

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2445-AOP-R6 AFIN: 47-01073

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Exploratory Ventures, LLC
1000 East County Road 860
Osceola, Arkansas 72370-0248

3. PERMIT WRITER:

Shai Sabaroche

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Iron and Steel Mills and Ferroalloy Manufacturing
NAICS Code: 331110

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
07/20/2026	Renewal	Added authorization for the Dross Removal Process (SN-168); Corrected rounding inconsistencies for emission limits of all sources; Administratively corrected errors in permitted limits for various sources; Replaced Total Other HAPs limits with Total HAPs limits; Calculated Total HAPs by rounding each individual HAP value before summation
08/04/2026	Administrative Amendment	N/A

6. REVIEWER'S NOTES:

This renewal makes the following changes to the permit:

- Added permit authorization for the Dross Removal Process (SN-168).
- Revised the required stack test method for the SN-01 and SN-02 baghouses from EPA Reference Method 5D to Method 5.
- Corrected rounding inconsistencies throughout the permitted limits and instituted various administrative corrections to permitted limits to unify the BACT stipulations and those limits which they enforce.
- Corrected the permitted limits for several pollutants at DRI Process stacks SN-116, SN-118, SN-119, SN-120, and SN-121 to resolve errors in the underlying emission calculations.
- Corrected an internal carry-forward inconsistency in the CO_{2e} annual BACT values for DRI Process sources SN-125, SN-126, and SN-128. The correction carries forward the OEM-based annual CO_{2e} values submitted and accepted during the public-comment process for Permit No. 2445-AOP-R5 and does not revise the underlying BACT determination or control requirements.
- Replaced the Total Other HAPs limits with Total HAPs limits to remove ambiguity.
- Adjusted Total HAPs calculation by rounding each individual HAP value before summation, consistent with the Division's NCAP Control Strategy.
- Corrected various typographical errors and adjusted citations as needed.

Permitted annual emissions increased by: 1.0 tpy of PM, 0.8 tpy of PM₁₀, 0.7 tpy of PM_{2.5}, 0.1 tpy of SO₂, 0.3 tpy of VOC, 0.5 tpy of CO, 0.4 tpy of NO_x, 0.00722 tpy of Lead, 47,507 tpy of CO_{2e}, 0.48 tpy of HCl, 0.01 tpy of Cl₂, 19.46 tpy of Single HAP, and 47.44 tpy of Total HAPs.

Permitted annual emissions decreased by: 0.02 tpy of Ammonia and 5.17 tpy of Total Other HAPs.

7. COMPLIANCE STATUS:

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

The facility has not yet undergone formal compliance monitoring activity and has no outstanding enforcement actions. This is only in relation to the Exploratory Ventures facility and not the contiguous Big River Steel facility. <https://echo.epa.gov/detailed-facility-report?fid=110071218553>

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.

All revisions to the existing permit are limited to administrative corrections and the resolution of rounding inconsistencies; accordingly, none of these changes warrant PSD Review. The Dross Removal Process (SN-168), which receives permit authorization in this action, does not increase emissions of PSD-regulated pollutants beyond significant thresholds. Aside from this Dross Removal Process, no changes to the facility or its method of operation have been made that would trigger PSD Review.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
01 and 02	Particulate	NSPS AAa
01 and 02	HAPs	Case by Case, 42 USC § 7412
All Boilers	None	NSPS Dc
SN-23b, SN-26, SN-38, SN-138, SN-140, SN-165a, SN-165b, and SN-168	HAP	NESHAP CCC
SN-24, SN-27, SN-28, SN-37, SN-152, SN-153, SN-160, SN-161, SN-162, and SN-163	HAP	NESHAP DDDDD
SN-01 through SN-136	NO _x , CO, PM, PM ₁₀ , PM _{2.5} , SO ₂ , VOC, lead, and greenhouse gasses.	PSD
SN-143 through SN-149 SN-152 through SN-167	NO _x , CO, PM ₁₀ , PM _{2.5} , and greenhouse gases	
Generators	Criteria and HAPs	NSPS IIII, NSPS JJJJ, and NESHAP ZZZZ
SN-115	HAPs	Case by Case, 42 USC § 7412
SN-148	HAPs	NESHAP N

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? Y

(Note - permit shields are not allowed to be added, but existing ones can remain, for minor modification applications or any 8 CAR pt. 40 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? Y

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:

