

SCOPE OF SUPPLY

	Included	Excluded	N/A	Option
• RTO housing including transition, recovery and combustion chambers	X			
• Oxidizer ceramic blanket internal insulation	X			
• Heat recovery media for 95% T.E.	X			
• Burner system with fuel train	X			
• Two-way fast action poppet valves with pneumatic actuators	X			
• Forced draft supply fan and motor	X			
• Variable frequency drive	X			
• Inlet and outlet manifold	X			
• External manifold insulation		X		
• Main exhaust stack 50'-0" high	X			
• Burner access platform and ladder	X			
• Main control panel pre-wired and shop tested (A-B PLC supplied)	X			
• All motor starters	X			
• Local disconnects		X		
• Process exhaust ductwork to RTO		X		
• Foundations		X		
• Mechanical and electrical installation	X			
• Start-up and operator training	X			
• Freight to job site	X			
• O&M manuals (3)	X			
• Compliance testing		X		

BUDGETARY PRICING

Geoenergy will supply one (1) 46,000 ACFM GeoTherm Regenerative Thermal Oxidizer System per the attached scope of supply for the budgetary price of.......................**$595,000.00/system**

PROPOSAL SCHEDULE

The following is Geoenergy's standard schedule and may be modified to meet specific project requirements.

TASK	# OF WEEKS	WEEK(s) AFTER P.O.
Contract Review	1	1
Design Engineering	3	4
Engineering Approval	1	5
Fabrication and Equipment Procurement	12-16	14-18
Deliver	1	15-19
Installation	3	18-22
Start-Up	1	19-23

We hope you find our offering to be of interest and look forward to supplying you with a more detailed proposal once your specific design criteria has been established. In the meantime, if you should have any questions regarding this proposal or require additional information please call me at (815) 477-9173.

Best regards,

Ray Eisman
Manager of Applications Engineering

CC: Ronald Lansing, Geoenergy International Corporation

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

July 9, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Dave Stevens
Manager of Special Products, Forest Products
Champion International Corporation
117 Pace Parkway
Cantonment, Florida 32533

Re: Request for Additional Information
DEP File No. 0330260-001-AC (PSD-FL-271)
Proposed McDavid Sawmill

Dear Mr. Stevens:

On June 15, 1999 the Department received your application and complete fee for an air construction/PSD permit for a proposed new lumber sawmill near McDavid, Florida. We are processing your application. In order to complete our review the Department will need the additional information requested below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. Rule 62-212.400(2)(b), F.A.C., provides for exemption of fugitive emissions from the determination of whether this facility is major for PSD, but Rule 62-212.400(2)(f), F.A.C., requires fugitive emissions be included in determining which pollutants equal or exceed the significant emission rate. The facility is major because of VOC potential emissions, and is significant for PM and PM_{10}. Please address the PSD requirements of Rule 62-212.400, F.A.C., for PM and PM_{10}. Include an analysis of BACT for PM and PM_{10} and VE, and ambient modeling for PM_{10}. Include the fugitive sources in your assessment and modeling.

2. Please review the emissions estimate for the fugitive sources and describe which sources you are confident are accurately quantifiable. Include emissions estimates for only those sources, and include only these sources in your BACT evaluation and modeling. Provide justification for those sources you determine are not accurately quantifiable.

3. Regarding the truck traffic emissions estimate, Section 13.2.1.4 of AP-42 states that preventive controls should be accounted for by substituting the controlled silt loading values into the estimation equation. What will the controlled silt value be and how will that compare to other silt values included in AP-42?

4. Please provide supporting information from the equipment vendors to support the emission factors used for the boilers for NOx, CO, VOC and PM/PM_{10} emissions, and PM emissions from the planermill cyclone/baghouse.

5. The control cost estimates for the kilns appear to be based on only one estimate each for the RTO and RCO systems. Were any other vendors contacted to obtain quotes for other thermal or catalytic

oxidizers? If, so, please provide the resulting quotes. If not, please explain why additional quotes were not requested.

