



**REGULATION 13
MODIFICATION APPLICATION
FOR THE
MOOREFIELD FEED MILL**

Prepared for:

Pilgrim's
PO Box 539
Moorefield, West Virginia 26836

Prepared by:

Potesta & Associates, Inc.
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Project No. 0101-15-0121-001

September 2015



POTESTA



TABLE OF CONTENTS

General Information.....	SECTIONS I – III
Business Certificate	ATTACHMENT A
Area Map	ATTACHMENT B
Installation and Startup Schedule.....	ATTACHMENT C
Regulatory Discussion	ATTACHMENT D
Plot Plan.....	ATTACHMENT E
Detailed Process Flow Diagram.....	ATTACHMENT F
Process Description.....	ATTACHMENT G
Material Safety Data Sheets.....	ATTACHMENT H
Emissions Units Table	ATTACHMENT I
Emission Points Data Summary Sheet.....	ATTACHMENT J
Fugitive Emissions Data Summary Sheet.....	ATTACHMENT K
Emissions Unit Data Sheets	ATTACHMENT L
Air Pollution Control Device Sheets (Statement Only).....	ATTACHMENT M
Supporting Emissions Calculations	ATTACHMENT N
Monitoring/Recordkeeping/Reporting/Testing Plans	ATTACHMENT O
Public Notice.....	ATTACHMENT P
Attachments not applicable to, and not included in, this application: Q, R and S	

SECTION I - III

GENERAL APPLICANT INFORMATION



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

601 57th Street, SE
 Charleston, WV 25304
 (304) 926-0475
www.dep.wv.gov/daq

**APPLICATION FOR NSR PERMIT
 AND
 TITLE V PERMIT REVISION
 (OPTIONAL)**

PLEASE CHECK ALL THAT APPLY TO NSR (45CSR13) (IF KNOWN):

- CONSTRUCTION MODIFICATION RELOCATION
 CLASS I ADMINISTRATIVE UPDATE TEMPORARY
 CLASS II ADMINISTRATIVE UPDATE AFTER-THE-FACT

PLEASE CHECK TYPE OF 45CSR30 (TITLE V) REVISION (IF ANY):

- ADMINISTRATIVE AMENDMENT MINOR MODIFICATION
 SIGNIFICANT MODIFICATION

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS ATTACHMENT S TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant (as registered with the WV Secretary of State's Office):

Pilgrim's

2. Federal Employer ID No. (FEIN):

75-1285071

3. Name of facility (if different from above):

Moorefield Feed Mill

4. The applicant is the:

- OWNER OPERATOR BOTH

5A. Applicant's mailing address:

PO Box 539
 Moorefield, WV 26836

5B. Facility's present physical address:

Rt. 220 South, Industrial Park Road
 Moorefield, West Virginia 26836

6. West Virginia Business Registration. Is the applicant a resident of the State of West Virginia? YES NO

- If YES, provide a copy of the **Certificate of Incorporation/Organization/Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A**.
- If NO, provide a copy of the **Certificate of Authority/Authority of L.L.C./Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A**.

7. If applicant is a subsidiary corporation, please provide the name of parent corporation: No

8. Does the applicant own, lease, have an option to buy or otherwise have control of the proposed site? YES NO

- If YES, please explain: Applicant owns the site.
- If NO, you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be **constructed, modified, relocated, administratively updated or temporarily permitted** (e.g., coal preparation plant, primary crusher, etc.): Feed Mill

10. North American Industry Classification System (NAICS) code for the facility:

(Sic 2048) 311611

11A. DAQ Plant ID No. (for existing facilities only):

031-00005

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):

R13-1506B

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A.

- For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
- For **Construction** or **Relocation permits**, please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP as Attachment B**.

The facility is adjacent to West Virginia Route 220 headed South out of Moorefield, West Virginia, and is in the Industrial Park. The coordinates are Lat. 39.044367, Long. -78.986096.

12.B. New site address (if applicable):
NA

12C. Nearest city or town:
Moorefield

12D. County:
Hardy

12.E. UTM Northing (KM): 4,323.630

12F. UTM Easting (KM): 674.2868

12G. UTM Zone: 17

13. Briefly describe the proposed change(s) at the facility:

Increase rate for unloading of corn from railcars and expanding total corn storage with new silo. Increased rate requires new conveyance systems. Also, adjust annual production rate of feed and add vehicle activity.

14A. Provide the date of anticipated installation or change: 11/15/2015

- If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen:

14B. Date of anticipated Start-Up if a permit is granted:
Upon Completion

14C. Provide a **Schedule** of the planned **Installation of/Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved).

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:

24 Hours Per Day 7 Days Per Week 52 Weeks Per Year

16. Is demolition or physical renovation at an existing facility involved? YES NO

17. **Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18. **Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process (*if known*). A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance (*if known*). Provide this information as **Attachment D**.

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to **Plot Plan Guidance**).

Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F**.

23. Provide a **Process Description** as **Attachment G**.

Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H**.

- For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I**.
26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J**.
27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K**.
28. Check all applicable **Emissions Unit Data Sheets** listed below:
- | | | |
|--|--|--|
| <input type="checkbox"/> Bulk Liquid Transfer Operations | <input type="checkbox"/> Haul Road Emissions | <input type="checkbox"/> Quarry |
| <input type="checkbox"/> Chemical Processes | <input type="checkbox"/> Hot Mix Asphalt Plant | <input type="checkbox"/> Solid Materials Sizing, Handling and Storage Facilities |
| <input type="checkbox"/> Concrete Batch Plant | <input type="checkbox"/> Incinerator | <input type="checkbox"/> Storage Tanks |
| <input type="checkbox"/> Grey Iron and Steel Foundry | <input type="checkbox"/> Indirect Heat Exchanger | |
- General Emission Unit, specify **Corn Storage Silos, Grain Receiving, and Conveyance System**.

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L**.

29. Check all applicable **Air Pollution Control Device Sheets** listed below: **NA**
- | | | |
|---|---|--|
| <input type="checkbox"/> Absorption Systems | <input checked="" type="checkbox"/> Baghouse | <input type="checkbox"/> Flare |
| <input type="checkbox"/> Adsorption Systems | <input type="checkbox"/> Condenser | <input type="checkbox"/> Mechanical Collector |
| <input type="checkbox"/> Afterburner | <input type="checkbox"/> Electrostatic Precipitator | <input type="checkbox"/> Wet Collecting System |
- Other Collectors, specify

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M**.

30. Provide all **Supporting Emissions Calculations** as **Attachment N**, or attach the calculations directly to the forms listed in Items 28 through 31.
31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O**.
- Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.
32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and *Example Legal Advertisement* for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.
33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?
- YES NO
- If **YES**, identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's "*Precautionary Notice – Claims of Confidentiality*" guidance found in the *General Instructions* as **Attachment Q**.

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below: **NA**
- | | |
|--|---|
| <input type="checkbox"/> Authority of Corporation or Other Business Entity | <input type="checkbox"/> Authority of Partnership |
| <input type="checkbox"/> Authority of Governmental Agency | <input type="checkbox"/> Authority of Limited Partnership |
- Submit completed and signed **Authority Form** as **Attachment R**.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned **Responsible Official** / **Authorized Representative**, hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE Matthew Herman DATE: 9/14/15
(Please use blue ink) *(Please use blue ink)*

35B. Printed name of signee: Matthew Herman		35C. Title: Senior Vice President, Operations
35D. E-mail: matthew.herman@pilgrims.com	36E. Phone: (256) 840-1208 <u>256-281-4471</u> <i>mt</i>	36F. FAX: Use Email
36A. Printed name of contact person (if different from above): Ray Powell		36B. Title: Engineering
36C. E-mail: ray.powell@pilgrims.com	36D. Phone: (540) 901-6065	36E. FAX: Use Email

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

<input checked="" type="checkbox"/> Attachment A: Business Certificate	<input checked="" type="checkbox"/> Attachment K: Fugitive Emissions Data Summary Sheet
<input checked="" type="checkbox"/> Attachment B: Map(s)	<input checked="" type="checkbox"/> Attachment L: Emissions Unit Data Sheet(s)
<input checked="" type="checkbox"/> Attachment C: Installation and Start Up Schedule	<input checked="" type="checkbox"/> Attachment M: Air Pollution Control Device Sheet(s)
<input checked="" type="checkbox"/> Attachment D: Regulatory Discussion	<input checked="" type="checkbox"/> Attachment N: Supporting Emissions Calculations
<input checked="" type="checkbox"/> Attachment E: Plot Plan	<input checked="" type="checkbox"/> Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans
<input checked="" type="checkbox"/> Attachment F: Detailed Process Flow Diagram(s)	<input checked="" type="checkbox"/> Attachment P: Public Notice
<input checked="" type="checkbox"/> Attachment G: Process Description	<input type="checkbox"/> Attachment Q: Business Confidential Claims
<input checked="" type="checkbox"/> Attachment H: Material Safety Data Sheets (MSDS)	<input type="checkbox"/> Attachment R: Authority Forms
<input checked="" type="checkbox"/> Attachment I: Emission Units Table	<input type="checkbox"/> Attachment S: Title V Permit Revision Information
<input checked="" type="checkbox"/> Attachment J: Emission Points Data Summary Sheet	<input checked="" type="checkbox"/> Application Fee

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

Forward 1 copy of the application to the Title V Permitting Group and:

For Title V Administrative Amendments:

NSR permit writer should notify Title V permit writer of draft permit,

For Title V Minor Modifications:

Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,

NSR permit writer should notify Title V permit writer of draft permit.