The non-criteria pollutants listed below were evaluated as of Permit #2445-AOP-R5. Based on Division of Environmental Quality 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 Division of Environmental Quality 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) = $0.11 \times \text{TLV}$	Proposed lb/hr	Pass?
Acrolein	0.11	0.0121	3.12E-05	Y
Arsenic	0.01	1.10E-03	3.47E-04	Y
Benzene	0.07	7.70E-03	6.4E-03	Y
Beryllium	0.00005	5.5E-06	2.08E-05	N
Cadmium	0.01	1.10E-03	1.91E-03	N
Chromium	0.5	5.50E-02	2.43E-03	Y
Chlorine	0.29	0.0319	1.44	N
Cobalt	0.02	2.20E-03	1.46E-04	Y
Formaldehyde	0.12	1.32E-02	0.13	N
Hydrogen Chloride	2.99	0.3289	4.29	N
Manganese	0.1	1.10E-02	6.59E-04	Y
Mercury	0.01	1.10E-03	4.51E-04	Y
Napthalene	0.1	1.10E-02	3.64E-03	Y
Selenium	0.2	2.20E-02	4.16E-05	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 Division of Environmental Quality 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?
Beryllium	5.00E-07	3.06E-08	Y

Pollutant	PAIL ($\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Cadmium	1.00E-04	2.81E-06	Y
Chlorine	2.9	2.12E-03	Y
Formaldehyde	1.20E-03	1.92E-04	Y
Hydrogen Chloride	29.9	6.30E-03	Y

c) H₂S Modeling:

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H₂S Standards

Y

If exempt, explain: No H₂S emissions.

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
SN-01 through SN-136, SN-142, SN-152 through SN-167	All criteria pollutants based on BACT limits	-	-	-	-
01 and 02 HAPs	AP-42	Varied	Baghouse	99%+	-
Natural Gas HAPs	AP-42	Varied	None	-	-
Pickling Lines HCl	Manufacturer Estimates	Varied	Scrubbers	-	-
SN-137a, b, and c	AP-42 13.2.4	0.03 gr/scf PM/PM ₁₀ /PM _{2.5}	Baghouse	99%	-
SN-138	AP-42 13.2.4	0.03 gr/scf PM/PM ₁₀ /PM _{2.5}	Venturi, Cyclone, Absorber, Scrubber per each	99%	-
SN-138 SN-140	NESHAP CCC	12 ppmv HCl 6 ppmv Cl ₂			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
			Roaster system		
SN-168	NESHAP CCC	18 ppmv HCl	Scrubber	97%+	Either the control efficiency or the acute concentration needs to be satisfied but not necessarily both

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01 and 02	PM, PM ₁₀ , PM _{2.5}	5D and 201 or 201A	Initial and annual	NSPS and PSD limit verification
01 and 02	AAa required information (fan motor amps, etc.)	None specified	Initial and annual	NSPS requirement
01 and 02	NO _x , SO ₂ , CO, CO ₂ , VOC	7E, 6C, 3A, 10, 25A	Semi annually	To verify compliance with BACT emission rates
01 and 02	Lead	12	Annually	To verify BACT limits
03 and 04	Flare design	40 CFR 60.18(b) through (f)	Initial only	To verify flare is design is capable of achieving BACT limits
24, 27, 28, 37, 152, 153	PM _{2.5} , CO, and NO _x	Method 202, 10, and 7E	Initial and every 5 years	To show compliance with BACT limits
23b, 26, 38, 168	HCl	Method 26	Initial	Demonstration of Compliance with Applicable provisions of

SN	Pollutants	Test Method	Test Interval	Justification
				NESHAP Subpart CCC
Cooling Towers	TDS	TDS Testing	Initial and every 6 months	Verification of BACT Limits
123	Flare design	40 CFR 60.18(b) through (f)	Initial only	To verify flare is design is capable of achieving BACT limits
138, 140, 165a, and 165b	HCl and Cl ₂	40 CFR §§ 63.1161(d) and 63.1162(a)(1)	Initial and annually, unless alternative schedule approved	Demonstration of Compliance with Applicable provisions of NESHAP Subpart CCC
142 and 143	NO _x	Method 7E	Initial and annual	To verify compliance with BACT emission rates

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)
01 02	AAa required monitoring	Fan amps, damper positions, etc.	Vary according to reading	Y
46	RTO temperature	Thermocouple	Continuous (3hr averages)	Y

