Iowa Department of Natural Resources Draft Title V Operating Permit Fact Sheet

This document has been prepared to fulfill the public participation requirements of 40 CFR Part 70 and 567 Iowa Administrative Code (IAC) 24.107(6). 40 CFR Part 70 contains operating permit regulations pursuant to Title V of the Clean Air Act.

The Iowa Department of Natural Resources (DNR) finds that:

- 1. Linwood Mining & Minerals Corporation, located at 401 East Front Street in Davenport, Iowa 52804 has applied for a Title V Operating Permit. The designated responsible official of this facility Darin Osland.
- 2. Linwood Mining & Minerals mines and processes crushed limestone and manufactures lime. This facility has the potential emissions of:

Pollutant	Abbreviation	Potential Emissions (Tons per Year)	
Particulate Matter (≤ 2.5 µm)	PM _{2.5}	311.15	
Particulate Matter (≤ 10 μm)	PM ₁₀	311.33	
Particulate Matter	PM	322.87	
Sulfur Dioxide	SO ₂	31.21	
Nitrogen Oxides	NO _x	216.21	
Volatile Organic Compounds	VOC	21.34	
Carbon Monoxide	СО	170.43	
Lead	Lead	0.00	
Hazardous Air Pollutants (1)	HAP	19.45	

⁽¹⁾ May include the following: Hydrochloric acid (9.42 tpy)

- 3. Linwood Mining and Minerals submitted an application for the renewal of their Title V Operating Permit on December 19, 2023. Based on the information provided in these documents, DNR has made an initial determination that the facility meets all the applicable criteria for the issuance of an operating permit specified in 567 IAC 24.107.
- 4. DNR has complied with the procedures set forth in 567 IAC 24.107, including those regarding public notice, opportunity for public hearing, and notification of EPA and surrounding state and local air pollution programs.

DNR procedures for reaching a final decision on the draft permit:

1. The public comment period for the draft permit will run from 1/16/2025 through 2/15/2025. During the public comment period, anyone may submit written comments on the permit. Mail signed comments to Derek Wedemeier at the DNR address shown below. The beginning date of this public comment period also serves as the beginning of the U.S. Environmental Protection Agency's (EPA) 45-day review period, provided the EPA does not seek a separate review period.

- 2. Written requests for a public hearing concerning the permit may also be submitted during the comment period. Any hearing request must state the person's interest in the subject matter, and the nature of the issues proposed to be raised at the hearing. DNR will hold a public hearing upon finding, on the basis of requests, a significant degree of relevant public interest in a draft permit. Mail hearing requests to Derek Wedemeier at the DNR address shown below.
- 3. DNR will keep a record of the issues raised during the public participation process, and will prepare written responses to all comments received. The comments and responses will be compiled into a responsiveness summary document. After the close of the public comment period, DNR will make a final decision on the renewal application. The responsiveness summary and the final permit will be available to the public upon request.

Derek Wedemeier Iowa Department of Natural Resources - Air Quality Bureau 6200 Park Ave Ste #200 Des Moines, Iowa 50321

Phone: (515) 725-9520

E-mail: Derek.Wedemeier@dnr.iowa.gov

DNR concludes that:

- 1. DNR has authority under 455B.133 Code of Iowa to promulgate rules contained in 567 IAC Chapters 21-33, including, but not limited to, rules containing emission limits, providing for compliance schedules, compliance determination methods and issuance of permits.
- 2. DNR has the authority to issue operating permits for air contaminant sources and to include conditions in such permits under 455B.134 Code of Iowa.
- 3. The emission limits included in this permit are authorized by 455B.133 Code of Iowa and 567 IAC Chapters 21-33.
- 4. DNR is required to comply with 567 IAC Chapter 24 in conjunction with issuing a Title V Operating Permit.
- 5. The issuance of this permit does not preclude the DNR from pursuing enforcement action for any violation.

