

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0196-AR-10 AFIN: 30-00009

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Halliburton Energy Services, Inc. - Magnet Cove Plant  
1743 Darby Lane  
Malvern, Arkansas 72104

3. PERMIT WRITER:

Sterling Powers

4. NAICS DESCRIPTION AND CODE:

NAICS Description: All Other Miscellaneous Chemical Product and Preparation  
Manufacturing  
NAICS Code: 325998

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
3/7/2024	Admin Amendment	<ul style="list-style-type: none"><li>• Replace 15,000 gal benzyl amine storage tank at SN-03 with a like-kind replacement</li><li>• Replace a natural gas fired water heater (2.4 MMBtu/hr) with a like kind replacement</li></ul>

6. REVIEWER'S NOTES:

Halliburton Energy Services, Inc. has a facility at Magnet Cove, Arkansas. This facility manufactures organophilic clay products for use in the oil and gas industry. With this administrative amendment, the facility proposes to replace a 15,000 gallon benzyl amine

storage tank (SN-03) and a natural gas fired water heater (as an insignificant activity) with like-kind replacements. Permitted emissions remain unchanged.

7. COMPLIANCE STATUS:

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

The last inspection was 12/19/2018, no violations were identified.

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)
10, 11, 13 & 16	PM	40 CFR Part 60, Subpart OOO
17	VOC, CO, NO <sub>x</sub> , and PM	40 CFR Part 60, Subpart IIII

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/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:

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?
Methyl Chloride	103.3	11.4	0.02	Y
Benzyl Chloride	5.18	0.57	0.04	Y

## 15. CALCULATIONS:

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
01 - 03	Tanks 4.0	N/A			Based on throughput
10	AP-42	0.04 lb/ton			Emission factor from AP-42 Table 11.23-1
11	AP-42	0.04 lb/ton			Emission factor from AP-42 Table 11.23-1
13	AP-42	0.04 lb/ton			Emission factor from AP-42 Table 11.23-1
14	testing	95% IPA (VOC) biodegrades			Radian report of April 1998, shows that 95% of IPA is biodegraded and 5% is evaporated into the atmosphere.
15	Tanks 4.0	N/A			Based on throughput
16	AP-42 Natural Gas Section 1.4  IPA Combustion Section 1.5	lb/MMBtu: 0.082 CO 0.098 NO <sub>x</sub> 0.0075 PM/PM <sub>10</sub> 0.0006 SO <sub>2</sub> 0.0054 VOC  lb/Mgal: 1.9 CO 14 NO <sub>x</sub> 0.4 PM/PM <sub>10</sub>	Thermal Oxidizer	98%	Includes Duratone Circuit & Extruder Circuit Rotary Dryers (4.5 MMBtu/hr & 2.4 MMBtu/hr, respectively)
17	NSPS Limit  AP-42	g/kW-hr: 4.0 NO <sub>x</sub> 5.0 CO 4.0 VOC 0.3 PM/PM <sub>10</sub>  lb/MMBtu: 0.29 SO <sub>2</sub>	None	--	500 hour per year limit 139 BHp fire pump engine

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
16	VOC	25A	Annually	Verify proper continuing operation of RTOs
10, 11, 13, & 16	Opacity	9	Annually	To verify NSPS limits

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)
Facility	Production at Duratone	13,900 tons per consecutive 12 month period	Monthly	N
Facility	Production at Extruder	15,800 per consecutive 12 month period	Monthly	N
Tanks	Methyl chloride % Benzyl chloride %	0.03% by wt 0.08% by wt	Per inspection of MSDS kept onsite	N
17	Hours of operation	500 hours per calendar year	Monthly	N
		If more than 100 hours during any calendar year, the permittee must verify that the engine still qualifies as an emergency engine	As needed	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
10, 11, & 13	10%	NSPS Subpart OOO	Design limits & Annual Method 9
16	7%	NSPS Subpart OOO	Proper control operation & Annual Method 9
17	20%	Department guidance	Annual observation

20. DELETED CONDITIONS:

Former SC	Justification for removal
N/A	

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
Natural gas boiler (4.2 MMBtu/hr)	1	0.2	0.1	0.1	1.6	1.9	0.3	0.3
Natural gas water heater (2.4 MMBtu/hr)	1	0.1	0.1	0.1	0.9	1.1	0.2	0.2

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 #
0196-AR-9

## APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Minor Source

Revised 03-11-  
16

Facility Name: Halliburton -  
Magnet Cove  
Permit Number: 0196-AR-R10  
AFIN: 30-00009

	Old Permit	New Permit
Permit Predominant Air Contaminant	80.2	80.2
Net Predominant Air Contaminant Increase	0	
Permit Fee \$	<u>0</u>	
Annual Chargeable Emissions (tpy)	<u>80.2</u>	

\$/ton factor 28.14  
Minimum Fee \$ 400  
Minimum Initial Fee \$ 500

Check if Administrative Amendment



Pollutant (tpy)	Old Permit	New Permit	Change
PM	18.5	18.5	0
PM <sub>10</sub>	18.5	18.5	0
PM <sub>2.5</sub>	0	0	0
SO <sub>2</sub>	0.2	0.2	0
VOC	80.2	80.2	0
CO	4.5	4.5	0
NO <sub>x</sub>	10.3	10.3	0
Total HAPs	0.21	0.21	0
Methyl Chloride	0.09	0.09	0
Benzyl Chloride	0.12	0.12	0