STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1355-AOP-R6 AFIN: 10-00070

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Anthony Timberlands, Inc.
Highway 51 South
Beirne, Arkansas 71721

3. PERMIT WRITER:

Elliott Marshall

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Sawmills
NAICS Code: 321113

5. ALL SUBMITTALS:

Date of Application	Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment)	Short Description of Any Changes That Would Be Considered New or Modified Emissions
7/11/2017	Minor Mod	Add Air Curtain Destructor SN-18A & B and associated Loadout Emissions SN-19.

6. REVIEWER'S NOTES:

Anthony Timberlands, Inc. operates a hardwood sawmill in Clark County near Beirne, Arkansas, approximately five miles southwest of Gurdon on Highway 51 South. This facility submitted a minor modification application to:

- Add an Air Curtain Destructor (ACD) SN-18B for wood waste management. The wood waste for the ACD consists mainly of short logs (unsuitable for manufacturing), broken kiln sticks, and broken boards. The wood waste is stored in small piles until it is loaded into the ACD by a log loader or front end loader (SN-19).This operation will produce approximately 1.5 truckloads per month of ash, which will be collected and hauled

offsite (SN-19). The ACD will be limited to 20,000 tpy wood waste, and is powered by a 85 hp Tier 3 certified engine (SN-18A) limited to 2,080 hr/yr.

- The Total HAP total allowable emissions have been corrected to 12.20 lb/hr and 16.89 tpy to reflect changes made in permit 1355-AOP-R5. The previous revision over counted the bubbled HAP emissions at SN-13 A, B, and C.

This modification results in an emission increase/decrease of 1.4 tpy PM/PM_{10}, 1.2 tpy SO_2, 11.3 tpy VOC, 10.2 tpy CO, 13.8 tpy NO_x, and -2.59 tpy Total HAP.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

There are no pending or active enforcement actions.

8. PSD APPLICABILITY:

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

b) Is the facility categorized as a major source for PSD? N

- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

If yes, explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
13A, 13B, and 13C	N/A	40 C.F.R. § 60 Subpart Dc
08 and 09	N/A	40 C.F.R. § 63 Subpart DDDD
17 and 18A	CO, NO_x, and SO_2	40 C.F.R. § 60 Subpart IIII
13A, 13B, and 13C	Criteria	40 C.F.R. § 63 Subpart JJJJJJ
01, 13A, 13B, and 13C	Opacity and PM Limits	40 C.F.R. § 64 (CAM)
18B	Opacity	40 C.F.R. 60 Subpart CCCC

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

a) Reserved.

b) Non-Criteria Pollutants:

1st 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^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

The PAER table was updated with permit modification 1355-AOP-R5 because there was an emission decrease.

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acenaphthylene (POM)	0.2	0.022	0.0017	Y
Acrolein	0.23	0.0252	0.99428	N
Arsenic	0.01	0.0011	0.005468	N
Benzene	1.59	0.1749	1.0442	N
Cadmium	0.002	0.00022	0.00101	N
Chlorine	1.45	0.1595	0.19634	Y
Chromium (hexavalent)	0.01	0.0011	0.000869	Y
DEGMME *	96.66	10.632	2.26	Y
Formaldehyde	0.36	0.0396	1.09467	N
Hydrogen Chloride	2.98	0.3278	4.7228	N
Manganese	0.2	0.022	0.3977	N
Methanol *	262.08	28.8288	0.08	Y
Phenanthrene (POM)	0.2	0.022	0.001764	Y
Phenol	19.24	2.1169	0.012677	Y
Styrene	85.20	9.372	0.47228	Y

2nd 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 ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Acrolein	2.3	1.13	Y
Arsenic	0.1	0.00615	Y
Beryllium	0.0005	0.0003	Y

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Chromium (Hexavalent)	0.05	0.00339	Y
Formaldehyde	15*	1.186	Y
Lead	0.5	0.0134	Y
Manganese	1.0	0.44826	Y

