

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0456-AOP-R5 AFIN: 52-00035

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality  
5301 Northshore Drive  
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

Anthony Timberlands, Inc.  
Second and Plum Streets  
Bearden, Arkansas 71720

3. PERMIT WRITER:

Charles Hurt, P.E.

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Drying Kilns, Lumber, Manufacturing  
NAICS Code: 333298

5. SUBMITTALS:

4/7/2010

6. REVIEWER'S NOTES:

Anthony Timberlands, Incorporated (AFIN: 52-00035) owns and operates a pine sawmill physically located at Second and Plum Streets in downtown Bearden (Ouachita County), Arkansas. Anthony submitted a request to modify Permit No. 456-AOP-R4 to revise Specific Conditions # 4, #17, #21, #25, #29, #33, #37, and #55 pursuant to the Permit Appeal Resolution (PAR) LIS-10-005. Pursuant to the PAR, the above referenced conditions were revised to remove language that required visible emissions observations to be conducted by EPA Reference Method 9 certified personnel and required that the observations be conducted during periods of startup and shutdown. Anthony requested to revise the hourly emission rates for Acrolein, Benzene, and Chlorine and the annual emission rate for Mercury in the Emission Summary Table. These revisions corrected typographical errors. Anthony did not request a physical change or changed in method of operation.

Permit #: 0456-AOP-R5

AFIN: 52-00035

Page 2 of 7

7. COMPLIANCE STATUS:

The facility was last inspected in August 2009 and determined to be operating in accordance with Permit No., 456-AOP-R3

8. PSD APPLICABILITY:

a. Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? Y

b. Is the facility categorized as a major source for PSD? Y  
*Single pollutant  $\geq 100$  tpy and on the list of 28 or single pollutant  $\geq 250$  tpy and not on list?*

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Facility	PM <sub>10</sub> , VOC, CO	PSD
SN-01, SN-22	None. Daily recordkeeping for amount of fuel combusted	NSPS Dc

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

Criteria Pollutants

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ( $\mu\text{g}/\text{m}^3$ )	Averaging Time	Highest Concentration ( $\mu\text{g}/\text{m}^3$ )**	% of NAAQS
PM <sub>10</sub>	77.1	50	Annual	36.7	73.4%
		150	24-Hour	124.9	83.3%
CO	225.8	10,000	8-Hour	92.6	<1%
		40,000	1-Hour	145.0	<1 %
NO <sub>x</sub>	37.4	100	Annual	0.9	<1 %
Pb	0.024	0.15	Rolling 3-month Period over 3 years (not to be exceeded in any 3 month period)	0.00173*	1.1%

- \* The high, first high concentration of Pb is based on a 24-hour average. Therefore, due to a relatively low impact, post processing using LEADPOST is not necessary to determine compliance with the NAAQS.
- \*\* Includes Little Rock, AR 2008 background concentration

Non-Criteria Pollutants:

1<sup>st</sup> Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m<sup>3</sup>), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acenaphthylene	0.2	0.022	8.60E-04	YES
Acetaldehyde	45.0	4.95	1.78	YES
Acrolein	0.229	0.0252	1.01	No
Benzene	1.6	0.176	0.74	No
Benzo(a)pyrene	0.2	0.022	1.80E-03	YES
Cadmium	0.002	2.20E-04	7.00E-04	No
Chlorine	1.45	0.160	0.13	YES
Fluorene	1.55	0.1705	5.76E-04	YES
Formaldehyde	18.4	2.03	1.63	YES
HCl	2.98	0.328	3.3	No
Lead	0.05	5.50E-03	8.20E-03	No
Manganese	0.10	0.011	0.27	No
Mercury	0.01	1.10E-03	6.00E-04	YES
Methanol	262.1	28.8	12.05	YES
Phenol	19.2	2.1	8.80E-03	YES
Styrene	85.2	9.4	0.33	YES

2<sup>nd</sup> Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL ( $\mu\text{g}/\text{m}^3$ ) = 1/100 of Threshold Limit Value	Modeled Concentration ( $\mu\text{g}/\text{m}^3$ )	Pass?
Acrolein	2.29	0.15	Yes
Benzene	15.97	0.16	Yes
Cadmium	0.02	1.4 E-04	Yes
HCl	29.83	0.68	Yes
Manganese	1.00	0.058	Yes

Other Modeling:

The facility is not a significant source for hydrogen sulfide or styrene. Therefore, odor modeling is not warranted at this time.

