STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0456-AOP-R10 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.
111 South Plum Street
Bearden, Arkansas 71720

3. PERMIT WRITER:

Elliott Marshall

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Sawmills
NAICS Code: 321113

5. ALL SUBMITTALS:

The following is a list of ALL permit applications included in this permit revision.

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
3/7/2019	Renewal	-Update annual bubbled emissions at SN-01, 02 and 22 to be consistent with the boiler MACT. -Update PM_{10} emission factor at SN-02. -Update NCASI emission factor for formaldehyde at SN-14, 15, 16, and 30. -Roundup acetone instead of listing it in scientific notation. -Update PM/PM_{10} annual emissions at SN-27 to correct rounding error.

6. REVIEWER'S NOTES:

This application was submitted as a renewal. In addition to renewing the current Title V permit, ATI requests the following changes:

1. Update annual CO, hydrogen chloride, and mercury emission limits at SN-01, SN-02 and SN-22. Previous calculations used EPA (AP-42) emission factors for hydrogen chloride and mercury, and old stack test results for CO; emission factors for CO, hydrogen chloride and mercury are now updated to comply with the emission limits in 40 CFR Part 63, Subpart DDDDD. This results in an emission decrease for CO and an increase for hydrogen chloride and mercury. Mercury will now be a listed HAP.
2. Update PM_{10} emission factor at SN-02 to reflect the installation of a wet venturi scrubber. Previous calculations used an emission factor derived from an old stack test conducted while SN-02 was still equipped with multi-cyclone. This results in an annual PM_{10} emission decrease at SN-01, SN-02 and SN-22.
3. Add PM_{10} CAM Plan (Appendix F) for SN-01, SN-02 and SN-22.
4. Update emission factor for formaldehyde at SN-14, SN-15, SN-16 and SN-30.
5. Add "emission average" option to Specific Condition #13, as allowed by 40 CFR 63.7522, to demonstrate compliance with filterable PM limits in 40 CFR Part 63, Subpart DDDDD.
6. For sources SN-04, 05, 06, and 25 remove the requirement to submit semiannual opacity records. The submittal requirement was originally implemented as part of a Permit Appeal Resolution (PAR) because the facility was not using someone trained in EPA Reference Method 9 to conduct opacity observations. With this revision, the facility has opted to change opacity conditions at sources SN-04, 05, 06, 23, 24, 25, and 29 to: be consistent with current department language and require someone trained in in EPA Reference Method 9 to conduct opacity observations.
7. Add applicable requirements of 40 CFR Part 63, Subpart DDDD for lumber drying kilns SN-14, SN-15, SN-16 and SN-30 (specific condition #31).
8. Correct a rounding error at SN-27 resulting in a decrease of PM/PM_{10}

Permitted emission rates are increasing/decreasing by 1.5 tpy Hydrogen Chloride, 0.006 tpy Acetone, -0.1 tpy PM, -28.7 tpy PM_{10}, and -6.7 tpy CO. Acetone is now rounded instead of being listed in scientific notation resulting in a slight emission increase. Both PM and PM_{10} emissions at SN-27 decreased by 0.1 tpy to correct a rounding error.

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 active or pending enforcement actions.

8. PSD/GHG APPLICABILITY:

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

If yes, were GHG emission increases significant? N/A

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

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

If yes for 8(b), explain why this permit modification is not PSD.
There were no significant emission increases with this renewal application.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Facility	PM_{10}, VOC, CO	PSD
SN-01, SN-22, SN-27	N/A	NSPS Dc
SN-01, SN-02, SN-22, SN-27	PM, CO, HAPs	NESHAP DDDDD
SN-28A	CO, NOx, SO2	NSPS IIII
SN-28B	Opacity	NSPS CCCC

10. PERMIT SHIELD – TITLE V PERMITS ONLY:

Did the facility request a permit shield in this application? N
(Note - permit shields are not allowed to be added, but existing ones can remain, for minor modification applications or any Regulation 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? N/A
If not, explain why.

For any requested inapplicable regulation in the permit shield, explain the reason why it is not applicable in the table below.

Source	Inapplicable Regulation	Reason
N/A		

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. AMBIENT AIR EVALUATIONS:

The following are results for ambient air evaluations or modeling.

a) NAAQS

A NAAQS evaluation is not required under the Arkansas State Implementation Plan, National Ambient Air Quality Standards, Infrastructure SIPs and NAAQS SIP per Ark. Code Ann. § 8-4-318, dated March 2017 and the ADEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated. Based on Department procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

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).