6. Please justify the use of a 50% contingency in the control cost estimations.
7. Please explain why 6.0 hours per shift for maintenance labor, and 100% of this value for maintenance materials, were used in the control cost estimates.

The Department will complete its review after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. Material changes to the application should also be accompanied by a new certification statement by the authorized representative or responsible official. Permit applicants are advised that Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days. If there are any questions, please call me at 850/921-9519. Matters regarding modeling issues should be directed to Cleve Holladay (meteorologist) at 850/921-8986.

Sincerely,

Joseph Kahn, P.E.
New Source Review Section

/jk

cc: Mr. Gregg Worley, EPA
Mr. John Bunyak, NPS
Mr. Ed Middleswart, NWD
Mr. Terry Kassabaum, Champion
Mr. Tom Davis, P.E., ECT

Z 333 618 193

US Postal Service
Receipt for Certified Mail
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Sent to Dave Stevens	
Street & Number Champion	
Post Office, State, & ZIP Code Cantonment Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 7-9-99 0330260-001-AC PSD-F1-271	

PS Form **3800**, April 1995

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write *"Return Receipt Requested"* on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Dave Stevens Mgr. of Special Products
Champion Int'l Corp
117 Pace Pkwy
Cantonment, FL
32533

4a. Article Number
Z 333 618 193

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
7/12/99

5. Received By: *(Print Name)*
Donna S. Gross

6. Signature: *(Addressee or Agent)*
X Donna Gross

8. Addressee's Address *(Only if requested and fee is paid)*

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

PS Form **3811**, December 1994 102595-98-B-0229 Domestic Return Receipt

INTEROFFICE MEMORANDUM

Sensitivity: COMPANY CONFIDENTIAL

Date: 09-Jul-1999 09:58pm
From: Alvaro Linero TAL
LINERO_A
Dept: Air Resources Management
Tel No: 850/921-9532

To: Dave Stevens (stevedb@CHAMPINT.COM)
CC: acornelius (acornelius@enterprise.state.fl.us)
CC: Joseph Kahn TAL (KAHN_J)
CC: Clair Fancy TAL (FANCY_C)

Subject: Re: Thanks and FYI

Dave. Thank you for your message. We are never too busy to meet with applicants. It's one of our most important functions and we like to do it.

We put the best engineer on it. He has the full support and confidence of his supervisor(s) and is a P.E., so I won't need to take up much time on the clock in reviewing his work.

I know Tom Davis well as we have reviewed quite a number of projects for which he is the applicant's P.E. We won't hesitate to call him on anything that comes up.

Thanks again. Al Linero.

INTEROFFICE MEMORANDUM

Date: 09-Jul-1999 05:04pm
From: Dave Stevens
stevedb@CHAMPINT.COM
Dept:
Tel No:

To: Kahn_J (Kahn_J@dep.state.fl.us)
CC: tdavis (tdavis@ectinc.com)
CC: John Barone (baronj@CHAMPINT.COM)
CC: Terry G Kassabaum (kassat@CHAMPINT.COM)
CC: acornelius (acornelius@enterprise.state.fl.us)

Subject: Follow-up

Thanks for meeting with the Champion crew yesterday to review the McDavid air construction permit. Also appreciate your letter of the 8th, cuz now we have a list that we can work to and address the additional issues. We will be doing this work over the weekend and early next week and should be ready with most (if not all) responses by next Friday.

I wanted to follow up and see how the meeting went from your perspective, and if there was anything else that I need to provide leadership on to keep this project on the "fast track" (i.e.: expedited permitting). We recognize that the August 15 request date is impractical now (even with all our best efforts). It is appreciated greatly that you have offered to continue the review and draft permit writing process; thanks. Wanted to get your opinion of what would be reasonable timeframes for the following, given that we can address all outstanding issues by the end of next week (~~23rd~~): 16TH

finalize review, draft permit ready and wording for public comment notice sent to us?
amount of time after public comment period (provided no negative public comment) to finalize and issue the permit?