For Title V Significant Modifications processed in parallel with NSR Permit revision:

NSR permit writer should notify a Title V permit writer of draft permit,

Public notice should reference both 45CSR13 and Title V permits,

EPA has 45 day review period of a draft permit.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

ATTACHMENT A
BUSINESS CERTIFICATE

**WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION
CERTIFICATE**

ISSUED TO:
**PILGRIM'S PRIDE CORPORATION
1770 PROMONTORY CIR
GREELEY, CO 80634-9039**

BUSINESS REGISTRATION ACCOUNT NUMBER: 2306-9994

This certificate is issued on: **02/10/2015**

*This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code*

*The person or organization identified on this certificate is registered
to conduct business in the State of West Virginia at the location above.*

This certificate is not transferrable and must be displayed at the location for which issued

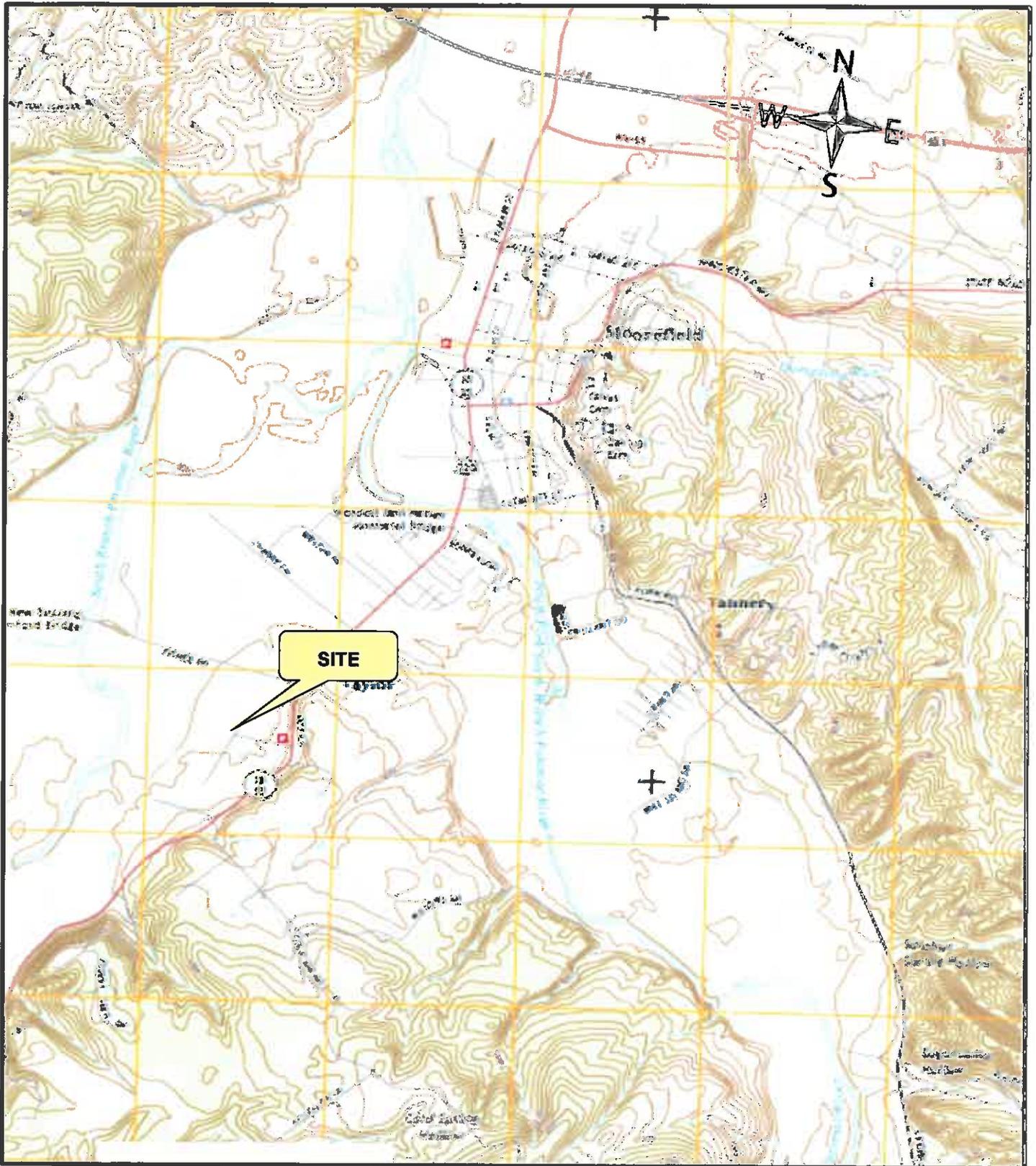
This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

ATTACHMENT B

AREA MAP



DATE: August 2015

PROJECT NO. 0101-15-0121-001

MAPPING FOR VISUAL REPRESENTATION ONLY

**SITE LOCATION MAP
 PILGRIMS PRIDE PREPARED FOODS PLANT
 MOOREFIELD, HARDY COUNTY, WV**

NOT TO SCALE

ATTACHMENT C

INSTALLATION AND STARTUP SCHEDULE

ATTACHMENT C

INSTALLATION AND STARTUP SCHEDULE

Pilgrim's proposes to start construction after issuance of the revised air permit. Replacement and new construction will occur as part of this project. The receiving system from the outside (North) rail receiver will be replaced along with the grain elevators, the headhouse at the top of the storage silos, and the feed system into the silos. The new construction will be the equipment associated with the new silo. The feed system from the headhouse, the silo, and the reclaim system back to the feed mill will be new.

Pilgrim's anticipates starting construction in November 2015.

ATTACHMENT D
REGULATORY DISCUSSION

ATTACHMENT D

REGULATORY DISCUSSION

The permit revisions requested in this application do not change the applicable regulatory requirements for this site. The facility is required to comply with the requirements contained in the applicable provisions of the following rules.

1. State Regulation(s)

- A. 45CSR2 – “To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers”

Sets emission limits on particulate matter mass and opacity from indirect heat exchangers such as the proposed sulfur burner/boiler. Opacity is restricted to no more than 10% while the mass limit is set by the product of 0.09 and the unit’s total design heat input (BTU/hr).

- B. 45CSR2A – “Testing, Monitoring, Recordkeeping and Reporting Requirements Under 45CSR2”

Provides guidance for complying with the requirements of 45CSR2.

- C. 45CSR4 – “To Prevent and Control the Discharge of Air Pollutants into the Open Air Which Causes or Contributes to an Objectionable Odor or Odors”

The proposed facility will control the discharge of objectionable odors.

- D. 45CSR7 – “To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations”

Sets emission limits on particulate matter mass and opacity from manufacturing processes. Opacity is restricted to no more than 20% while the mass limit is a function of source type and process weight rate.

- E. 45CSR7A – “Compliance Test Procedures for 45CSR7 – To Prevent and Control Particulate Matter Air Pollution from Manufacturing Process Operations”

Provides guidance for complying with the requirements of 45CSR7.

- F. 45CSR10 – “To Prevent and Control Air Pollution from the Emission of Sulfur Oxides”

Sets emission limits on sulfur dioxide from fuel burning units, manufacturing processes, and combustion of process gas streams. Defined as “type b” units in

the rule, proposed fuel burning units are restricted to the product of 3.2 and the total design heat input (BTU/hr) of the unit. Manufacturing process units generating sulfur dioxide emissions are restricted to an in-stack sulfur dioxide concentration of no more than 2,000 ppm.

- G. 45CSR10A – “Testing, Monitoring, Recordkeeping and Reporting Requirements Under 45CSR10”

Provides guidance for complying with the requirements of 45CSR10.

- H. 45CSR13 – “Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation”

The applicant of the proposed facility is required to obtain a permit prior to the start of construction. This application is being submitted based on the requirements of 45CSR13 to obtain said permit.

- I. 45CSR16 – “Standards of Performance for New Stationary Sources”

45CSR16 formally adopts NSPS of 45CFR60 which are the federal standards discussed below.

- J. 45SCR30 – “Requirements for Operation Permits”

Requires permitting under Title V of the Clean Air Act as needed. This facility is a non-major source subject to Title V and is deferred from obtaining a Title V Permit at this time. The facility will pay operating fees under Title V since it is subject to NSPS Standards.

2. Federal Regulation(s)

- A. 40CFR60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Boilers at this site are subject to this rule which includes requirements for fuel sulfur limits, fuel certifications, and recordkeeping and reporting.

- B. 40CFR60, Subpart DDDDDDD, National Emissions Standards for Hazardous Air Pollutants for Area Sources: Prepared Feed Manufacturing.