Title V Permit Review Notes

Facility Name:	Linwood Mining and Minerals Corp.		
City:	Davenport		
County:	Scott		
Facility #:	82-01-015		
EIQ #:	92-3207		
Renewal Application Received:	December 19, 2023		
Permit #:	04-TV-005R3		
Reviewer:	Derek Wedemeier		

Facility Identification:

Facility Name:	Linwood Mining and Minerals Corporation
Facility Location:	401 East Front Street, Davenport, IA 52804
Responsible Official:	Mr. Darin Osland
Phone:	563-324-1931, ex. 1140

Linwood Mining and Minerals in Davenport is a facility that mines and processes crushed limestone and manufactures lime. This facility is major for Title V based on its potential PM_{10} , PM, PM,

The limestone is mined on site and then is processed through a series of crushers and screens. The process varies depending upon the desired product. At the conclusion of the processing, Linwood has the capability to load out limestone via barge, rail or by truck. Linwood also has the option to process their limestone into lime through their rotary kilns.

Title V Major Source Status by Pollutant:

Pollutant	Major for Title V?
PM_{10}	\boxtimes
SO_2	
NO_x	\boxtimes
VOC	
CO	\boxtimes
Lead	
Individual HAP	
Total HAPs	

HAPs include: Benzene, Chromium Compounds, Cumene, 1,4-Dichlorobenzene, Ethyl Benzene, Formaldehyde, Glycol Ethers, Hexane, Manganese Compounds, Methyl Isobutyl Ketone, Naphthalene, Nickel, Toluene, Xylenes (Mixed Isomers)

Process Description:

SIC Code(s) – Crushed and Broken Limestone (SIC 1422)

Program Applicability:

- PSD: NO
- NSPS: The following units are subject to:
 - o OOO Standards of Performance for Nonmetallic Mineral Processing Plants: BL01, BL02, CC-1, CC-2, CC-3, CC-5, CC-16, Q-1, Q-3P
 - o HH Standards of Performance for Lime Manufacturing Plants: LP-4
 - JJJJ Standards of Performance for Stationary Spark Ignition Internal Combustion Engines: EM Engine
- NESHAP: The facility has units subject to:
 - ZZZZ National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
- Acid Rain and CSAPR: NO
- Stratospheric Ozone Protection: NO
- Prevention of Accidental Release: NO

General Changes

- Updated Plant-Wide Conditions.
- Responsible Official changed to Darin Osland
- Updated Table of Contents.
- Permit number was changed to 04-TV-005R3 to show it has been renewed.
- Updated the General Conditions.
- Administrative Consent Order NO. 98-AQ-7 remains in appendix and is referenced in the Plant-Wide Condition section of the TV permit.

Emission Estimations

The potential emissions calculations were based off of construction permit limits, AP-42 emission factors, stack test data, mass balance and engineering estimates provided by the facility. The 500ppmv allowable SO₂ SIP limit overestimates the potential emissions. The AP-42 emission factors for SO₂, if available, were used instead and provide a more realistic potential value when compared to the previous year's emissions inventory.

Emission Values

PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	co	Lead	Total HAPs*
	Potential Emissions							
322.87	311.33	311.15	31.21	216.21	21.34	170.43	0.00	19.45
	Actual Emissions 2022*							
125.47	111.31	106.36	8.22	25.13	0.00	59.40	0.00	0.00

HAPs may include Hydrochloric Acid (9.42 typ). Single HAP does not exceed major source threshold.

Rescinded Construction Permits

Emission	Emission Unit Description	Construction Permit	Rescission Date
Point			
LP-9	Four (4) Rotary Lime Kilns	91-A-324-S6	6/28/2021
CC-17	Storage Tanks	19-A-178-S2	9/3/2023
Q11C	Pile I, Conveyors and Stackers	18-A-111-S1	TBD
Q3P	Q3 Crusher, Belts, Stackers	02-A-017-S3	7/11/2022

Emission Point Specific Notes

East and West Barge Loadouts: 02-A-168-S3, 02-A-169-S3

PM10 emission limit was updated and operating hours were updated. The operational conditions require the facility to develop an operating and maintenance plan for the water suppression system including preventative maintenance schedule. These operational conditions meet the requirements of a Facility O&M

Old Mill Units - EP CC-1: 71-A-084-S12

Emission units were added and removed. Some emission point characteristic were changed. Emission limits changed, operating requirements and recordkeeping changed. Quarterly stack testing is required for opacity. Operational limits and recordkeeping requirements added are equivalent to CAM requirements. CAM is not required because precontrol emission do not exceed the major source threshold on a per unit basis.