I can be reached at 850-937-4849, or return e-mail.
Thanks
Dave
Project Director

ECT
Environmental Consulting & Technology, Inc.

Environmental Consulting & Technology, Inc. - ECT

3701 Northwest 98th Street
Gainesville, Florida 32606
352/332-0444

TELECOPY COVERSHEET

TO: Joe Kahn

TELECOPY NUMBER: (850) 922-6979

FROM: Tom Davis

DATE: 07/09/99 CHARGE NO.: 990294-0100

WE ARE TRANSMITTING 6 PAGES, INCLUDING COVERSHEET. IF THE TRANSMISSION WAS NOT COMPLETE OR IF THE MESSAGE WAS NOT LEGIBLE, PLEASE CALL US IMMEDIATELY.

352/332-0444--SWITCHBOARD

352/332-6722--FACSIMILE MACHINE

352/332-6733--FACSIMILE MACHINE (Accounting)

COMMENTS:

Joe, copy of AP-42 Section 10.3 (2/80) as requested at yesterday's meeting.

The original of the transmitted document will be sent by:

( ) Regular mail (X) Overnight Mail ( ) E-Mail

(X) This fax is the *ONLY* form of delivery

10.3 PLYWOOD VENEER AND LAYOUT OPERATIONS

10.3.1 General[1-3]

Plywood is a building material consisting of veneers (thin wood layers or plies) bonded with an adhesive. The outer layers (faces) surround a core which is usually lumber, veneer or particle board. Plywood uses are many, including wall siding, sheathing, roof decking, concrete formboards, floors, and containers. Most plywood is made from Douglas Fir or other softwoods, and the majority of plants are in the Pacific Northwest. Hardwood veneers make up only a very small portion of total production.

In the manufacture of plywood, logs are sawed to the desired length, debarked and peeled into veneers of uniform thickness. Veneer thicknesses of less than one half inch or one centimeter are common. These veneers are then transported to veneer dryers with one or more decks, to reduce their moisture content. Dryer temperatures are held between about 300 and 400°F (150 - 200°C). After drying, the plies go through the veneer layout operation, where the veneers are sorted, patched and assembled in perpendicular layers, and a thermosetting resin adhesive applied. The veneer assembly is then transferred to a hot press where, under pressure and steam heat, the product is formed. Subsequently, all that remains is trimming, face sanding, and possibly some finishing treatment to enhance the usefulness of the product. Plywood veneer and layout operations are shown in Figure 10.3-1.

10.3.2 Emissions and Controls[2-8]

Emissions from the manufacture of plywood include particulate matter and organic compounds. The main source of emissions is the veneer dryer, with other sources producing negligible amounts of organic compound emissions or fugitive emissions. The log steaming and veneer drying operations produce combustion products, and these emissions depend entirely on the type of fuel and equipment used.

Uncontrolled fugitive particulate matter, in the form of sawdust and other small wood particles, comes primarily from the plywood cutting and sanding operations. To be considered additional sources of fugitive particulate emissions are log debarking, log sawing and sawdust handling. The dust that escapes into the air from sanding, sawing and other woodworking operations may be controlled by collection in an exhaust system and transport through duct work to a sized cyclone. Section 10.4 discusses emissions from such woodworking waste collection operations. Estimates of uncontrolled particulate emission factors for log debarking and sawing, sawdust pile handling, and plywood sanding and cutting are given in Table 10.3-1. From the veneer dryer, and at stack temperatures, the only particulate emissions are small amounts of wood fiber particles in concentrations of less than 0.002 grams per dry standard cubic foot.