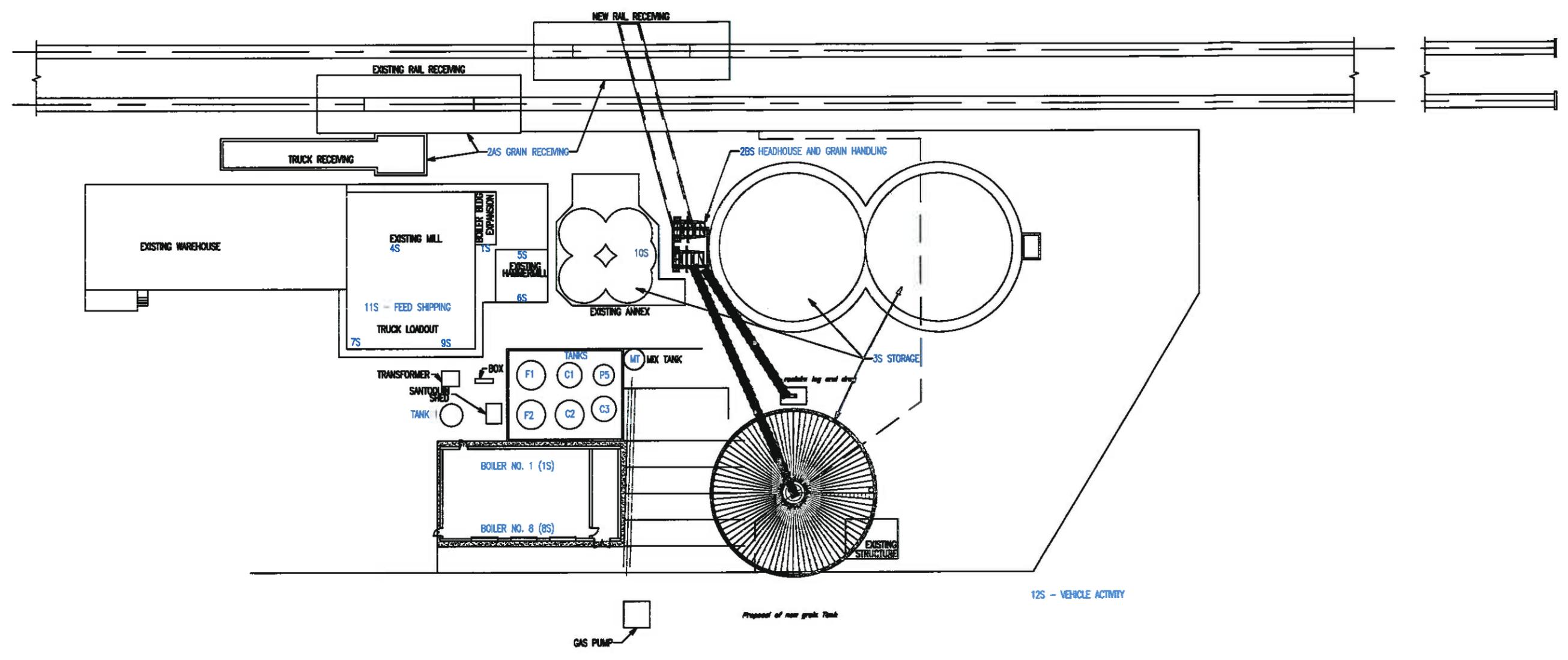
The site is subject to this rule since there is manganese in the trace minerals. The rule requires recordkeeping for the cyclone performance.

- C. 40CFR63, Subpart JJJJJ, National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.

The boilers at this site are natural gas-fired boilers and only use fuel oil during curtailment, gas supply interruptions, startups, or periodic testing on liquid fuel. The periodic testing does not exceed 48 hours in a calendar year; therefore, the boilers are not subject to this standard.

ATTACHMENT E

PLOT PLAN



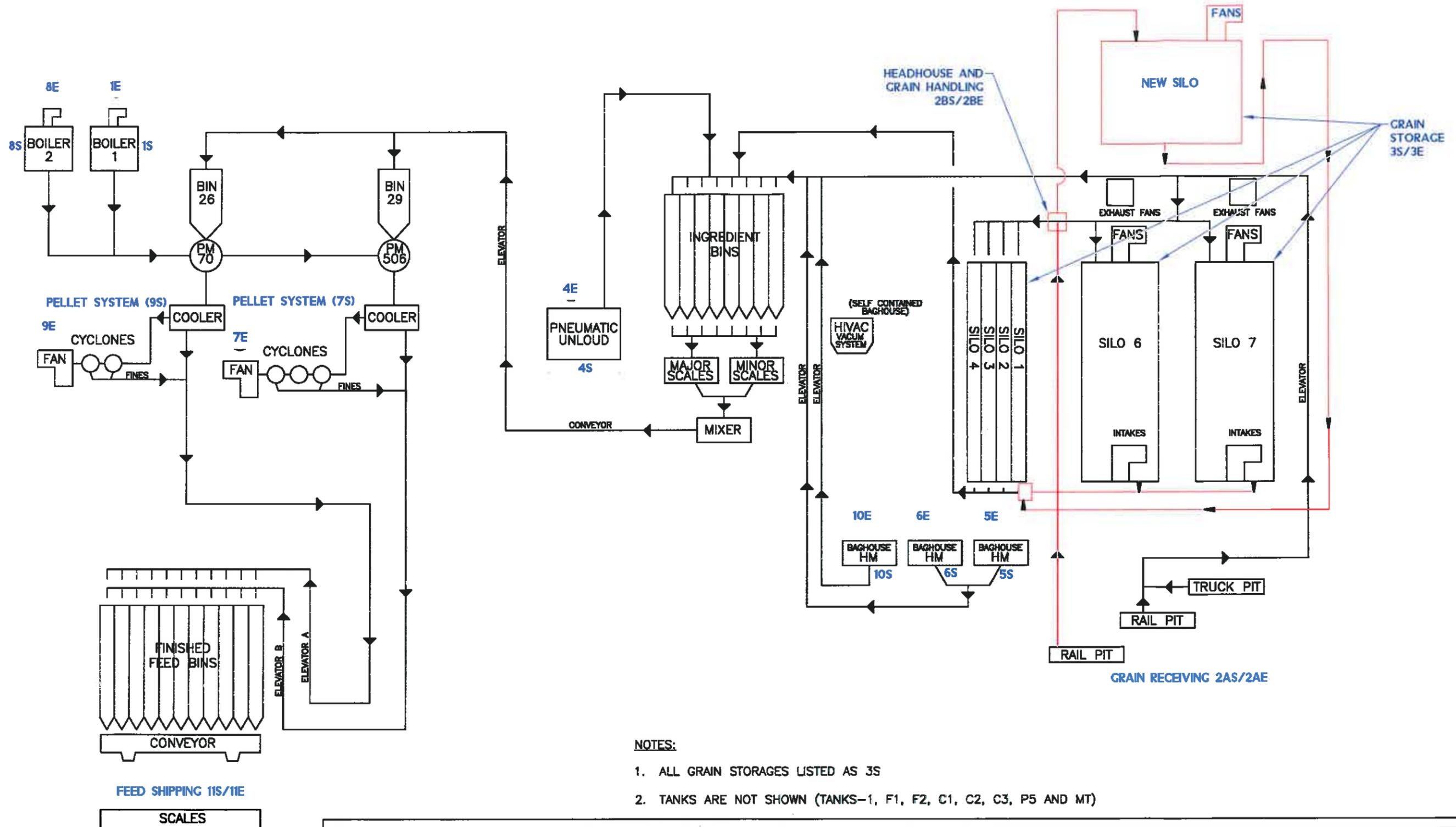
XREF Files:
 IMAGE Files:
 File: S:\C3D-Projects\15-0121 - PILGRIMS PRIDE\15-0121-02.dwg
 Plot Date/Time: Aug 14, 2015 - 9:31am
 Plotted By: cdbird

PROJECT #: 15-0121 FILENAME: 15-0121-02

	POTESTA & ASSOCIATES, INC. ENGINEERS AND ENVIRONMENTAL CONSULTANTS 7012 MacCorkle Ave. SE, Charleston, WV 25304 TEL: (304) 342-1400 FAX: (304) 343-9031 E-Mail Address: potesta@potesta.com	Project SITE PLAN FEED MILL PILGRIMS MOOREFIELD, WEST VIRGINIA
	Scale NOT TO SCALE Date AUGUST 2015	Dwg. No. FIGURE 1

ATTACHMENT F

DETAILED PROCESS FLOW DIAGRAM



NOTES:

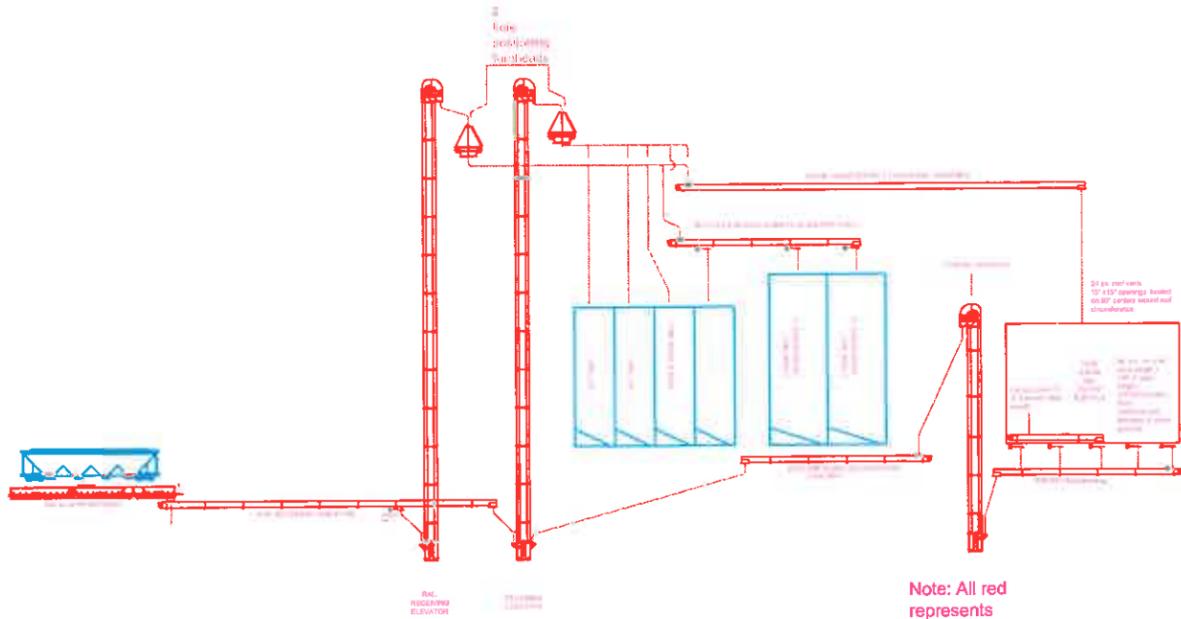
1. ALL GRAIN STORAGES LISTED AS JS
2. TANKS ARE NOT SHOWN (TANKS-1, F1, F2, C1, C2, C3, P5 AND MT)