One (1) stack test will be required for PM and PM_{10} each during this renewal. The emission point was previously tested on 7/9/2014 and resulted in a passing test, averaging 70% of the emission limit.

New Mill Emission Units - EP CC-2: 86-A-049-S9

Quarterly stack testing is required for opacity. Operational limits and recordkeeping requirements added are equivalent to CAM requirements. CAM is not required because precontrol emission do not exceed the major source threshold on a per unit basis.

One (1) stack test will be required for PM and PM_{10} each during this renewal. No record of previous stack test results is present in the online Iowa DNR Stack Test Database.

Calcium Loadout Units - EP CC-3: 88-A-218-S6

No changes have been made to this unit since the previous renewal. Operational limits and recordkeeping requirements added are equivalent to CAM requirements. One (1) stack test will be required for PM and PM_{10} each during this renewal. No record of previous stack test results is present in the online Iowa DNR Stack Test Database.

New Mill Emission Units – EP CC-5: 98-A-846-S2

Unchanged. Precontrol emission do not exceed the major source threshold when using AP-42 factors for these units. CAM does not apply. One stack test for PM will be required for CC-5 during this renewal.

<u>Loadout #6 Bins – EP CC-16:</u> 17-A-488-S3

This is a new emission point with three emission units. There are limits for opacity, PM-10 and PM. There are operating requirements with associated monitoring and recordkeeping. The construction permit was modified on 9/18/2024 to add Transfer Bel to Long Conveyor (EU CC-19) back to the equipment list. The operating conditions were updated to directly reference EU CC-19. EU CC-19 was not included in the original application and will be addressed in a modification application prior to the Title V issuance.

<u>Unpaved Haul Roads – EP HR-U:</u> 18-A-108-S1

This is mission point is for the unpaved haul roads. There are limits for opacity and PM-10. There are operating requirements with associated monitoring and extensive recordkeeping. The facility is required to use a dust suppressant on the haul roads. Compliance silt sampling is required once every other calendrer month.

Paved Haul Roads – EP HR-P: 18-A-109-S1

This is a new and modified emission point of paved haul roads. There are limits for opacity and PM-10. There are operating requirements with associated monitoring and extensive recordkeeping. Quarterly silt sampling is required. The facility is required to use water flushing on the haul roads.

EP Storage Piles: 18-A-110

This is a new emission point. The emission units are ten storage piles for limestone. There are limits for opacity and PM-10. There are operating requirements with associated monitoring and extensive recordkeeping. There are size limitations to the piles. The facility may apply dust suppressant on the working face of the piles. The facility shall develop a written plan to implement at a minimum measures to minimize emissions during high wind episodes.

<u>Calcining and Rotary Kilns – EP LP-4:</u> 73-A-219-S8 (Current State)

Emission Units were added. Some emission point characteristic were changed. Operating requirements and recordkeeping changed. A continuous emission monitoring systems (CEMS) is required. PM stack testing was completed 10/20/2023 and failed. Retesting was completed on 11/4/2024 and passed. CAM is required when Kiln 4 is operating. Operational limits and recordkeeping requirements are equivalent to CAM requirements. Operating Condition F of the construction permit has been removed since the date has passed. Stack construction was completed in March 2020.

Calcining and Rotary Kiln 3 – EP LP-4: 73-A-219-S9 (Future State)

The construction permit for Rotary Lime Kiln 3 was modified on 10/11/2024 in project 23-125. The facility requested to separate the current Kiln 4 exhaust from the mining tunnel and redirected to a new baghouse (EP LP-40). Kiln 3 will continue to be exhausted through the current cyclone and limestone mining tunnel prior to exiting through LP-4. Future state is not a new emission point. Emission limits were decreased to account for removed equipment. Total HAP emission limit was added for this emission point. Stack testing is required for PM, PM10, Opacity, NOx and CO as part of project 23-125 which has not been completed yet. CAM does not apply because the cyclone acts as a product recovery unit and the limestone mining tunnel has no indicators that can be monitored.