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acrolein	0.229	0.0252	1.49	N
Arsenic	0.01	0.0011	6.71E-03	N
Beryllium	5E-05	5.5E-06	3.35E-04	N
Cadmium	0.01	0.0011	1.30E-03	N
Chromium (VI)	0.0002	0.0011	1.07E-03	N
Hydrogen Chloride	2.98	0.3278	6.12	N
Lead	0.05	0.0055	2.56E-01	N
Methanol	262.09	28.83	12.26	Y
Manganese	0.1	0.011	4.87E-01	N
POM	0.2	0.022	2.59E-01	N

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	2.29	2.28346	Y
Arsenic	0.1	0.01253	Y
Beryllium[1]	0.0005	0.00063	N
Cadmium	0.1	0.00234	Y
Chromium (VI)	0.002	0.00199	Y
Hydrogen Chloride	29.8	10.8249	Y
Lead	0.5	0.05404	Y
Manganese	1.0	0.91157	Y
POM	2.0	0.48563	Y

[1]The resulting ambient concentrations of beryllium that are above the PAIL limit all occur at 1 receptor along ATI's fence line. The impacted area is an industrial area where there is no risk for significant human exposure. The emissions of beryllium are not expected to cause a significant impact.

13. CALCULATIONS:

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
01, 22	Boiler MACT & AP-42	0.28 lb_{PM}/MMBtu 0.32 lb_{PM10}/MMBtu 0.22 lb_{NOx}/MMBtu 0.025 lb_{SO2}/MMBtu 770 ppm CO 0.017 lb_{voc}/MMBtu	Multi-clone	95%	Total heat input for SN-01, SN-02, and SN-22 shall be limited 1,000,000 MMBtu/yr.
02	Boiler MACT & AP-42	0.28 lb_{PM}/MMBtu 0.32 lb_{PM10}/MMBtu 0.22 lb_{NOx}/MMBtu 0.025 lb_{SO2}/MMBtu 770 ppm CO 0.017 lb_{voc}/MMBtu	Turbo Venturi Scrubber system	95%	Total heat input for SN-01, SN-02, and SN-22 shall be limited 1,000,000 MMBtu/yr.
27	AP-42	7.6 lb_{PM}/MMscf 7.6 lb_{PM10}/MMscf 0.6 lb_{SO2}/MMscf	None	N/A	

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
		5.5 lb_{VOC}/MMscf 84 lb_{CO}/MMscf 100 lb_{NOx}/MMscf 5.0E-04 lb_{Pb}/MMscf			
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%	
14, 15, 16, 25, 30	NCASI TB No. 845	3.5 lb_{VOC}/MBF 0.039 $lb_{Acetaldehyde}$/MBF 0.006 $lb_{Acrolein}$/MBF 0.019 $lb_{Formaldehyde}$/MBF 0.265 $lb_{methanol}$/MBF	None		Facility limited to 200 MMBF of lumber per any 12 consecutive months.
23	AP-42	0.02 lb_{PM}/ton 0.011 lb_{PM10}/ton	Building	50%	50% control efficiency because operations are indoors.
24	AP-42	0.35 lb_{PM}/ton 0.007 lb_{PM10}/ton	Building	50%	Log Sawing assume 20% PM/PM_{10} airborne and 50% control efficiency because operations are indoors.
25	AP-42	0.35 lb_{PM}/ton 0.20 lb_{PM10}/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.
26	AP-42	0.8357 lb_{PM}/VMT 0.1671 lb_{PM10}/VMT			Calculations based on 22,646 mi/yr
28A	AP-42 & Tier 3	2.2E-03 lb_{PM}/hp-hr 2.2E-03 lb_{PM10}/hp-hr 2.05E-03 lb_{SO2}/hp-hr 2.51E-03 lb_{VOC}/hp-hr	None	N/A	Annual Calculated at 5,840 hr/yr

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
		5 g_{CO}/KW-hr 3.1E-02 lb_{CO}/hp-hr			
28B	Emission Tests & AP-42	0.11 lb_{PM}/ton 0.11 lb_{PM10}/ton 0.1 lb_{SO2}/ton 1.1 lb_{VOC}/ton 0.94 lb_{CO}/ton 1.1 lb_{NOx}/ton	None	N/A	Annual Calculated at 57,000 tons/yr
29	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 57,000 tons/yr