POTESTA & ASSOCIATES, INC.
 ENGINEERS AND ENVIRONMENTAL CONSULTANTS
 7012 MacCorkle Ave. SE, Charleston, WV 25304
 TEL: (304) 342-1400 FAX: (304) 343-9031
 E-Mail Address: potesta@potesta.com

Project		PROCESS FLOW DIAGRAM FEED MILL PILGRIMS MOOREFIELD, WEST VIRGINIA	
Scale	NOT TO SCALE	Dwg. No.	FIGURE 2
Date	AUGUST 2015		

XREF FILES:
 IMAGE Files: M:\field\Feed Mill\PF01-Model\jog
 File: S:\3D-Prod-VR\2015\15-0121 - Pilgrims PRIDE\15-0121-01.dwg
 Plot Date/Time: Aug 14, 2015 - 9:32am
 Plotted By: cdbird



Note: All red represents (new equipment)

Notes on Worklog System
 4. 8' Water Dig System. All the elevator dig on Miller
 20'ft water dig system. (Top elevator) (Bottom 8'ft)
 40' Water Dig system from 20'ft dig system on Miller
 (Top dig system) (Bottom dig system) (Bottom dig system)
 40'ft dig system (Bottom dig system) (Bottom dig system)

TOP
 BEAD
 WELDING

190
 FIFTH
 STREET
 BROADWAY
 VA.
 22815

T
 (540)
 F
 (540)
 896-9220

PILGRIMS
 FEED
 MILL
 MOOREFIELD
 WEST
 VIRGINIA

ATTACHMENT G
PROCESS DESCRIPTION

ATTACHMENT G

PROCESS DESCRIPTION

Description of the Proposed Revisions

Pilgrim's is proposing to upgrade the railroad grain receiving, handling, and storage operation at the Moorefield Feed Mill. This upgrade is being proposed to allow for a unit train to be unloaded in a set amount of time per a request from the railroad. To accomplish the time requirement, Pilgrim's needs to replace existing grain handling equipment and provide for more storage. The proposed plan is to replace the existing rail pit screws conveyors, the rail receiving conveyor, the railcar receiving grain elevators and the receiving elevator (which also receives grain from railcars), the turn heads (headhouse) at the top of the elevators, and the drag conveyor for the existing large silos.

Additionally, a new silo is being constructed which will require a grain transfer belt conveyor to the new silo which will be reclaimed by a reclaim drag to a reclaim elevator/leg, then to a reclaim transfer conveyor. The reclaim transfer conveyor will feed into the existing reclaim system that feeds into the feed mill. The rate of grain receiving will increase from 560 tons per hour (approximately 20,000 bushels per hour) to 1,120 tons per hour (approximately 40,000 bushels per hour). The new storage silo will hold 7,700 tons (275,000 bushels).

The proposed changes are depicted on the drawing provided by Top Bead Welding which is included with the site process flow diagram in Attachment F.

Additionally, we are clarifying and adjusting the amount of corn, soybean mill, and resulting feed product. These numbers are presented in Attachment I. Vehicle activity is being added as a source for delivery of soybean mill, corn, and additives in trucks.

Emissions Estimate Discussion

The emissions estimate for the facility has been updated to reflect the emissions for grain receiving, headhouse and grain handling, storage and feed loadout based on emission factors from AP-42, Section 9.9.1 Grain Elevators and Processes. This revises the emission estimate for storage of grain. The existing permit/permit application did not include emissions for grain receiving, headhouse and grain handling, and feed loadout. The application previously stated that there were no emissions from these processes. These emissions were added based on emission factors from Section 9.9.1.

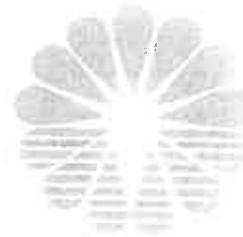
The change in emissions was estimated based on the difference between the existing transfer rates into storage of 560 tons per hour and the new transfer rates of 1,120 tons per hour for grain receiving, headhouse and grain handling, storage, and feed loadout. An emissions estimate has been included for vehicle activity for delivering grain and liquid/solid additives by truck and removing the feed by truck and this activity has been included as an increase in emissions since it was not previously included.

The following sources do not have an emissions increase because the existing emissions limits were based on operating the sources for 8,760 hours per year instead of being based on throughput: Pneumatic System (4S), Crusher (5S), Crusher (6S), Pellet System (7S), Pellet System (9S) and Crusher (10S).

ATTACHMENT H
MATERIAL SAFETY DATA SHEETS

2600 S. Euclid Avenue
Bay City, Michigan 48706
Phone: 989-686-1569 ext 289
Fax: 989-686-2959
E-Mail: rroslund@mwagri.com

Midwest Agri Commodities



Material Safety Data Sheet

Betaine

Contact Person: Roger Roslund 989-225-4811 Date: 02/29/2012

I. PRODUCT IDENTIFICATION

Name:	Betaine Solution	
Manufacture:	Michigan Sugar Company	American Crystal Sugar Company
	2600 S. Euclid Avenue Bay City, Michigan 48706	Route 2, Box 42 Hillsboro, North Dakota 58045
Use:	Ingredient	
Chemical components:	Betaine (approx. 32.0%), Sucrose (approx. 7.0%), Non-Sucrose (approx. 23.0%) and Water (approx. 40.0%)	
Chemical Formula:	Betaine (C ₅ H ₁₁ NO ₂), Non-sucrose (N.A.), Sucrose (C ₁₂ H ₂₂ O ₁₁), Water (H ₂ O)	

II. HAZARDOUS MATERIAL IDENTIFICATION

- 1.- Sticky
- 2.- Non-toxic

III. PHYSICAL AND CHEMICAL DATA

Description:	Dark brown syrup
Specific Gravity:	1.40
Solubility:	Very soluble in water (160 gm / 100 gm water)
pH:	8.0 - 9.0 in water solution
Reactivity:	Not at normal temperature and use. Can react exothermally at high temperatures.
Volatility:	N. A.

IV. FIRE AND EXPLOSION HAZARD DATA

Combustion Data:	non-combustible
Ignition Temperature:	N.A.

V. REACTIVITY DATA

Stability:	Stable at normal temperature
Decomposition:	Above 186° C

VI. HEALTH HAZARD DATA

Symptoms:	N.A.
Emergency Treatment:	N.A.
Carcinogenic:	Not Carcinogenic

VII. HANDLING AND CONTROL MEASURES

Storage:	Store at below 80° F
Spill and Clean-up:	Flush to sewer with water
Waste Disposal:	Observe municipal, state, and federal regulations relative to waste disposal
Housekeeping:	Minimize accumulation on floors, equipment, etc.
Ignition Sources:	Non-flammable



Material Safety Data Sheet Chicken Fat

Section I - General Information

Manufacturer's Name:

Pilgrim's Pride Corporation
1770 Promontory Circle
Greeley, Colorado 80634-9039

Emergency Telephone Number: 1-479-426-9126

Telephone Number for information: 1-903-767-3468

Date Prepared: 3/23/09

Prepared By: Pilgrim's Pride Corporation

Section II - Hazardous Ingredients/Identity Information

Hazardous Components - Contains no Hazardous Components as described in the Hazard Communication Standard

Substance - Rendered Poultry Fat CAS Number N/A

Trade Names - Chicken Fat

Chemical Family: Triglyceride; Triacylglycerol

Molecular Formula: N/A Molecular Weight: N/A

Components and Contaminants

Components: Triglycerides Percent: 100%

Other Contaminants: None Exposure Limits: N/A

Section III - Physical/Chemical Characteristics

Boiling Point: Decomposes Specific Gravity (H₂O = 1): 0.84 avg.

Vapor Pressure (mm Hg): N/A Melting Point: 35° C

Vapor Density (Air = 1): N/A Evaporation Rate: 0 (Butyl Acetate = 1)

Solubility in Water: Insoluble

Appearance and Odor: Light brown liquid to pale brown solid, bland odor

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used): 525° F, Open Cup

Flammable Limits: N/A LEL: N/A UEL: N/A

Extinguishing Media: Type B (Flammable Liquids)

Special Fire Fighting Procedures: None

Unusual Fire and Explosion Hazards: None

Section V - Reactivity Data

Reactivity: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: None

Hazardous Polymerization: Will Not Occur

Section VI - Health Hazard Data

Inhalation: N/A

Skin Contact: N/A

Eye Contact: N/A

Ingestion: N/A

Emergency and First Aid Procedures: Wash well, treat for possible heat burns

OSHA Regulated: No

Section VII - Precautions for Safe Handling and Use

Steps to be taken in case material is released or spilled - Contain and contact Pilgrim's Pride Corporation concerning reprocessing.