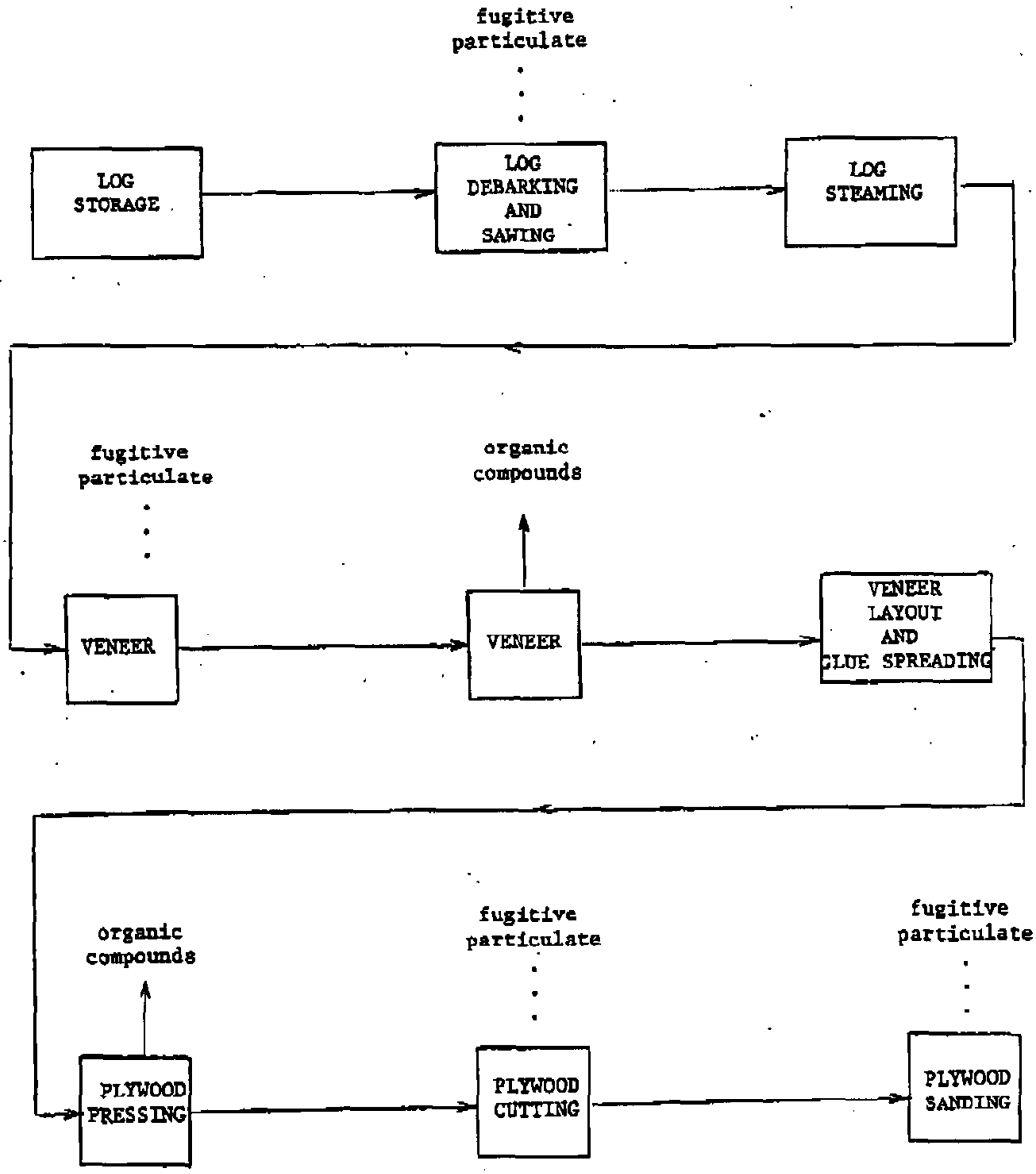

Figure 10.3-1. Plywood veneer and layout operations.[4,5]

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Table 10.3-1. UNCONTROLLED FUGITIVE PARTICULATE EMISSION FACTORS FOR PLYWOOD VENEER AND LAYOUT OPERATONS