Calcining and Rotary Kiln 4 – EP LP-40: 23-A-178 (Future State)

This is a new emission points for the equipment previously associated with EP LP-4, including Kiln 4, Elevator 431, Conveyor 446, and East & West Kiln Run tanks. This emission point will be controlled by CE LP40A: baghouse, CE LP40B for NOx emissions and CE LP40C lime injection for SO2 emissions. Operational conditions require Kiln 1 and Kiln 2 to be decommissioned within 180days of permit issuance (issued 10/11/2024). A continuous monitoring system will be required for opacity by the construction permit and 40 CFR 60 Subpart HH or an EPA approved alternative opacity monitoring program.

Operating conditions require continuous records for control equipment LP-40B and LP 40C whenever the control equipment is operating. Stack testing is required for PM, PM10, Opacity, NOx and CO as part of project 23-125 which has not been completed yet. Periodic monitoring recommends two (2) stack tests for NOx. A second test will be required 18 to 24 months after the construction permit required test is completed. CAM is required for all control equipment associated with Kiln K-4. At the time of permit drafting, construction had not been initiated and startup is anticipated in 2 to 2.5yr according to

correspondence with the Facility's engineering consultant (12/5/2024). The facility is required to submit a CAM plan and Administrative modification at the time of startup.

Kiln Dust Tank and Loadout - EP LP-7: 88-A-220-S5

Operating requirements and recordkeeping changed. This unit was stack tested for PM and PM 10 in 2016. Result averages were 0.025lb/hr PM10, and 0.036lb/hr PM, significantly below the emission limits. Testing will not be required for this emission point during this renewal. The operating conditions meet the requirements of a Facility O&M plan. Precontrol PM emission do not exceed the major source threshold when using stack test data. CAM is not required.

Lime Truck Loadout System – EP LP-8: 88-A-221-S9

This emission point consists of 10 emission units. Differential pressure drop across the baghouse is requirement to be monitored and recorded. Operating conditions meet the requirements of a Facility O&M plan. This EP was last stack tested 12/18/2018 and resulted in a PM average of 0.063lb/hr, well below the emission limit. Based on this information a stack test will not be required for this stack during this renewal. Precontrol PTE does not exceed the major source threshold on a per unit basis.

<u>Ingredients Storage Bins – EP LP-12</u>: 97-A-1084-S4

No changes were made to this unit from the previous renewal. Operational limits and recordkeeping requirements added are equivalent to CAM requirements. This emission point was last tested for PM and PM10 on 3/14/2018. PM10 resulted in 0.036 lb/hr, approximately 72% of the emission limit. Based on the margin on compliance and the age of the test, stack testing will not be required for this emission point during this renewal. CAM is not required because precontrol emission do not exceed the major source threshold on a per unit basis.

Lime Rail Loadout System – EP LP-13: 02-A-028-S5

No changes were made to this unit from the previous renewal. Operational limits and recordkeeping requirements added are equivalent to CAM requirements. This emission point was last tested 5/12/2011 with a PM and PM10 emission rate of 0.06 lb/hr, approximately 35% of the PM₁₀ emission limit and approximately 19% of the PM emission limit. Periodic monitoring guidance suggests one test for PM, only. Based on the large margin of compliance and specific baghouse operational conditions, no stack test will be required for EP LP-13 during this renewal. CAM is not required because precontrol emission do not exceed the major source threshold on a per unit basis.

<u>Dolo Processing System – EP LP-16:</u> 11-A-335-S3

No changes were made to this unit from the previous renewal. Operational limits and recordkeeping requirements added are equivalent to CAM requirements. This emission point was last stack tested on 5/22/2018 and resulted in a PM10 emission rate of 0.61 lb/hr. At the time, this was a failing result. The emission limit was increased and no follow up testing was required. No stack test will be required for this emission point during this renewal. CAM is not required because precontrol emission do not exceed the major source threshold on a per unit basis.

<u>Dolo Loadout System – EP LP-17:</u> 11-A-336-S3

This emission point has six emission units and limits for opacity, PM10 and PM. There are operating requirements with associated monitoring and recordkeeping. Operational limits and recordkeeping requirements added are equivalent to CAM requirements. This emission point was last tested 3/13/2018 with a PM and PM10 emission rate of 0.277 lb/hr. Periodic monitoring guidance suggests one test for PM, only. Based on the large margin of compliance, no stack test will be required for EP LP-17 during this renewal. CAM is not required because precontrol emission do not exceed the major source threshold on a per unit basis.