* Per ADEQ

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (Lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01	Stack Test Data	PM=29.1 tph*99.99% PM=120,000 tpy*99.99% PM_{10}=5.9 lb/hr * 0.1 12 tpy* 0.1	Cyclone	99.99%	55MMbf/yr 29.1 tph & 120,000 tpy PM_{10}=10% of PM
02, 03	Stack Test Data	PM=(1.42 tph*99.99%)/2 sources PM=(6,000 tpy*99.99%)/2 sources PM_{10}=1.5 lb/hr * 0.1 3 tpy* 0.1	Cyclone	99.9%	55MMbf/yr 1.42 tph & 6,000 tpy PM_{10}=10% of PM
06, 07	Stack Test Data	PM=14.9 tph*99.99% PM=61,200 tpy*99.99% PM_{10}=3.0 lb/hr * 0.1 6.2 tpy* 0.1	Cyclone	99.99%	55MMbf/yr 14.9 tph & 61,200 tpy PM_{10}=10% of PM
08	Dept. Guidance Letter dated 2-21-1995	0.25 lb VOC/1000 board ft (This factor is 25% of the ADEQ hardwood dry kiln VOC factor.) 2,431 Bf/hr & 21 MMbf/yr	N/A	N/A	Of the lumber that is pre-dried (21 MMbf/yr), 25% of VOC emissions are emitted from the pre-dryer and 75% of VOC emissions are emitted from the kilns.

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (Lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
09	Dept. Guidance Letter dated 2-21-1995	(10,010 bf/hr *1.0 lb VOC/1000 bf)-(0.75 lb/hr)= 9.5 lb/hr (21 MMbf*0.75 lb VOC/1,000 bf + 34 MMbf*1.0 lb VOC/1,000 bf)*(1 ton/2000 lb)= 24.9 tpy	N/A	N/A	Of the lumber that is pre-dried (21 MMBF/yr), 25% of VOC emissions are emitted from the pre-dryer and 75% of VOC emissions are emitted from the kilns. Of the lumber that is not pre-dried (34 MMBF/yr), 100% of VOC emissions are emitted from the kilns.
10	Dept. Guidance Letter dated 8/22/03	Lb/ton PM= 0.0022 PM_{10}= 0.00018	None	N/A	PM/PM_{10}= 1.42 tph & 6,000 tpy
11	Dept. Guidance Letter dated 8/22/03	Lb/ton PM= 0.0008 PM_{10}= 0.00008	None	N/A	PM/PM_{10}= 50.5 tph & 242,000 tpy
12	Mass Balance	7.208 lb VOC/gal 5.406 lb/gal (DEGMME[1]) 0.18 lb/gal (Methanol[1])	None	N/A	8,760 hr/yr 3,662 gal/yr
13A, 13B, 13C	AP-42 1.6, Stack Test Data	PM=1.104 Lb/MMBtu PM_{10}=1.121 Lb/MMBtu NO_X=0.22 Lb/MMBtu SO_2=0.025 Lb/MMBtu CO=0.60 Lb/MMBtu VOC=0.017 Lb/MMBtu HAPs listed in AP-42	Multicyclone	95%	$PM/PM_{10=}$ Controlled Others = Uncontrolled 19.0 MMBtu/hr each
14	Old AP-42 (9/1985) Factors	Lb/ton PM= 0.020 PM_{10}= 0.011	None	N/A	PM/PM_{10}= 92 tph & 286,000 tpy
15	Dept. Guidance Memo dated 8-22-2003	Lb/ton PM=0.0044 PM_{10}=0.00034	None	N/A	PM/PM_{10}= 38 tph & 117,000 tpy

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (Lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
16	AP-42 for paved roads Section 13.2.1	PM=2.557 lb/VMT PM_{10}=0.498 lb/VMT K (PM)= 0.082 lb/VMT K (PM_{10})= 0.016 lb/VMT sL= 3 g/m^2 W= 24.932 tons C= 0.00047 lb/VMT	None	N/A	14,750 miles/yr 5.25 miles/hr
17	AP-42 Chapter 3.3	<u>Lb/MMBtu</u> PM=0.31 PM_{10}=0.31 SO_2=0.29 VOC=0.36 CO=0.95 NO_X=4.41 HAPs listed in AP-42	None	N/A	Annual calculated at 500 hrs/yr
18A	AP-42 Chapter 3	<u>Lb/hp-hr</u> PM=2.2E-03 PM_{10}=2.2E-03 SO_2=2.05E-03 VOC=2.51E-03 CO=5 g/KW-hr NO_X=3.1E-02 HAPs listed in AP-42 Chapter 3	None	N/A	Annual Calculated at 2,080 hr/yr
18B	Emission Tests AP-42 Chapter 1.6 and 2	<u>Lb/ton</u> PM=0.11 PM_{10}=0.11 SO_2=0.1 VOC=1.1 CO=0.94 NO_X=1.1 HAPs listed in AP-42	None	N/A	Annual Calculated at 20,000 tons/yr
19	AP-42	<u>Loading</u> PM/PM_{10}=0.0044 lb/ton <u>Storage Piles</u> PM/PM_{10}=0.0022 lb/ton <u>Ash Handling</u> 1.52E-04 lb/ton	None	N/A	Annual Calculated at 20,000 tons/yr