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
SN-01 SN, 02, SN-22	PM_{10}	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 is 55.5 MMBTU/hr.	Compliance Verification
SN-01, SN-02 SN-22	CO	10	Each boiler, annually SN-01 and SN-22 are 28.7 MMBTU/hr, and SN-02 is 55.5 MMBTU/hr.	Boiler MACT
SN-01, SN-02, SN-22	NO_X	7E	Test one boiler of each size once every five years. SN-01 and SN-22 are 28.7 MMBTU/hr, and SN-02 is 55.5 MMBTU/hr.	Compliance Verification
SN-01, SN-02, SN-22	HCl, Hg, TSM	Fuel Analysis See Subpart 5D, Table 6, Items #1, #2, and #4	Monthly	Boiler MACT
SN-01, SN-02, SN-22	HCl, Hg, TSM	Fuel Analysis See Subpart 5D, Table 5	Annually	Boiler MACT

SN	Pollutants	Test Method	Test Interval	Justification
SN-01, SN-02, SN-22	Filterable PM	5 or 17 See Subpart 5D, Table 5	Annually	Boiler MACT
SN-28B	Opacity	Method 9	Initial, Annually	NSPS CCCC

15. 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)
SN-01 SN-22	PM	CPMS	Continuously According to §63.7525	Y
SN-02	PM	Pressure Gauge, Flowmeter	Continuously	Y

16. 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, 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	Scrubber Liquid flow rate 30 day average, Control device pressure drop	Established at each annual test required by Boiler MACT	Continuously	Yes
04, 05, 06, 14, 15, 16, 23, 24, 25, 26, 30	kiln dried lumber	200 MMBF/yr	Monthly	Yes
27	Natural gas combusted	420.7 MMscf/yr	Monthly	Yes
28A	Hours of Operation	5,840 hr/yr	Monthly	No

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
28B	Throughput	57,000 tons/yr wood waste	Monthly	No
28A, 28B	Opacity Test Results	10% During Operation, 35% During Startup	Initial, Annual	Yes

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 02, 22	20%	§19.503, 40 CFR Part 64	Daily Observations
27	5%	§18.501	Daily Observations
04, 05, 06, 25	10%	§18.501	Daily Observation
23, 24	20%	§19.503	Weekly
26	5%	§19.503	Weekly
28A, 28B	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
28A, 28B	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)	

18. DELETED CONDITIONS:

Former SC	Justification for removal
N/A	

19. GROUP A INSIGNIFICANT ACTIVITIES:

The following is a list of Insignificant Activities including revisions by this permit.

Source Name	Group A Category	Emissions (tpy)		
		VOC	HAPs	
			Single	Total
Underground Gasoline Storage Tank (10,000 gallons)	A-13	0.629	0.629	0.629
Underground Diesel Fuel Storage Tank (14,000 gallons)	A-13	0.003	-	-

Source Name	Group A Category	Emissions (tpy)		
		VOC	HAPs	
			Single	Total
Underground Diesel Fuel Storage Tank (10,000 gallons)	A-3	0.002525	-	-
Kerosene Aboveground Storage Tank (250 gallons)	A-3	5.5E-05	-	-

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
0456-AOP-R9

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Anthony Timberlands, Inc.
Permit Number: 0456-AOP-R10
AFIN: 52-00035

$/ton factor	23.93	Annual Chargeable Emissions (tpy)	771.196
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)	-19.194
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		181.5	181.4	-0.1	-20.7	181.4
PM_{10}		202.1	173.4	-28.7		
$PM_{2.5}$			0	0		
SO_2		16.2	16.2	0	0	16.2
VOC		391.8	391.8	0	0	391.8
CO		644.8	638.1	-6.7		
NO_X		170.2	170.2	0	0	170.2
Lead	☐	0.0365	0.0365	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
1,1,1-Trichlorethane	☑	0.0155	0.0155	0	0	0.0155
Chlorine	☑	0.4	0.4	0	0	0.4
Chloromethane	☑	0.0115	0.0115	0	0	0.0115
Hydrogen Chloride	☑	9.5	11	1.5	1.5	11
Mercury	☐	0	0.00285	0.00285		
Methanol	☐	26.5	26.5	0		
Tetrachlorothene	☑	0.019	0.019	0	0	0.019
Acetone	☑	0.144	0.15	0.006	0.006	0.15