EMISSION FACTOR RATING: E

Source	Particulates	
Log debarking[a]	0.024 lb/ton	0.012 kg/MT
Log sawing[a]	0.350 lb/ton	0.175 kg/MT
Sawdust handling[b]	1.0 lb/ton	0.5 kg/MT
Veneer lathing[c]	NA	NA
Plywood cutting and sanding[d]	0.1 lb/ft^2	0.05 kg/m^2

[a]Reference 7. Emission factors are expressed as units per unit weight of logs processed.
[b]Reference 7. Emission factors are expressed as units per unit weight of sawdust handled, including sawdust pile loading, unloading and storage.
[c]Estimates not available.
[d]Reference 5. Emission factors are expressed as units per surface area of plywood produced. These factors are expressed as representative values for estimated values ranging from 0.066 to 0.132 lb/ft^2 (0.322 to 0.644 kg/m^2).

The major pollutants emitted from veneer dryers are organic compounds. The quantity and type of organics emitted vary, depending on the wood species and on the dryer type and its method of operation. There are two discernable fractions which are released, condensibles and volatiles. The condensible organic compounds consist largely of wood resins, resin acids and wood sugars, which cool outside the stack to temperatures below 70°F (21°C) and combine with water vapor to form a blue haze, a water plume or both. This blue haze may be eliminated by condensing the organic vapors in a finned tube matrix heat exhanger condenser. The other fraction, volatile organic compounds, is comprised of terpenes and natural gas components (such as unburned methane), the latter occurring only when gas fired dryers are used. The amounts of organic compounds released because of adhesive use during the plywood pressing operation are negligible. Uncontrolled organic process emission factors are given in Table 10.3-2.

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Table 10.3-2. UNCONTROLLED ORGANIC COMPOUND PROCESS EMISSION FACTORS FOR PLYWOOD VENEER DRYERS[a]

EMISSION FACTOR RATING: B

Species	Volatile Organic Compounds		Condensible Organic Compounds	
	$lb/10^4\ ft^2$	$kg/10^4\ m^2$	$lb/10^4\ ft^2$	$kg/10^4\ m^2$
Douglas Fir				
sapwood				
steam fired	0.45	2.3	4.64	23.8
gas fired	7.53	38.6	2.37	12.1
heartwood	1.30	6.7	3.18	16.3
Larch	0.19	1.0	4.14	21.2
Southern pine	2.94	15.1	3.70	18.9
Other[b]	0.03-3.00	0.15-15.4	0.5-8.00	2.56-41.0

[a]Reference 2. Emission factors are expressed in pounds of pollutant per 10,000 square feet of 3/8 inch thick veneer dried, and kilograms of pollutant per 10,000 square meters of 1 centimeter thick veneer dried. All dryers are steam fired unless otherwise specified.
[b]These ranges of factors represent results from one source test for each of the following species (in order from least to greatest emissions): Western Fir, Hemlock, Spruce, Western Pine and Ponderosa Pine.

References for Section 10.3

1. C.B. Hemming, "Plywood", Kirk-Othmer Encyclopedia of Chemical Technology, Second Edition, Volume 15, John Wiley & Sons, Inc., New York, NY, 1968, pp. 896-907.

2. F. L. Monroe, et al., Investigation of Emissions from Plywood Veneer Dryers, Washington State University, Pullman, WA, February 1972.

3. Theodore Baumeister, ed., "Plywood", Standard Handbook for Mechanical Engineers, Seventh Edition, McGraw-Hill, New York, NY, 1967, pp. 6-162 - 6-169.

4. Allen Mick and Dean McCargar, Air Pollution Problems in Plywood, Particleboard, and Hardboard Mills in the Mid-Willamette Valley, Mid-Willamette Valley Air Pollution Authority, Salem, OR, March 24, 1969.