Solid Fuel Pile – EP Solid Fuel-01: 17-A-504-S1

This emission point has emission limits for opacity and PM-10. There are operating requirements with associated monitoring and recordkeeping. Emissions control is a building (83% enclosure).

Solid Fuel Hopper - EP LP-20: 17-A-495-S1

This emission point has emission limits for opacity, PM-10 and PM. There are operating requirements with associated monitoring and recordkeeping.

Solid Fuel Crusher/Burner System – EP LP-39: 17-A-505-S2

No changes since the previous renewal. The operating conditions meet the requirements of a facility maintained operation and maintenance plan. This emission point was most recently stack tested for PM on 12/20/2018 and resulted in an average emission rate of 0.321 lb/hr, approximately 37% of the emission limit. Stack testing will not be required for this emission point during this renewal. CAM is not required because precontrol emission do not exceed the major source threshold on a per unit basis.

Solid Fuel Conveyor System – EP LP-24: 17-A-494-S1

This emission point has emission limits for opacity, PM-10 and PM. There are operating requirements with associated monitoring and recordkeeping. CAM is not required because precontrol emission do not exceed the major source threshold. No stack test will be required during this renewal.

<u>Kiln #3 System – EP LP-36:</u> 17-A-491

This emission point has emission limits for opacity, PM-10 and PM. There are operating requirements with associated monitoring and recordkeeping. Weekly visible emissions checks are required while the equipment is operating.

Kiln #1 & #2 Rockbox and Conveyor System – EP LP-38: 17-A-492-S1

This emission point has emission limits for opacity, PM-10 and PM. There are operating requirements with associated monitoring and recordkeeping. Weekly visible emissions checks are required while the equipment is operating.

Primary Crushing, Conveying, Stacking and Pile – EP Q-1: 611-A-337-S1

This emission point has emission limits for opacity, PM-10 and PM (lb/day). There are operating requirements with associated monitoring and recordkeeping. The operating conditions meet the requirements of a facility maintained operation and maintenance plan. Visible emissions checks are required each time the processing units are in operation.

Secondary Crushing/Screening – Lower Plant – EP Q-2LP: 18-A-112-S2

This emission point has emission limits for opacity, PM-10 and PM (lb/day). Pile 9 was added to the equipment list for this emission point when Q-3P was decommissioned. There are operating requirements with associated monitoring and recordkeeping, including VE check each time the process units are in operation. The operating conditions meet the requirements of a facility maintained operation and maintenance plan.

Secondary Crushing/Screening - Top Plant - EP Q-2TP: 18-A-113

This emission point has emission limits for opacity, PM-10 and PM (lb/day). There are operating requirements with associated monitoring and recordkeeping. The operating conditions meet the requirements of a facility maintained operation and maintenance plan. Active surface silt and moisture sampling is required.

Storage Pile - EP Pile 1: 18-A-114-S1

EP Pile 11 was removed from 18-A-114-S1. EP Pile 1 has emission limits for opacity and PM-10 (lb/day). The operating conditions meet the requirements of a facility maintained operation and maintenance plan. Active surface silt and moisture sampling is required.

<u>Material Storage Pile – EP Pile 8</u>: 18-A-115

This emission point has emission limits for opacity and PM-10 (lb/day). The operating conditions meet the requirements of a facility maintained operation and maintenance plan.

Material Storage Pile – EP Pile 14: 18-A-116-S1

This emission point has emission limits for opacity and PM-10 (lb/day). The emission rate and moisture content were updated in the S1 version of the construction permit. The operating conditions meet the requirements of a facility maintained operation and maintenance plan. Active surface silt and moisture sampling is required.

EU Material Storage Pile A (Includes Material Storage Piles Barge, B, E, H) – EP Pile A: 18-A-117-S2 This emission point has emission limits for opacity and PM-10 (lb/day). The emission rate and moisture content were updated in the S2 version of the construction permit. The operating conditions meet the requirements of a facility maintained operation and maintenance plan. Active surface silt and moisture sampling is required.