Waste Disposal Method - Rendering (reprocessing), not to be land filled. Do not flush to sewer.

Precautions To Be Taken in Handling and Storing - None

Other Precautions - None

Section VIII - Control Measures

Respiratory Protection - None

Ventilation - Ventilate bins before entering, follow confined space procedure if applicable.

Protective Gloves - Rubber Gloves

Eye Protection - Safety Glasses or Goggles if splashing is anticipated.

Other Protective Clothing or Equipment - None

Work/Hygienic Practices - Wash hands after handling product.

The information provided is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

Revision date: 12/26/2011 - Reason for revision, contact information change.



AJINOMOTO®

AJINOMOTO HEARTLAND, INC.

8430 W. Bryn Mawr, Suite 650 • Chicago, IL 60631-3421

Tel: (773) 380-7000 Fax: (773) 380-7006

www.lysine.com

MATERIAL SAFETY DATA SHEET

AjiLys® - Liquid Lysine [Feed Grade 50%]

MANUFACTURED AND DISTRIBUTED BY:

Ajinomoto Heartland Inc.

1116 Hwy 137

Eddyville, Iowa 52553

EMERGENCY PHONE:

(641) 969-4551 – Eddyville, IA

(773) 380-7000 – Chicago, IL

DESCRIPTION

Product Name:

AjiLys®

Chemical Name:

2, 6 Diaminohexanoic Acid

CAS Registry Number:

56-87-1 (L-Lysine)

Synonyms:

Aqueous solution of L-Lysine. Alpha, Epsilon-Diaminocaproic Acid; 2, 6-Diaminohexanoic Acid; L-Lysine

Chemical Family:

Amino Acid

Composition:

As L-Lysine, 50.0% (wt/wt, minimum)

Chemical Formula:

$C_6H_{14}N_2O_2$ (L-Lysine) + H_2O (Water)

Product Use:

To be used in the manufacture of animal feeds

PHYSICAL DATA

Appearance & Odor:

Brown liquid, slight odor

Specific Gravity (H₂O=1):

1.12 to 1.19 kg/L (9.35 to 9.93 lbs/gallon)

pH as Supplied:

10 to 11

Solubility in Water:

Aqueous liquid

Dry Matter (average):

50 to 60%

Molecular weight:

146.19

For animal feed only – not for human consumption

MATERIAL SAFETY DATA SHEET

AjiLys® - Liquid Lysine [Feed Grade 50%]

STATEMENT OF HEALTH HAZARD

Hazard Description:

Avoid contact with eyes, mild eye irritant;
otherwise non-hazardous.

EMERGENCY TREATMENT

Eyes:

Wash eyes immediately with large amounts of
water or saline.

Skin Contact:

Ensure thorough rinsing. Remove contaminated
clothing and wash with water and mild detergent.

SPILL OR LEAK PROCEDURES

Steps To Be Taken:

Ordinary, same as food

Waste Disposal:

Collect spilled material in appropriate containers
for disposal. Keep out of water supplies and
sewers. Keep unnecessary people away, isolate
area.

FIRE & EXPLOSION HAZARD DATA

Fire-Fighting Measures:

Aqueous solution; non-flammable

Unusual Fire & Explosion Hazards:

Not a fire hazard

POTENTIAL CHEMICAL REACTIVITY

Stability:

Stable for 6 months at 25 to 35°C (77 to 95°F).

Conditions to Avoid:

Temperature below less than 0°C (32°F) - viscosity
will increase at low temperatures

Incompatibility (Materials to avoid):

Liquid Methionine Hydroxy Analogue (HMTBa; a
50:50 mixture of AjiLys® and HMTBa will create a
significant amount of heat and steam), Liquid
Methionine, Liquid Choline Chloride or highly
unsaturated fat.

*There are no known incompatibility issues between
AjiLys® and either HMTBa, Liquid Methionine,
Liquid Choline Chloride or fat when the liquids are
simultaneously yet, independently applied to
actively mixing feed.*

For animal feed only – not for human consumption

MATERIAL SAFETY DATA SHEET

AjiLys® - Liquid Lysine [Feed Grade 50%]

SPECIAL PROTECTION & PROCEDURES

Protective Equipment:

Splash-resistant eye protection recommended

Skin Protection:

Appropriate chemical-resistant gloves recommended

Ventilation / Respiratory Protection:

Handle only in well-ventilated areas. Ensure compliance with applicable exposure limits.

HANDLING & STORAGE

Handling:

Recommended to wear chemical-resistant gloves and eye protection when handling.

Storage:

Store in insulated tanks at temperatures between 25 and 35°C (77 and 95°F); do not let AjiLys® go below 0°C (32°F), as viscosity will increase at low temperatures

Other Precautions:

Keep separated from incompatible substances.

LABELING & SHIPPING

Proper Shipping Name:

AjiLys® (Liquid Lysine)

FDA₂₁ CFR:

582.5411

AAFCO_{ID#}:

6.16

DISPOSAL CONSIDERATIONS

Disposal:

Dispose of in accordance with all regulations.

OTHER REGULATORY REQUIREMENTS

None

For animal feed only – not for human consumption



Adisseo USA Inc. – 4400 North Point Parkway, Suite 275 - Alpharetta, GA 30002
Tel. 678.339.1500 – Fax 678.339.1600

RHODIMET AT 88

For Product Information: (800) 727-1019

For Emergencies: ChemCare24 Toll Free (800) 727-5083

1. COMPOSITION/INGREDIENT DESCRIPTION

<u>Chemical</u>	<u>CAS #</u>	<u>OSHA</u>	
		<u>Hazardous(Y/N)</u>	<u>Concentration (%)</u>
2-Hydroxy-4-(Methylthio)			
Butanoic acid	583-91-5	Y	>88
Water	7732-18-5	N	<12

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: CORROSIVE TO EYES. MAY CAUSE SKIN AND RESPIRATORY TRACT IRRITATION.

Physical Appearance and Odor: Slightly brown viscous liquid, acrid odor

POTENTIAL HEALTH EFFECTS:

Acute Eye: Corrosive. Can cause permanent damage to the cornea.

Acute Skin: Low acute dermal toxicity. Can cause redness, inflammation and irritation on prolonged contact.

Acute Inhalation: Vapors can cause respiratory tract irritation.

Acute Ingestion: Harmful if ingested. May cause irritation, nausea, diarrhea and abdominal cramps.

Chronic Effects: None known.

3. FIRST AID MEASURES

Eye Contact: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention, preferably with an ophthalmologist. If a physician is not immediately available, eye irrigation should be continued for an additional 15 minutes. If it is necessary to transport the patient to a physician and the eye needs to be bandaged, use a dry sterile cloth pad and cover both eyes.

Skin Exposure: Immediately wash with plenty of soap and water for at least 5 minutes. Seek medical attention if irritation develops or persists. Remove contaminated clothing and shoes and clean before re-use.

Inhalation: If respiratory irritation or distress occurs, remove victim to fresh air. Seek medical attention if respiratory irritation or distress continues.

Ingestion: If victim is conscious and alert, give 2-3 glasses of water to drink. Do not induce vomiting. Material may enter lungs and cause severe damage. Do not give anything by mouth to an unconscious person. To prevent aspiration of swallowed material, lay victim on side with head lower than waist. Persons attending victim should avoid direct

3. FIRST AID MEASURES (continued)

Ingestion (continued): contact with heavily contaminated clothing and vomitus. Wear impervious gloves while decontaminating skin and hair. Seek medical attention. Do not leave victim unattended.

Medical Conditions Possibly Aggravated by Exposure: Skin contact may aggravate existing skin diseases.

Notes to Physician: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically. No specific antidote available.

4. FIRE FIGHTING MEASURES

Flash point: >220C (>428F)

Flammability limits (vol/vol%): Lower: No data Upper: No data

Extinguishing Media: Dry chemical, foam, water, CO₂

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing. Cool containers exposed to fire with water.

Unusual Fire and Explosion Hazards: Product will burn under fire conditions.

Hazardous Decomposition Materials Under Fire Conditions: Oxides of carbon, oxides of sulfur, hydrogen sulfide

5. ACCIDENTAL RELEASE MEASURES

Evacuation Procedures and Safety: Wear appropriate protective gear for the situation. (See Personal Protection information in Section 7).

Cleanup and Disposal of Spill: Absorb with an inert absorbent. Sweep up and place in an appropriate closed container. Clean up residual material by washing area with water. Collect washings for disposal. (See additional information in Section 12).

Environmental and Regulatory Reporting: Do not flush to drain. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

6. HANDLING AND STORAGE

Maximum Storage Temperatures: No data available.

Handling: Avoid breathing vapors. Avoid direct or prolonged contact with skin and eyes. Only forklifts or pallet jacks should be used for unloading trucks or moving drums or IBCs.

Storage: Store in tightly-closed, original container. Store in an area that is cool, dry, dark and well-ventilated.

Recommended container material: polyethylene. Container material(s) to avoid: glass, metal.