5. Controlled and Uncontrolled Emission Rates and Applicable Limitations for Eighty Processes, Second Printing, EPA-340/1-78-004, U.S. Environmental Protection Agency, Research Triangle Park, NC, April 1978, pp. X-1 - X-6.

6. John A. Danielson, ed., Air Pollution Engineering Manual, AP-40, Second Edition, U.S. Environmental Protection Agency, Research Triangle Park, NC, May 1973, pp. 372-374.

7. Assessment of Fugitive Particulate Emission Factors for Industrial Processes, EPA-450/3-78-107, U.S. Environmental Protection Agency, Research Triangle Park, NC, September 1978.

8. C. Ted Van Decar, "Plywood Veneer Dryer Control Device", Journal of the Air Pollution Control Association, 22:968, December 1972.

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Table 5-10. RBLC VOC Summary - Natural Gas-Fired Boilers

RBLCID	Facility Name	City	Permit Dates Issue	Permit Dates Last Update	Process Description	Throughput Rates	Emission Limits	Control Description	BASIS
AL-0125	ALABAMA POWER PLANT BARRY	BUCKS	8/7/98	4/15/99	BOILERS, NATURAL GAS COMBUSTION	510 MW(TOTAL)	0.015 LB/MMBTU	EFFICIENT COMBUSTION	BACT-PSD
AR-0017	STAFFORD RAILSTEEL CORPORATION	WEST MEMPHIS	8/17/93	3/24/95	BOILER, VTD	46.5 MMBTU/H	0.8 TPY	FUEL SPEC: USE OF NATURAL GAS	OTHER
GA-0063	MID-GEORGIA COGEN.	KATHLEEN	4/3/96	8/19/96	BOILER, NATURAL GAS	60 MMBTU/HR	0.005 LB/MMBTU	COMPLETE COMBUSTION	BACT-PSD
IN-0068	WAUPACA FOUNDRY - PLANT 5	TELL CITY	1/19/96	5/31/96	BOILERS, NATURAL GAS	93.9 MMBTU/HR	0.55 LBS/HR		BACT-PSD
KY-0052	TOYOTA MOTOR MANUFACTURING U.S.A. INC.	GEORGETOWN	7/17/86	12/22/92	COMBUSTION, NATURAL GAS		0.0026 LB/MMBTU		BACT-PSD
LA-0085	TRANSAMERICAN REFINING CORPORATION (TARC)	NEW SARPY	1/15/93	3/24/95	BOILER	1.2 MMBTU/HR	0.01 LB/HR	GOOD COMBUSTION PRACTICES	LAER
LA-0090	TRANSAMERICAN REFINING CORPORATION	NORCO	2/10/95	4/17/95	BOILER, NATURAL GAS/RFG FIRED	244 MM BTU/HR	0.34 LB/HR	COMBUSTION CONTROL	BACT-PSD
MI-0202	JAMES RIVER CORP	KALAMAZOO	9/17/91	10/30/91	BOILER	226.7 MMBTU/H NAT GAS	0.025 LB/MMBTU		BACT-PSD
MS-0029	WEYERHAEUSER COMPANY	COLUMBUS	9/10/96	12/30/96	BOILER, NATURAL GAS	400 MMBTU/HR	0.0013 LB/MMBTU	EFFICIENT OPERATION	BACT-PSD
NJ-0013	LAKEWOOD COGENERATION, L.P.	LAKEWOOD TOWNSHIP	4/1/91	5/29/95	BOILER (NATURAL GAS)	131 MMBTU/HR	0.0017 LB/MMBTU	BOILER DESIGN	OTHER
NJ-0017	NEWARK BAY COGENERATION PARTNERSHIP, L.P.	NEWARK	6/9/93	5/29/95	BOILER, AUXILIARY, NATURAL GAS-FIRED	200 MMBTU/HR	0.005 LB/MMBTU	BOILER DESIGN	OTHER
NY-0046	SARANAC ENERGY COMPANY	PLATTSBURGH	7/31/92	9/13/94	BOILER, AUXILIARY (GAS OR LPG)	249 MMBTU/HR	0.0045 LB/MMBTU	COMBUSTION CONTROLS	BACT-OTHER
NY-0072	KAMINE/BESICORP SYRACUSE LP	SOLVAY	12/10/94	4/27/95	(3) UTILITY BOILER (EP #S 00002-4)	33 MMBTU/HR	0.003 LB/MMBTU, 0.11 LB/HR	NO CONTROLS	BACT-OTHER
NY-0072	KAMINE/BESICORP SYRACUSE LP	SOLVAY	12/10/94	4/27/95	HEAT & STEAM BOILER (EP #00006)	2.5 MMBTU/HR	0.004 LB/MMBTU, 0.01 LB/HR	NO CONTROLS	BACT-OTHER
WA-0279	BOISE CASCADE CORPORATION - YAKIMA COMPLEX	YAKIMA	11/16/96	8/22/97	NATURAL GAS FIRED BOILERS	800 HP	50.7 LBS/DAY	FUEL SPEC: NATURAL GAS	BACT-PSD
WV-0011	CNG TRANSMISSION CORPORATION		5/3/93	3/2/94	BOILER, WATER	10 MMBTU/HR	2.8 LB/MIL. CU. FT		BACT-OTHER
WY-0043	SF PHOSPHATE LIMITED COMPANY	4.5 MILES E-SE OF ROCK SPRINGS	7/2/93	4/15/99	BOILER, NATURAL GAS FIRED	350 MMBTU/H	0.45 LB/H		BACT-PSD

