

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2400-AR-3 AFIN: 46-00985

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Performance Proppants, LLC  
2561 Miller County 4  
Doddridge, Arkansas 71834

3. PERMIT WRITER:

Elliott Marshall

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Industrial Sand Mining  
NAICS Code: 212322

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
1/20/2021	Modification	Add new 40 MMBtu/hr dryer with baghouse (SN-09C).

6. REVIEWER'S NOTES:

The facility submitted an application to install an additional 40 MMBtu/hr dryer (SN-09C) controlled by a 40,000 ACFM baghouse dust collector. The addition of SN-09C does not increase the potential tons per year of sand processed, the emission rates of other sources will not be affected. Permitted emission rates are increasing by 8.3 tpy PM/PM<sub>10</sub>, 14.5 tpy CO, 17.3 tpy NO<sub>x</sub>, 1.0 tpy VOC, 0.2 tpy SO<sub>2</sub> and 0.34 Total HAPs.

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. The most current enforcement action was CAO (LIS: 20-195), which was closed January 7, 2021.

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

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 for 8(b), explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
09A, 09B, 09C	Particulate	NSPS UUU
22	VOC	NESHAP CCCCCC

10. UNCONSTRUCTED SOURCES:

Unconstructed Source	Permit Approval Date	Extension Requested Date	Extension Approval Date	If Greater than 18 Months without Approval, List Reason for Continued Inclusion in Permit
N/A				

11. 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  
 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		

12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

List sources potentially subject to CAM because they use a control device to achieve compliance and have pre-control emissions of at least 100 percent of the major source level. List the pollutant of concern and a brief summary of the CAM plan (temperature monitoring, CEMs, opacity monitoring, etc.) and frequency requirements of § 64.

Source	Pollutant Controlled	Cite Exemption or CAM Plan Monitoring and Frequency
N/A		

13. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

14. 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 DEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

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?
Arsenic	0.01	0.0011	4.27E-05	Yes
Beryllium	0.00005	5.5E-06	2.56E-06	Yes
Cadmium	0.002	0.00022	2.35E-04	No
Chromium	0.5	0.055	2.99E-04	Yes
Cobalt	0.02	0.0022	1.80E-05	Yes

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Manganese	0.02	0.0022	8.12E-05	Yes
Mercury	0.01	0.0011	5.56E-05	Yes
Selenium	0.2	0.022	5.13E-06	Yes
POM	0.2	0.022	1.89E-05	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 (µg/m <sup>3</sup> ) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m <sup>3</sup> )	Pass?
Cadmium	0.02	0.00004	Yes

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01 02	AP-42 13.2.4	$E = k * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4}$ <u>Equation</u>	-	-	Calculations based on 5,256,000 tpy of sand
03	AP-42 13.2.4	$E = k * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4}$ <u>Equation</u>	Partial Enclosure	50%	Control efficiency from TCEQ guidance
04	AP-42 13.2.4	$E = k * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4}$ <u>Equation</u>	Water	70%	Control efficiency from TCEQ guidance
05	AP-42 13.2.4	$E = k * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4}$ <u>Equation</u>	Washed Sand	95% for PM/PM <sub>10</sub>	Control efficiency from TCEQ guidance, and similarly

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
					permitted facilities
06 07	AP-42 13.2.4	<u>Equation</u> $E=k*0.0032*(U/5)^{1.3}/(M/2)^{1.4}$	Washed Sand	95% for PM/PM <sub>10</sub>	Control efficiency from TCEQ guidance, and similarly permitted facilities
08	TCEQ Rock Crusher Emission Calculations Spreadsheet	<u>Active Pile</u> 13.20 lb-PM/acre-day 6.6 lb-PM <sub>10</sub> /acre-day <u>Inactive Pile</u> 3.5 lb-PM/acre-day 1.75 lb- PM <sub>10</sub> /acre-day	Moisture of Washed Sand	50%	Max Size: 2.4 acres Percent as Active: 50% Percent as Inactive: 50%
09A 09B	AP-42 1.4	<u>lb/MMBtu</u> CO: 0.082 NO <sub>x</sub> : 0.09804 VOC: 0.0054 SO <sub>2</sub> : 0.0006 <u>gr/dscf</u> PM/PM <sub>10</sub> : 0.025	Baghouse	-	89 MMBTU/hr per dryer, calculated at 8,760 hr/yr
09C	AP-42 1.4 and Vendor Guarantee	<u>lb/MMBtu</u> CO: 0.082 NO <sub>x</sub> : 0.09804 VOC: 0.0054 SO <sub>2</sub> : 0.0006 <u>gr/dscf</u> PM/PM <sub>10</sub> : 0.01	Baghouse	-	40 MMBTU/hr dryer, calculated at 8,760 hr/yr
16A 16B 16C	AP-42 13.2.4	<u>Equation</u> $E=k*0.0032*(U/5)^{1.3}/(M/2)^{1.4}$	Baghouse	90%	Calculations based on 5,256,000 tpy of sand
17A 17B 17C	AP-42 13.2.4	<u>Equation</u> $E=k*0.0032*(U/5)^{1.3}/(M/2)^{1.4}$	Baghouse	90%	Calculations based on 5,256,000 tpy of sand
18A 18B	AP-42 13.2.4	<u>Equation</u> $E=k*0.0032*(U/5)^{1.3}/(M/2)^{1.4}$	Baghouse	90%	Calculations based on