Kiln Emergency Engine – EM Engine:

This is a 201hp, natural gas fueled, emergency engine for the Kilns. This engine is subject to NESHAP ZZZZ and NSPS JJJJ.

Monitoring Summary

Visible Emissions Monitoring

The Department requires visible emissions monitoring for any sources subject to an opacity limit less than 40%. The following sources have construction permits limiting their opacity to less than 40%. The facility is required to perform opacity monitoring.

Emission Point Emission Unit Description		Opacity Limit
Number		
BL01 and BL02	East & West Barge Loadout	10%
CC-2	New Mill	7%
CC-3	Calcium Loadout	7%
CC-4	Scale Loadout	7%
CC-5	New Mill	7%
CC-16	Long Conveyor & Granular Bins 1 & 2	10%
LP-4 (Current)	Kiln # 4	15% *
LP-40 (Future)	Kiln # 4	15% *
Q-1	Primary Crushing	7%

^{*} Monitoring includes following the EPA Region VII Alternative Opacity Monitoring

O&M Plan/CAM/Stack Testing Summary

EP	Construction Permit	Control Equipment	Type of O&M Plan	Stack Testing	Visible Emission Monitoring
BL01	02-A-168-S3	BL01: Windscreen Water Suppression	NA	No	VE Check each time processing unit is operating
BL02	02-A-168-S3	BL02: Windscreen Water Suppression	NA	No	VE Check each time processing unit is operating
CC-1	71-A-084-S12	CE CC-1 Baghouse	Facility*	$Yes-PM,PM_{10}$	Yes – Weekly (Method 22) Quarterly (30-min Method 22) while baghouse is operating
CC-2	86-A-049-S9	CE CC-2 Baghouse	Facility*	Yes – PM	Yes – Quarterly (30-min Method 22) while baghouse is operating
CC-3	88-A-218-S6	CE CC-3 Baghouse	Facility*	Yes-PM	
CC-5	98-A-846-S2	CE CC-5 Baghouse	Facility*	Yes - PM	
CC-16	17-A-488-S2	CE CC-16 Baghouse	Facility*	No	Weekly VE Check while operating
LP-4 CS	73-A-219-S8	CE C1-C4: Cyclones	CAM*	See LP-4 (FS)	
LP-4 FS	73-A-219-S3	CE-C3 & CE-TL1	NA	Yes – See Permit	Stack Test
LP-40 FS	23-A-219	CE LP40A-40C	CAM	Yes – CP; NOx - TV	Continuous Monitoring System
LP-7	88-A-220-S5	CE LP-7: Baghouse	Facility*	No – Tested 2016	
LP-8	88-A-221-S9	CE LP-8: Baghosue	Facility*	No – Tested 2018	
LP-12	97-A-1084-S4	CE LP-12: Baghouse	Facility*	No – Tested 2018	
LP-13	02-A-028-S5	CE LP-13: Baghouse	Facility*	No – Tested 2011	
LP-16	11-A-335-S3	CE LP-16: Baghouse	Facility*	No – Tested 2018	
LP-17	11-A-336-S3	CE LP-17: Baghouse	Facility*	No – Tested 2018	
LP-20	17-A-495-S1	NA	NA	NA	Daily VE Check while operating
LP-39	17-A-505-S2	CE LP-39: Baghouse	Facility*	No – Tested 2018	
LP-36	17-A-491	NA	NA	NA	Weekly VE Check while operating
LP-38	17-A-492-S1	NA	NA	NA	Weekly VE Check while operating
Q-1	11-A-337-S1	WSQ1: Water Suppression	NA	NA	VE Check each time processing units are operating.
Q-2LP	18-A-112-S1	NA	NA	NA	VE Check each time processing units are operating.
Q-2TP	18-A-113	NA	NA	NA	VE Check each time processing units are operating.

^{*}The requirements described within the operating conditions meet the requirements of the applicable O&M plan.

Facility Comments – During the facility review period Darin Osland requested that landfill gas (LFG) be removed from the Title V as a fuel source for several units since it is no longer an option. References to LFG have been removed from LP-4 (Future & Current State), LP-40, CC-1 and CC-5. If the facility wishes to use landfill gas again a Title V modification will be required to add LFG back to the Title V.

CS= Current State

FS = Future State