Source: RBLC, 1999.

FOR 7/8/99 MEETING,
CHAMPION McDAVID SAWMILL

62-212.400 Prevention of Significant Deterioration (PSD).

(2) Applicability.

(b) Fugitive Emissions Exemption. A proposed new facility or modification shall not be subject to the preconstruction review requirements of this rule if:

1. The affected facility would not belong to any of the facility categories listed in Table 212.400-1, Major Facility Categories, or any other facility category which, as of August 7, 1980, is being regulated under 40 CFR 60 or 40 CFR 61; and

2. The facility or modification would be subject to the preconstruction review requirements of this rule **only if fugitive emissions, to the extent quantifiable, are considered in determining whether the affected facility would be subject to preconstruction review requirements** pursuant to Rule 62-212.400(2)(d)2., F.A.C., if it is or were itself a proposed new facility.

(d) New and Modified Facilities.

2. New Major Facilities. Unless exempted under Rule 62-212.400(2)(a) or (b), F.A.C., a proposed new major facility shall be subject to the preconstruction review requirements of this rule if:

a. For any pollutant regulated under the Act, except for lead, the sum of the quantifiable fugitive emissions and the potential emissions of all emissions units at the facility which have the same "Major Group" Standard Industrial Classification (SIC) Code (as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement; U. S. Government Printing Office, stock numbers 4101-006 and 003-005-00176-01, respectively) would be **equal to or greater than 250 tons per year**;

(f) Pollutants Subject to PSD Preconstruction Review.

1. Except as provided under Rule 62-212.400(2)(f)3., F.A.C., below, for a proposed new facility or modification subject to the preconstruction review requirements of this rule pursuant to Rule 62-212.400(2)(d)2. or 3., F.A.C., the preconstruction review requirements of this rule shall apply to all pollutants regulated under the Act **for which the sum of the potential emissions and the quantifiable fugitive emissions of the facility** or modification would be equal to or greater than the significant emission rates listed in Table 212.400-2 , Regulated Air Pollutants - Significant Emission Rates

3. For a proposed new facility or modification subject to the preconstruction review requirements of this rule which would construct in an area designated as nonattainment for any pollutant other than ozone under Rule 62-204.340, F.A.C., the preconstruction review requirements of this rule shall not apply to emissions of the affected pollutant.