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
18C					5,256,000 tpy of sand
19A1 19A2 19B1 19B2 19C1 19C2	Manufacturer Spec	0.001 gr/dscf	Vent Fabric Filters	99.9%	Max loading rate 600 ton/hr, and 300 acfm design flow rate
20A1 20A2 20B1 20B2 20C1 20C2	AP-42 13.2.4	<u>Equation</u> $E=k*0.0032*(U/5)^{1.3}/(M/2)^{1.4}$	Baghouse, Telescoping Loading Spout	98%	Max loading rate 800 ton/hr
21	AP-42 11.19.2-2	0.003 lb-PM/ton 0.0011 lb-PM <sub>10</sub> /ton	-	-	Based on 200 ton/hr, and 8760 hr/yr
22	Tanks 4.0.9d	Working loss: 495.15 lb/yr Breathing loss: 813.83 lb/yr	-	-	50 turnovers per year

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
09A, 09B, 09C	PM	Method 5	Initial	40 C.F.R. § 60.736(b)(1)
09A, 09B, 09C	Opacity	Method 9	Initial	40 C.F.R. § 60.736(b)(2)

17. 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)
N/A				

18. 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)
22	Gasoline Throughput	50,000 gal/yr	Monthly	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
05, 06, 07, 16A, 16B, 16C, 17A, 17B, 17, C, 18A, 18B, 18C, 19A1, 19A2, 19B1, 19B2, 19C1, 19C2, 20A1, 20A2, 20B1, 20B2, 20C1, 20C2	5%	§18.501	Inspector Observation
09A, 09B, 09C	10%	§60.732(b)	Performance Test
01, 02, 03, 04, 08, 21	20%	§19.503	Inspector Observation

20. DELETED CONDITIONS:

Former SC	Justification for removal
	None

21. GROUP A INSIGNIFICANT ACTIVITIES:

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

Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
Diesel - Red Dyed 10,000 gal	A-3			0.01				
Diesel - Red Dyed 8,000 gal	A-3			0.01				
Diesel - Red Dyed	A-3			0.01				

Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
5,300 gal								
Diesel - Red Dyed 5,300 gal	A-3			0.01				
Diesel - Red Dyed 500 gal	A-3			0.01				
Diesel - Red Dyed 500 gal	A-3			0.01				
Diesel - Red Dyed 1,000 gal	A-3			0.01				
Used Oil 1,500 gal	A-3			0.01				
	<b>A-3 Totals</b>			<b>0.08</b>				
Diesel - Red Dyed 20,000 gal	A-13			0.02				

22. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
2400-AR-2



## APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Minor Source

Revised 03-11-16

Facility Name: Performance  
 Proppants, LLC  
 Permit Number: 2400-AR-3  
 AFIN: 46-00985

			Old Permit	New Permit
\$/ton factor	23.93	Permit Predominant Air Contaminant	124.2	132.5
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	8.3	
Minimum Initial Fee \$	500			
Check if Administrative Amendment	<input type="checkbox"/>	Permit Fee \$	400	
		Annual Chargeable Emissions (tpy)	132.5	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	124.2	132.5	8.3
PM <sub>10</sub>	87	95.3	8.3
PM <sub>2.5</sub>	0	0	0
SO <sub>2</sub>	0.6	0.8	0.2
VOC	5.1	6.1	1
CO	64.4	78.9	14.5
NO <sub>x</sub>	76.6	93.9	17.3
Total HAPs	1.9	2.24	0.34