7. EXPOSURE CONTROLS/PERSONAL PROTECTION

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application.

Exposure Guidelines: The following limits apply to components of this material.

No exposure limits were found for this product or any of its components.

7. EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Engineering Controls: General area dilution/exhaust ventilation

Respiratory Protection: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with regulatory standards and/or industrial recommendations.

Eye/Face Protection: Eye contact should be prevented through the use of chemical safety glasses with side shields or splash-proof goggles. An emergency eye wash must be readily accessible to the work area.

Skin Protection: Skin contact should be minimized through the use of gloves and suitable long-sleeved clothing.

Work Practice Controls: The following general measures should be taken when working or handling this material: 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet. 3) Wash exposed skin promptly to remove accidental splashes of contact with this material.

8. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical properties here represent typical properties of this product. Contact the manufacturer for exact specifications.

Physical Appearance: Slightly brown, viscous liquid

Odor: Acrid odor

pH: <1 at 100%

Specific Gravity: 1.21-1.23 at 25C (77F)

Water Solubility: Miscible

Melting Point Range: Not available

Boiling Point Range: 248F (120C)

Freezing Point Range: 10C (40F)

Vapor Pressure: <17 mm Hg at 20 C (68F)

Vapor Density: Not available

Viscosity: 105 centistokes at 25C(77F)

9. STABILITY AND REACTIVITY

Chemical Stability: This material is stable under normal handling and storage conditions described in Section 6.

Conditions to be Avoided: Extreme heat, open flame.

Materials/Chemicals to be Avoided: Strong bases, strong oxidizing agents, metals

Decomposition Temperature Range: 160C (320F)

Hazardous Decomposition Products: Oxides of carbon, oxides of sulfur, hydrogen sulfide

Hazardous Polymerization: Not applicable

10. TOXICOLOGICAL INFORMATION

Acute Eye Irritation: Corrosive (rabbit).

Acute Skin Irritation: Slightly irritating (4-hour exposure, rabbit), Moderately to severely irritating (24-hour exposure, rabbit). Not a sensitizer (human).

10. TOXICOLOGICAL INFORMATION (continued)

Acute Dermal Toxicity: LD50>2000 mg/kg, rabbit.

Acute Respiratory Irritation: No data available.

Acute Inhalation Toxicity: No data available.

Acute Oral Toxicity: LD50=3478 mg/kg, rat.

Mutagenicity Testing: Negative in the Ames test.

Chronic Toxicity: This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens. No additional test data found for product.

11. ECOLOGICAL INFORMATION

Ecotoxicological Information: LC50=386mg/L/96-hour (rainbow trout), EC50=222 mg/L/48-hour (daphnia), EC50=82 mg/L/72-hour (algae).

Chemical Fate Information: No test data found for product.

12. DISPOSAL CONSIDERATIONS

Waste disposal Method: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from Federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material. (**Note:** This material, when absorbed on an inert absorbant, is not regulated as a RCRA Hazardous waste, and may be landfilled in accordance with all state and local regulations.)

Container Handling and Disposal: Rinse containers before disposal.

EPA Hazardous Waste = YES (For product as sold).

EPA RCRA Hazardous Waste Codes: "C" =Corrosive

13. TRANSPORTATION INFORMATION

Note: The listed transportation classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

US Department of Transportation:

Shipping name: Not regulated

Hazard Class: Not regulated

ID#: Not regulated

Packing Group: Not regulated

Labels: Not regulated

Emergency Guide#: Not regulated

14. REGULATORY INFORMATION

Inventory Status:

US (TSCA): Yes

Canada (DSL): Yes

Europe (EINECS/ELINCS): Yes

14. REGULATORY INFORMATION (continued)

Inventory Status (continued):

Australia (AICS): Yes

Japan (MITI): Yes

Korea (KECL): No

Where: Yes = all ingredients are listed on the inventory, Exempt = All ingredients are either on the inventory or exempt from the requirements of listing, No = Not determined, or one or more ingredients are not on the inventory and are not exempt from listing

US Inventory Issues: This product is exempt from TSCA because it is solely for FDA-regulated use

SARA Title III Hazard Classes:

Fire Hazard: No

Reactive Hazard: No

Release of Pressure: No

Acute Health Hazard: Yes

Chronic Health Hazard: No

SARA Extremely Hazardous Substances/CERCLA Hazardous Substances: Unlisted Hazardous Wastes – Characteristic of Corrosivity

California Proposition 65: This product does not contain any components that are regulated under Proposition 65.

15. OTHER INFORMATION

National Fire Protection Association (“NFPA”) Hazard Ratings:

Health: 3 (Serious)

Flammability: 1 (Slight)

Instability: 0 (Minimal)

National Paint and Coatings Hazardous Materials Identification System (“HMIS”) Hazard Ratings:

Health: 3 (Serious)

Flammability: 1 (Slight)

Reactivity: 0 (Minimal)

Reason for Revision(s): Regulatory review and update

Disclaimer: The information and recommendations in this data sheet are believed to be correct and reliable.

However, the data are offered for consideration and verification by the user and Adisseo Inc. offers no guarantee, warranty or representation as to the accuracy or completeness of the data.

END OF MATERIAL SAFETY DATA SHEET

BALCHEM™

ANIMAL NUTRITION & HEALTH

Choline Chloride AN&H MSDS - English

Revised: 15 June 2010

Supersedes: 7 October 2009, 12 September 2008, 6 November 2007, 14 September 2007

MATERIAL SAFETY DATA SHEET

According to OSHA Regulation 29 CFR 1910.1200 and Regulation (EC) No. 1907/2006

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:

Dry Products

60% Choline Chloride – Dry

70% Choline Chloride – Dry

75% Choline Chloride – Dry

Choline chloride, 50% on vegetable carrier

Choline chloride, 60% on vegetable carrier

Choline chloride, 70% on vegetable carrier

Choline chloride, 50% on silica carrier

Aqueous Products

70% Choline Chloride – Aqueous

75% Choline Chloride – Aqueous

SYNONYMS:

Choline Chloride

2-Hydroxy-N,N,N-trimethylethanaminium chloride

TYPICAL USES:

Nutritional Additive for Feed

MANUFACTURER:

USA

Balchem Corporation
52 Sunrise Park Road
New Hampton, NY 10958
Phone: +1 (845) 326-5600
Fax: +1 (845) 326-5615
Web: www.balchem.com
E-mail: sds@balchem.com

Europe

Balchem Italia Srl,
Via del Porto, snc
28040 Marano Ticino (NO), Italy
+39-(0)321-9791

24h EMERGENCY PHONE: Not required. If needed, the company can be reached via CHEMTREC at + 1-703-527-3887 [USA]

2. HAZARDS IDENTIFICATION

Emergency Overview

Not classified as hazardous according to US Hazard Communication Regulation (29 CFR 1910.1200), the EEC Dangerous Substance Directive and Dangerous Preparation Directive (67/548/EEC and 1999/45/EC). No risk to the environment expected. Warning! Dry product may form combustible dust concentrations in air (during processing).

Dry Products Light brown to white, free-flowing granules with little to slight grain odor. Poses little or no immediate hazards. Dust may be irritating to eyes, respiratory tract or skin. Combustion/decomposition may release toxic gases such as carbon dioxide, hydrogen chloride gas, nitrogen oxide and carbon monoxide. Deliquescent (absorbs moisture from air and becomes liquid) and may be slippery when spilled. Under appropriate conditions, dust explosion could occur.

Aqueous Product: Colorless to light amber solution; slight amine (fish-like) odor; poses little or no immediate hazards.

Potential Health Effects

Eye: No hazard expected. Dust may cause eye irritation.

Inhalation: No hazard expected. All dusts have potential to irritate respiratory tract. Breathing large amounts of dust may cause injury. Chronic exposure to dust may result in delayed lung injury.

Skin: No hazard expected. Dust may cause skin irritation.

Ingestion: No hazard expected. As a precaution, seek medical attention.

Systemic: No known physiological hazards.

Medical Conditions Aggravated by Exposure: None determined

3. COMPOSITION/INFORMATION ON INGREDIENTS

Also see Section 15.

Product	Components	Weight %	CAS #	Feed Registry #	REACH Reg #	IUPAC Name
CC 35% and 50% on Silica	C ₂ H ₁₂ ClNO	35-50	67-48-1	Not applicable	Not applicable	-
	SiO ₂ · xH ₂ O	50-55	7631-86-9	E 551 a	Not applicable	Not available
	H ₂ O	< 0.5	7732-18-5	Not applicable	Not applicable	Water
Other Dry Products	C ₂ H ₁₂ ClNO	50-70	67-48-1	Not applicable	Not applicable	-
	Carrier	30-50		Not applicable		Not applicable
	SiO ₂ · xH ₂ O	0-2	63231-67-4	E 551b	Not applicable	Not available
	H ₂ O	< 0.5	7732-18-5	Not applicable	Not applicable	Water
Aqueous Products	C ₂ H ₁₂ ClNO	70-75	67-48-1	Not applicable	Not applicable	-
	H ₂ O	25-30	7732-18-5	Not applicable	Not applicable	Water

*IUPAC Name: (2-hydroxyethyl)trimethylammonium chloride or 2-hydroxy-N,N,N-trimethylethanaminium chloride

Exposure Limits

OSHA Nuisance Dust PELs (29 CFR 1910.1000): Respirable fraction = 5 mg/m³; Total = 15 mg/m³

Silicon dioxide / Precipitated synthetic amorphous silica (Italy): Respirable dust = 2.4 mg/m³; Inhalable dust = 6 mg/m³. Note SiO₂ is a carrier for CC 35% and 50% CC on Silica, and is added as a flow agent to conditioned product only. This silica gel is synthetic amorphous silica not to be confused with crystalline silica. Epidemiological studies indicate low potential for adverse health effects from amorphous silica.