MEETING 7/8/99 WITH
TERRY COLE, JOHN BARROWE - CHAMPION, TOM DAVIS - ECT
JOE KAHN, PAT COMER, CLAIR, AL LINERO, CLEVE.

DEP WILL SEND REQUEST FOR ADDL. INFO.

INTEROFFICE MEMORANDUM

Date: 22-Jun-1999 04:31pm
From: Joseph Kahn TAL
KAHN_J
Dept: Air Resources Management
Tel No: 850/921-9519

To: Ellen_Porter (Ellen_Porter@nps.gov)

Subject: Re: Champion International McDavid Sawmill

Thanks for your quick response. I haven't thoroughly reviewed the application but so far I'm not comfortable with the emissions estimation for PM10 at 14.5 tons, because the applicant has requested a synthetic limit for this pollutant for more than one emissions unit, and has not included fugitive emissions in that estimate. The applicant also has not included fugitive sources of PM, which seem to be PSD significant. It looks like the correct PTE for PM10 and PM exceed the PSD significance criteria and full analysis is required. Also, we will look closer at NOx, which the applicant estimated at just below 40 TPY. I don't expect the potential impacts would change much, but I'll continue to copy you on our correspondence to keep you up to date.

INTEROFFICE MEMORANDUM

Date: 22-Jun-1999 02:20pm
From: Ellen_Porter
Ellen_Porter@nps.gov
Dept:
Tel No:

To: KAHN_J (KAHN_J@A1)

Subject: Champion International McDavid Sawmill

Because of the distance of the project to our Class I area and the types and amounts of emissions, we believe that there is little or no potential for impacts to Class I area resources. We have no comment.

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

June 16, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS - Air Quality Division
Post Office Box 25287
Denver, Colorado 80225

Re: Champion International Corporation, McDavid Sawmill
PSD-FL-~~270~~ 271

Dear Mr. Bunyak:

Enclosed is a copy of a PSD permit application for a lumber sawmill to be operated by Champion International Corporation near McDavid, Escambia County. The application includes a report that has the applicant's PSD analyses including a BACT analysis. This is a new facility. The primary emissions units are the lumber drying kilns. Two natural gas fired boilers will provide steam for the drying operation. The applicant has identified that the only pollutant subject to PSD review is VOC.

Please provide your comments as soon as possible. Our rules require us to determine whether an application is complete within 30 days of receipt and to make a Preliminary Determination within 60 days (given that the application is complete). This project is not subject to the Florida Power Plant Siting Act and review by the Governor and Cabinet. If you have any questions regarding this matter, please call Joseph Kahn, P.E., at 850/921-9519.

Sincerely,

A. A. Linero 6/16

A. A. Linero, P.E., Administrator
New Source Review Section

AAL/jk

Enclosure

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

June 16, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Gregg Worley, Section Chief
Air, Radiation Technology Branch
Preconstruction/HAP Section
US EPA Region IV
61 Forsyth Street
Atlanta, Georgia 30303

Re: Champion International Corporation, McDavid Sawmill
PSD-FL-~~270~~ 271

Dear Mr. Worley:

Enclosed is a copy of a PSD permit application for a lumber sawmill to be operated by Champion International Corporation near McDavid, Escambia County. The application includes a report that has the applicant's PSD analyses including a BACT analysis. This is a new facility. The primary emissions units are the lumber drying kilns. Two natural gas fired boilers will provide steam for the drying operation. The applicant has identified that the only pollutant subject to PSD review is VOC.

Please provide your comments as soon as possible. Our rules require us to determine whether an application is complete within 30 days of receipt and to make a Preliminary Determination within 60 days (given that the application is complete). This project is not subject to the Florida Power Plant Siting Act and review by the Governor and Cabinet. If you have any questions regarding this matter, please call Joseph Kahn, P.E., at 850/921-9519.

Sincerely,

A. A. Linero 6/16

A. A. Linero, P.E., Administrator
New Source Review Section

AAL/jk

Enclosure