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
13A, 13B, 13C	N/A	Tune-Up	Biennially	40 C.F.R. § 63 Subpart JJJJJJ
18B	Opacity	Method 9	Initial, Annually	40 C.F.R. § 60 Subpart CCCC

14. MONITORING OR CEMS:

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
13A, 13B, 13C	Opacity	COMS	Continuously	N

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, 06, 07, 10, 11, 14, 15	Opacity Observations	20%	Weekly	N
09	Lumber Throughput	55,000,000 board feet per year	Monthly	Y
12	Chemical Usage	3,662 gal/yr. of Chemical Dip	Monthly	Y
12	VOC content	7.208 lb/gal of Chemical Dip	Monthly	Y
12	Pollutant Content	DEGMME[1]: 5.406 lb/gal of Chemical Dip Methanol[1]: 0.18 lb/gal of Chemical Dip	Monthly	Y
12	Substitution HAP TLV	See SC #42	As Needed	Y
13A, 13B, 13C	Opacity Observations	20%	Daily	Y
13A, 13B, 13C	Amount of fuel combusted	N/A	Daily	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
17	#2 fuel oil (diesel fuel)	sulfur content no greater than 0.05% (500 ppm) by weight	Monthly	N
17	Hours of Operation	500 hours/yr	Annual	N
18A	Hours of Operation	2,080 hr/yr	Monthly	N
18B	Throughput	20,000 tons/yr wood waste	Monthly	N
18A, 18B	Opacity Test Results	10% During Operation, 35% During Startup	Initial, Annual	Y
Plantwide	Single/Total HAP Usage	9.9 tpy Single HAP 16.89 tpy Total HAP	Monthly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 02, 03, 06, 07, 10, 11, 14, 15	20%	Reg.19.503 and 40 C.F.R. § 52 Subpart E	Weekly Observations
13A, 13B, 13C	20%	Reg.19.503 40 C.F.R. § 52 Subpart E	Daily Observations
16	5%	Reg.18.501	Weekly Observations
17	20%	Reg.19.503	Inspector Observation
18A, 18B	10%	Reg.19.304 and 40 C.F.R. § 60.1445(a)(1), 40 C.F.R. § 60.2250 (a), or 40 C.F.R. § 60.3066(a)(1)	Initial Test and Annual Testing thereafter
18A, 18B	35	Reg.19.304 and 40 C.F.R. § 60.1445(a)(2), 40 C.F.R. § 60.2250 (b), or 40 C.F.R. § 60.3066(a)(2)	

17. DELETED CONDITIONS:

Former SC	Justification for removal
None	

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_X	HAPs	
							Single	Total
Logo Painting – VOC 0.583 lb/gal	A-13			0.2			none	
8,021 gallon Dual Wall Multi-Chamber Fuel Storage Tank	A-13			0.8				

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1355-AOP-R5

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Anthony Timberlands, Inc
Permit Number: 1355-AOP-R5
AFIN: 10-00070

$/ton factor	23.93	Annual Chargeable Emissions (tpy)	347.5132
Permit Type	Minor Mod	Permit Fee $	500

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)	29.5332
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		204.5	205.9	1.4	1.4	205.9
PM_{10}		163	164.4	1.4		
$PM_{2.5}$		0	0	0		
SO_2		6.7	7.9	1.2	1.2	7.9
VOC		46.3	57.6	11.3	11.3	57.6
CO		150.1	160.3	10.2		
NO_X		55.5	69.3	13.8	13.8	69.3
Lead	☐	0.04	0.04	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Acenapthylene	☐	0.04	0.05	0.01		
Acrolein	☐	1.03	1.4	0.37		
Arsenic	☐	0.03	0.04	0.01		
Benzene	☐	1.06	1.44	0.38		
Cadmium	☐	0.003	0.004	0.001		
Chlorine	☑	0.21	0.29	0.08	0.08	0.29
Chromium (hexavalent)	☐	0.03	0.04	0.01		
DEGMME	☐	9.9	9.9	0		
Formaldehyde	☐	1.12	1.52	0.4		
Hydrogen Chloride	☑	4.77	6.48	1.71	1.71	6.48
Manganese	☐	0.42	0.57	0.15		
Methanol	☐	0.33	0.33	0		
Phenanthrene	☐	0.04	0.04	0		
Styrene	☐	0.04	0.04	0		
Phenol	☐	0.03	0.05	0.02		
Acetone	☑	0	4.32E-02	0.0432	0.0432	0.0432