Risk Phrases and Symbols

None

4. FIRST AID MEASURES

Symptoms: Acute – None expected
Chronic – None determined

Eye: As a precaution, flush with clean, low-pressure water for at least fifteen minutes while occasionally lifting eyelids. If irritation occurs and persists, get medical attention.

Inhalation: If there is difficulty breathing, remove to fresh air and get medical attention.

Skin: As a precaution, wash with water, use soap if available. If extensive skin contact occurs, remove contaminated clothing and wash contacted skin with soap and water. In the unlikely event that irritation does occur/persist after contact, check with medical personnel. Wash contaminated clothing before reuse.

Ingestion: As a precaution, seek medical attention.

Note to Physician: Medical attention should not be required. There are no adverse effects expected from exposure to this product. If medical attention is sought, treatment should be based on the judgement of the physician in response to the reactions of the patient.

5. FIRE FIGHTING MEASURES

Flammable Properties: Flash point – Lipids have a flash point > 100 °C (212 °F).

Flammable Limits: Lower Flammable Limit (LFL) – not applicable
Upper Flammable Limit (UFL) – not applicable
Dust Cloud – 250 mg/l for particle size 70 micron or less (based on one sample of Choline chloride, 70% on vegetable carrier).

Auto Ignition Temperature: Not available. Vegetable oil fire may typically occur at temperatures exceeding 357 °C (675 °F). One sample of 70% choline chloride on vegetable carrier yielded a minimum ignition temperature (MIT) of 300 °C (572 °F) for a dust cloud composed of particle size diameter 70 microns or less.

Hazardous Combustion Products: No specific hazards. Combustion will produce compounds of carbon, hydrogen, nitrogen, oxygen and chlorine including carbon monoxide, carbon dioxide, trimethylamine, and hydrogen chloride. The exact composition of the products of combustion will depend on the conditions of combustion.

Other Fire and Explosion Hazards:

Dry products: Possible dust explosion. The particle size as produced and the deliquescent nature of the product are expected to limit potential for dust explosion. Based on minimal samples, material as produced is 0-2 wt% of particle size 70 microns or less. While not fully evaluated for dust explosion properties, material is expected to be classified as ST2 for dry particles less than 75 micron diameter. Literature reports choline chloride for particles < 63 micron diameter and 2.3 wt% moisture is classified as ST1 dust explosion and has a lower explosion limit of 125 g/m³, overpressure of 3.5 bar, Kst of 4 bar-m/s, a minimum ignition energy (MIE) > 10⁶ mJ and an ignition temperature of 430 °C (806 °F). One sample of 70% choline chloride on vegetable carrier at 0.6 wt% moisture and particle size < 70 micron diameter had the following properties: Layer Ignition Test (LIT): No ignition up to 400 °C (752 °F) of 5 mm dust layer, MIE = 30 mJ, Charge Relaxation Time < 0.01 seconds yielding classification as quick which implies rapid elimination of charge buildup when grounded / earthed, Powder Volume Resistivity = 2.6 x 10⁴ classified as low implying grounding/earthing is likely effective at preventing charge buildup, Pmax = 6.8 bar, Kst=245 bar-m/s and ST=2 (for dust cloud composed of particle 70 micron or less under high turbulence).

Extinguishing Media: Water, Foam, CO₂, Dry Chemical

Fire Fighting Equipment: Full protective equipment (Bunker Gear) and NIOSH/MSHA approved SCBA should be used for all indoor and any significant outdoor fires. For small outdoor fires which may easily be extinguished with a portable fire extinguisher, use of a SCBA may not be required.

Fire Fighting Instructions: Water run off can cause environmental damage. Dike and collect water used to fight fires. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard. This material may present an explosion and deflagration hazard risk when dispersed and ignited in air. Secondary explosions may also pose a risk once an initial explosion occurs with the presence of a combustible dust or powder in the area.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: See Section 8.

Environmental Precautions: As good practice, prevent material from entering waterways; collect as much as possible for reuse or disposal.

Cleaning Method: Vacuum or sweep material and place in a disposal container. Dust should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (e.g., avoid clearing dust surfaces with compressed air).

7. HANDLING AND STORAGE

General Handling Precautions

Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing dust. Ensure containers are properly secured before moving. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precaution, such as electrical grounding and bonding, or inert atmospheres. Applying safety factor to Experimental Minimum Ignition Temperature for dust cloud composed of particles 70 microns or less in diameter suggests keeping the maximum surface temperatures lower than 200 °C where potential for dust cloud formation exists.

Storage Information

Storage temperature. Dry products: Ambient recommended. No known temperature limits. Keep dry in sealed bags. Aqueous products: Ambient recommended. Storage above -18 °C (-0.4 °F) recommended.

Shelf Life: No known limit. Dry products: Use within one year recommended. Clumping may occur under humid conditions. Aqueous products: Discoloration may occur. Use within one year recommended.

Special Sensitivity: None

Miscellaneous: Choline chloride (not encapsulated) is deliquescent (will absorb moisture from air to form a liquid).

Specific Use: No special requirements apply to expected use as a nutritional feed additive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits: See Section 3.

Engineering Controls: Provide ventilation and particulate control to maintain airborne levels below the exposure guidelines. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Eye Protection: Use safety glasses. If there is a potential for exposure to particles which would cause mechanical injury to the eye, wear chemical goggles.

Respiratory Protection: For most conditions, no respiratory protection should be needed; however, in dusty atmospheres, use an approved dust respirator (P2 in Europe). In confined or poorly ventilated areas or emergency and other conditions where the exposure guidelines may be greatly exceeded, use an approved positive pressure self-contained breathing apparatus.

Hand and Skin Protection: As a general precaution, use gloves (PVC or rubber). No additional precautions other than clean body-covering clothing should be needed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Also see Section 5

Product:	Dry Products	Aqueous Products
Appearance:	Pale yellow / tan to light brown, dark brown or off-white granule or powder	Clear to light amber / pale yellow
Physical state:	Solid	Liquid
Chemical Family:	Aliphatic amines	Aliphatic amines
Odor:	Slight amine to grain odor	Faint amine odor
Molecular Formula:	C ₅ H ₁₄ ClNO (choline chloride)	C ₅ H ₁₄ ClNO (choline chloride)
Molecular Weight:	139.6 (choline chloride)	139.6 (choline chloride)
Specific Gravity:	0.48	1.1
Bulk Density:	450-650 kg/m ³	Not applicable
Solubility:	Choline chloride: 370 g/100 mL water @ 50 °F (10 °C); 506 g/100 mL water @ 100 °F (38 °C); 67.9 g/100 mL methanol @ 50 °F (10 °C); 72.3 g/100 mL methanol @ 100 °F (38 °C)	Completely miscible in water
Octanol/Water Partition Coefficient	Not available	Log Pow < 0
pH:	Choline chloride: 4.5-7.5 for a 25% wt/vol solution	5 - 8 at 10 g/l water @ 20°C
Melting Point:	Choline chloride: Decomposes @ 477°F (247°C)	-0.4°F (-18°C)
Boiling Point:	Not available	>257 °F (>125°C)
Evaporation Rate:	Not available (assumed to be essentially zero)	Not available
VOC Content:	Not available (assumed to be essentially zero)	Not available (assumed to be essentially zero)
Vapor Pressure:	Not available (assumed to be very low)	approximately 15 mmHg @ 25°C, 1 kPa (7.5 mmHg) @ 20°C
Vapor Density (air=1):	Not available	Not available
Viscosity:	Not available	26 mPa.s @ 20°C

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions
Material Incompatibility:	Avoid contact with strong acids and bases as well as iron, mild steel and galvanized steel.
Hazardous Decomposition Products:	Compounds of carbon, hydrogen, nitrogen, oxygen, and chlorine.
Hazardous Polymerization:	None

11. TOXICOLOGICAL INFORMATION (100% Choline Chloride)

LD₅₀ - 3400 mg/kg oral (rat)
LD₅₀ - 450 mg/kg intraperitoneal (rat)
LD₅₀ - 3900 mg/kg oral (mouse)
LD₅₀ - 320 mg/kg intraperitoneal (mouse)
LD_{Lo} - 735 mg/kg subcutaneous (mouse)
LD₅₀ - 53 mg/kg intravenous (mouse)
LD_{Lo} - 5 mg/kg intravenous (dog)
LD_{Lo} - 25 mg/kg intravenous (cat)
LD_{Lo} - 500 mg/kg intraperitoneal (rabbit)
LD_{Lo} - 1 g/kg subcutaneous (rabbit)
LD_{Lo} - 1100 µg/kg intravenous (rabbit)
LD_{Lo} - 1 g/kg rectal (rabbit)
LD_{Lo} - 1500 mg/kg (frog)
TD_{Lo} - 331 mg/kg/14 weeks continuous oral (rat)
TD_{Lo} - 4950 mg/kg/30 days intermittent intraperitoneal (rat)
TD_{Lo} - 6250 mg/kg/10 weeks intermittent intraperitoneal (rat)
TD_{Lo} - 3564 mg/kg/5 weeks intermittent intraperitoneal (rat)

12. ECOLOGICAL INFORMATION (100% Choline Chloride)

10,000 mg/L 24 weeks (mortality) Coho Salmon, Silver Salmon (*Oncorhynchus kisutch*)
Readily biodegradable

13. DISPOSAL CONSIDERATIONS

Product: Not considered a hazardous waste under Federal Hazardous Waste Regulations (40 CFR 261). Product solutions should be treated in a wastewater treatment plant after securing treatment plant acceptance. Powder or absorbed solution should be landfilled after securing Environmental Regulatory Agency and landfill operations approval. Consult state and local regulations regarding proper disposal as they may be more restrictive or otherwise different from Federal regulations.