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)
01 and 02	AAa Records	None	Vary	Y
03 and 04	Steel Throughput	2,050,000 tons/rolling twelve months	Monthly	Y
23b, 26, 38, 138, 140, and 168	CCC Records	None	Vary	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
24, 27, 28, 37, 152, 153, 160, 161, 162, and 163	DDDDD Records	None	Vary	Y
Emergency Generators and Water Pumps	Hours of Operation	100 hours/year	Monthly	Y
93, 95, 97, 99, 103, 118, 121	Materials Received per Rolling Twelve Months	175,830 79,204 175,830 680,00 210,240 3,750,000 2,500,000	Monthly	Y
115	Gasoline Throughput	500,000 gallons per rolling twelve months	Monthly	Y
139	Throughput of Natural Gas	752.24 MMcf/yr	Monthly	Y
148	NESHAP N Records	None	Vary	Y

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01 and 02 Exhaust Stacks	3%	NSPS/BACT	Daily observations
01 and 02 Meltshop	6%	NSPS/BACT	Daily observations
03 and 04	5%	BACT/Division Guidance	Weekly observations
Natural Gas Burners	5%	BACT/Division Guidance	Combustion of natural gas only
Cold Mill Operations	5%	BACT/Division Guidance	Weekly observations
Cooling Towers	5%	BACT/Division Guidance	Proper Maintenance
Emergency Generators	20%	NSPS/Division Guidance	Combustion of low sulfur diesel only
93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 113, 114, 115, SN-115a, SN-147a, SN-147b, SN-	5%	BACT/Division Guidance	Weekly observations

SN	Opacity	Justification for limit	Compliance Mechanism
147c, SN-148, SN-160, SN-161, SN-167			
91, 92, 104, 105, 106, 107, 108, 109, 110	20%	BACT/Division Guidance	Weekly observations
116, 117, 119, 120, 122 through 128	5%	BACT/Division Guidance	Weekly observations
118 121	20%	BACT/Division Guidance	Weekly observations
137a-c, 139, 162, 163, 166a, 166b	5%	8 CAR § 41-605 et seq. and 40 C.F.R. § 52 Subpart E	Weekly observations
138, 140, 165a, 165b	20%	8 CAR § 41-605 et seq. and 40 C.F.R. § 52 Subpart E	Weekly observations
141a, 141b	20%	8 CAR § 41-605 et seq. and 40 C.F.R. § 52 Subpart E	Combustion of natural gas only

20. DELETED CONDITIONS:

Former SC	Justification for removal
46 through 53	SN-40 through SN-46 removed, subpart requirements removed.
104 and 107	Tank is not enclosed, subpart requirement unnecessary.

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 ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Laboratory Test Furnaces	A-1	0.1	0.1	0.1	0.4	0.4	0.01	0.01
SMS ESP Roll Shop Parts Washer	A-1	0.1	0.1	0.1	0.4	0.4	0.01	0.01
A-1 Totals:		0.2	0.2	0.2	0.8	0.8	0.02	0.02

Diesel Fuel Tanks	A-3	0.0	0.0	0.1	0.0	0.0	0.00	0.00
Engine Oil Tanks	A-3	0.0	0.0	0.1	0.0	0.0	0.00	0.00
A-3 Totals:		0.0	0.0	0.2	0.0	0.0	0.00	0.00
Laboratory Equipment	A-5	0.0	0.0	0.1	0.0	0.0	0.01	0.01
Steel Cutting / Shredding Operations	A-7	1.1	0.0	0.0	0.0	0.0	0.01	0.01
Railcar Cutting Operations	A-7	1.1	0.0	0.0	0.0	0.0	0.01	0.01
A-7 Totals:		2.2	0.0	0.0	0.0	0.0	0.02	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 #
2445-AOP-R5

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Exploratory Ventures, LLC
 Permit #: 2445-AOP-R6
 AFIN: 47-01073

\$/ton factor	28.14	Annual Chargeable Emissions (tpy)	2908.99
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) 2.07
 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		520.4	521.4	1		
PM ₁₀		565.5	566.3	0.8	0.8	566.3
PM _{2.5}		525	525.7	0.7		
SO ₂		471.6	471.7	0.1	0.1	471.7
VOC		279.7	280	0.3	0.3	280
CO		17545	17,545.50	0.5		
NO _x		1472.5	1,472.90	0.4	0.4	1472.9
Lead	☐	1.273137686	1.280358	0.007220314		
CO _{2c}	☐	3,229,676	3,277,183	47507		
Single HAP	☐	3.41	22.87	19.46		
Total Other HAPs	☐	5.17	0	-5.17		
Total HAPs	☐	0	47.44	47.44		
HCl	☒	18.65	19.13	0.48	0.48	19.13
Cl ₂	☒	6.23	6.24	0.01	0.01	6.24
Ammonia	☒	90.84	90.82	-0.02	-0.02	90.82
Sodium Hydroxide	☒	1.9	1.9	0	0	1.9