12. CALCULATIONS:

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
01, 22	AP-42	0.35 lb <sub>PM</sub> /MMBtu 0.32 lb <sub>PM10</sub> /MMBtu 0.22 lb <sub>NOx</sub> /MMBtu 0.025 lb <sub>SO2</sub> /MMBtu 0.60 lb <sub>CO</sub> /MMBtu* 0.013 lb <sub>VOC</sub> /MMBtu	Multi-clone	95%	Total heat input for SN-01, SN-02, SN-03, and SN-22 shall be limited 1,000,000 MMBtu/yr.
02, 03	AP-42 Stack Test	0.22 lb <sub>NOx</sub> /MMBtu 0.025 lb <sub>SO2</sub> /MMBtu 0.013 lb <sub>VOC</sub> /MMBtu  S.T.** results: 24.3 lb/hr PM/PM <sub>10</sub> 91.3 lb/hr CO	Multi-clone	95%	Total heat input for SN-01, SN-02, SN-03, and SN-22 shall be limited 1,000,000 MMBtu/yr.
04	AP-42	0.02 lb/ton	Cyclone	95%	
05	AP-42	0.04 lb/ton	Cyclone	95%	Stack test performed on similar cyclone concluded that the sawdust bin cyclone captures 99.99% of the PM generated from the sawing operations. The 95% capture efficiency is a conservative estimate.
06	AP-42	1.0 lb/ton	Cyclone	95%	
07	AP-42	0.35 lb/ton	Cyclone	95%	
09	AP-42	0.35 lb/ton	Cyclone	95%	
11	AP-42	0.35 lb/ton	Cyclone	95%	Sieve testing conducted at a competitor's softwood lumber mill. Stack test performed on similar cyclone concluded that the sawdust bin cyclone captures 99.99% of the PM generated from the sawing operations. The 95% capture efficiency is a conservative estimate.
25	AP-42	0.35 lb/ton	Cyclone	95%	

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
12, 13, 14, 15, 16, 25	NCASI	3.5 lb <sub>VOC</sub> /MBF 0.016 lb <sub>Formaldehyde</sub> /MBF 0.265 lb <sub>methanol</sub> /MBF	None		Facility limited to 200 MMBF of lumber per any 12 consecutive months.
17	Mass Balance	1.44 lb/gal VOC	None		Facility limited to 7500 gallons per year and VOC content as listed in the Emission Factor units. Max lb/hr emissions are based on 2000 hr/yr and are considered very conservative.
23, 24	AP-42	200 MMBF of lumber per any 12 consecutive months.	Building	50%	Log Debarking assume 10% PM/PM <sub>10</sub> airborne. Log Sawing assume 10% PM/PM <sub>10</sub> airborne and 50% control efficiency because operations are indoors.
26	AP-42	0.535 lb PM <sub>10</sub> /VMT 19,813 mi/yr			

## 13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
SN-01 SN, 02, SN-03 SN-22	PM <sub>10</sub>	201 A	Test one boiler of each size once every five years. SN-01 and SN-22 are 28.7 MMBTU/hr, and SN-02 and SN-03 are 55.5 MMBTU/hr.	Compliance Verification
SN-01, SN-02, SN-03, SN-22	CO	10	Test one boiler of each size once every five years. SN-01 and SN-22 are 28.7 MMBTU/hr, and SN-02 and SN-03 are 55.5 MMBTU/hr.	Compliance Verification.
SN-01, SN-02, SN-03, SN-22	NO <sub>x</sub>	7E	Test one boiler of each size once every five years. SN-01 and SN-22 are 28.7 MMBTU/hr, and SN-02 and SN-03 are 55.5 MMBTU/hr.	Compliance Verification

## 14. MONITORING OR CEMS

This permit does not require CEMS or other monitoring devices.

15. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
01, 02, 03, 22	weight of green wet wood residue (4,500 btu/lb) and kiln dried wood residue (8,000 btu/lb)	Not to exceed 1,000,000 MMBTU/yr heat input to boilers, combined	Monthly	Yes
02, 03	Hours of Operation	7,884 hrs/yr/source	Monthly	Yes
04, 05, 06, 07, 09, 11 12, 13, 14, 15, 16, 23, 24, 25, 26	kiln dried lumber	200 MMBF/yr	Monthly	Yes
17	Chemical usage and VOC content	7,500 gallons 1.44 lb/gal VOC	Monthly	Yes

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 22	20%	NSPS Dc	Daily observation
02, 03	20%	§19.503	Daily observation
04, 05, 06, 07, 09, 11, 25	20%	§19.503	Daily Observation
26	5%	§19.503	Weekly

17. DELETED CONDITIONS:

Former SC	Justification for removal
8-22	Redundant.
PW 10 and 11	Replaced by SC 11

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)		
		VOC	HAPs	
			Single	Total
Underground Gasoline Storage Tank (10,000 gallons)	A-13	0.625	*	*
Underground Diesel Fuel Storage Tank (14,000 gallons)	A-3	0.003	*	*
Underground Diesel Fuel Storage Tank (10,000 gallons)	A-3			
Kerosene Aboveground Storage Tank (250 gallons)	A-3	<0.001	*	*

\* The VOC emitted from these sources contain some components that are HAPs. Considering only 0.63 tpy of VOC total is emitted from these listed activities, it can be concluded without quantifying HAPs that neither limit of 1.0 tpy of single HAP nor 2.5 tpy combination of HAP will be exceeded.

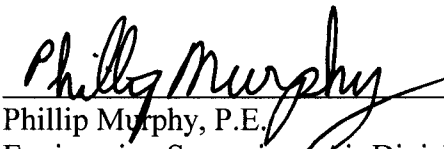
19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
0456-AOP-R4

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

  
 \_\_\_\_\_  
 Phillip Murphy, P.E.  
 Engineering Supervisor, Air Division

**APPENDIX A – EMISSION CHANGES AND FEE CALCULATION**



## Fee Calculation for Major Source

Revised 03-01-10

Facility Name: Anthony Timberlands, Inc.  
 Permit Number: 456-AOP-R5  
 AFIN: 52-00035

\$/ton factor	22.07	Annual Chargeable Emissions (tpy)	779.5
Permit Type	Modification	Permit Fee \$	1000

Minor Modification Fee \$	500
Minimum Modification Fee \$	1000
Renewal with Minor Modification \$	500
Check if Facility Holds an Active Minor Source or Minor Source General Permit	☐
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	0
Initial Title V Permit Fee Chargeable Emissions (tpy)	

*HAPs not included in VOC or PM:*

*Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride*

*Air Contaminants:*

*All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensible PM, H2S in TRS, etc.)*

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM	☑	283.2	283.2	0	0	283.2
PM <sub>10</sub>	☐	231.8	231.8	0		
SO <sub>2</sub>	☑	12.5	12.5	0	0	12.5
VOC	☑	363.9	363.9	0	0	363.9
CO	☐	753.7	753.7	0		
NO <sub>x</sub>	☑	110	110	0	0	110
Acenaphthylene	☐	0.0025	0.0025	0		
Acetaldehyde	☐	3.9	3.9	0		
Acrolein	☐	2.6	2.6	0		
Benzene	☐	2.1	2.1	0		
Benzo(a)pyrene	☐	0.0013	0.0013	0		
Cadmium	☐	0.0021	0.0021	0		
Chlorine	☑	0.4	0.4	0	0	0.4
Fluorene	☐	0.0017	0.0017	0		
Formaldehyde	☐	4.1	4.1	0		
HCl	☑	9.5	9.5	0	0	9.5
Lead	☐	0.024	0.024	0		
Manganese	☐	0.8	0.8	0		
Mercury	☐	0.0054	0.0018	-0.0036		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Methanol	☐	26.5	26.5	0		
Phenol	☐	0.026	0.026	0		
Styrene	☐	0.95	0.95	0		