Packaging: Dispose of packaging contaminated by product in accordance with regulations.

14. TRANSPORT INFORMATION

EU: As produced, this product is not subject to hazardous material transport regulations in Europe.
US: Not a D.O.T. Hazardous Material (49 CFR 172.101).

Labeling: Containers of this product need no special warning labels. Only a product identity label is needed.

15. REGULATORY INFORMATION

U.S. Federal Regulations

OSHA: This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

PSM: This product is not subject to Process Safety Management (29 CFR 1910.119).

FIFRA: Not applicable

TSCA: On TSCA inventory

CERCLA: Reportable Quantity – None (40 CFR 302.4)

SARA TITLE III: Section 302 Extremely Hazardous Substances – None (40 CFR 355)
Section 311/312 Hazard Categories – None (40 CFR 370.2)
Section 313 Toxic Chemicals – None (40 CFR 372.65)

RMP: Not listed under the Risk Management Plan (40 CFR 68).

RCRA: If discarded in purchased form, this product is not a listed or characteristic hazardous waste. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24).

CWA: Release into a waterway may require reporting to the National Response Center @ 800-424-8802 (40 CFR 116.4).

FDA/USDA: Follow Good Manufacturing Practice (GMP). GRAS per 21 CFR 581.5252. IFN 7-01-228. This product does not contain protein derived from mammalian tissues and is certified to be free of the agent that causes transmissible spongiform encephalopathy (TSE) [21 CFR 589.2000].

International Regulations

Canadian Dangerous Substance List (DSL): Listed (published 5 April 1994)

European Inventory of Existing Commercial Chemical Substances (EINECS): No. 200-655-4

Australian Inventory of Chemical Substances (AICS): Listed

Korean Existing Chemicals List (ECL): No. KE-20909

Japan ENCS: 2-341X; 9-1994X

German Water Class (WKG): 0 (Internal assessment)

State Regulations

This product is not subject to California Proposition 65.

There are no known additional requirements necessary for compliance with state right-to-know regulations.

18. OTHER INFORMATION

For safe handling, refer to NFPA 654, *Standard for the prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids.*

Reason for Issue: Updated MSDS to meet conform to requirements / format of the REACH regulation Annex II.

Risk Phrases Used: None used

Hazard Ratings – The following hazard ratings are recommended for this product:

<u>NFPA</u>	
Fire	- 1 for dry products, 0 for aqueous products
Health	- 0
Reactivity	- 0
Specific Hazard	- None

Abbreviations – The following abbreviations may be used in this document:

% - percent

µg/kg - micrograms per kilogram

g/kg - grams per kilogram

lb/ft³ - pounds per cubic foot

mg/kg - milligrams per kilogram

mg/m³ - milligrams per cubic meter

mmHg - millimeters of mercury

ppm - parts per million

w/w - Weight per weight

ACGIH - American Council of Governmental Industrial Hygienists

AICS - Australian Inventory of Chemical Substances

CAS - Chemical Abstract Service

CERCLA - Comprehensive Emergency Response, Compensation and Liability Act

CFR - Code of Federal Regulations

CWA - Clean Water Act

D.O.T. - Department of Transportation

DSL - Domestic Substance List (Canada)

ECL - Existing Chemicals List (Korea)

EINECS - European Inventory of Existing Commercial Substances

FDA - Food and Drug Administration

FIFRA - Federal Insecticide, Fungicide and Rodenticide Act

IDLH - Immediately Dangerous to Life and Health

LD₅₀ - Lethal dose for 50% mortality of subject species

LD_{Lo} - Lethal dose low; the lowest dose of a substance introduced by any route other than inhalation reported to have caused death in humans or animals.

LFL - Lower Flammable Limit

MSHA - Mine Safety Health Administration

NFPA - National Fire Protection Association

NIOSH - National Institute of Occupational Safety and Health

OSHA - Occupational Safety and Health Administration

PEL - Permissible Exposure Limit (default 8-hour day, 40-hour week TWA)

PSM - Process Safety Management

RCRA - Resource Conservation and Recovery Act

REL - Recommended Exposure Limit (default 10-hour day, 40-hour week TWA)

RMP - Risk Management Plan

SARA - Superfund Amendment and Reauthorization Act

STEL - Short Term Exposure Limit (default 15-minute TWA)

- TD₁₀ – Lowest dose to which humans or animals have been exposed and reported to produce a toxic effect other than cancer
- TSCA – Toxic Substance Control Act
- TWA – Time Weighted Average
- UFL – Upper Flammable Limit
- USDA – United States Department of Agriculture

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This information is furnished without warranty, expressed or implied, regarding this information, the results to be obtained from the use thereof, or the hazards connected with the use of this material, except that it is accurate to the best knowledge of BCP Ingredients Inc. The data on this MSDS relate only to the specific material designated herein. Final determination of the suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, since the product may be subjected to conditions beyond our control and with which we may be unfamiliar, we cannot guarantee that these are the only hazards which exist. Nor can we assume any responsibility for the results of the use of these data. It is expected that the persons receiving these data shall make their own determination of the effects, properties, and protections which pertain to their particular situation.
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Prepared by: EH&S Department (845) 328-5600 [USA]

Ultra Low Sulfur Diesel Fuel 2 (S-15 ppm)
MSDS# 401399MU

Version 5.0

Effective Date 05/07/2010

According to OSHA Hazard Communication Standard, 29 CFR
1910.1200

Material Safety Data Sheet

safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.

- NFPA Rating (Health, Fire, Reactivity)** : 1, 2, 0
- MSDS Version Number** : 5.0
- MSDS Effective Date** : 05/07/2010
- MSDS Revisions** : A vertical bar (|) in the left margin indicates an amendment from the previous version.
- MSDS Regulation** : The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
- Uses and Restrictions** : This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier.
This product is not to be used as a solvent or cleaning agent; for lighting or brightening fires; as a skin cleanser.
- MSDS Distribution** : The information in this document should be made available to all who may handle the product.
- Disclaimer** : The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

Material Safety Data Sheet**1. MATERIAL AND COMPANY IDENTIFICATION**

Material Name : Ultra Low Sulfur Diesel Fuel 2 (S-15 ppm) Dyed
Uses : Fuel for use in off-road diesel engines, boilers, furnaces and other combustion equipment.

Manufacturer/Supplier : Motiva Enterprises LLC
 PO BOX 4540
 Houston, TX 77210-4540
 USA

MSDS Request : 877-276-7285

Emergency Telephone Number
Spill Information : 877-242-7400
Health Information : 877-504-9351

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Identity	CAS No.	Concentration
Fuels, diesel, no.2	68476-34-6	100.00 %

Dyes and markers can be used to indicate tax status and prevent fraud.
 Contains/may contain full range straight run middle distillate, CAS # 68814-87-9.
 Contains/may contain light catalytic cracked distillate, CAS # 64741-59-9.
 Contains/may contain hydrotreated middle distillate, CAS # 64742-46-7.
 Contains organic sulfur compounds.
 Contains Benzene, CAS # 71-43-2.

3. HAZARDS IDENTIFICATION

Emergency Overview	
Appearance and Odour	: Red. Liquid. Hydrocarbon.
Health Hazards	: Harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness. A component or components of this material may cause cancer. This product contains benzene which may cause leukaemia (AML acute myelogenous leukaemia).
Safety Hazards	: Combustible liquid. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.
Environmental Hazards	: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Health Hazards
Inhalation : Slightly irritating to respiratory system. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache and nausea.
Skin Contact : May cause moderate irritation to skin. Repeated exposure may

Material Safety Data Sheet

Eye Contact	: cause skin dryness or cracking.
Ingestion	: May cause slight irritation to eyes.
Other information	: Harmful: may cause lung damage if swallowed.
	: A component or components of this material may cause cancer. This product contains benzene which may cause leukaemia (AML acute myelogenous leukaemia).
Signs and Symptoms	: If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters.
Aggravated Medical Condition	: Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin.
Environmental Hazards	: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Additional Information	: This product is intended for use in closed systems only.

4. FIRST AID MEASURES

Inhalation	: Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
Skin Contact	: Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
Eye Contact	: Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion	: If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (37° C), shortness of breath, chest congestion or continued coughing or wheezing.
Advice to Physician	: Treat symptomatically. Potential for chemical pneumonitis.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash point	: > 52 °C / 126 °F (ASTM D-93 / PMCC)
Lower / upper Flammability or Explosion limits	: 0.5 - 4.4 %(V)
Auto Ignition temperature	: 260 °C / 500 °F
Specific Hazards	: Hazardous combustion products may include: A complex

Material Safety Data Sheet

- mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Oxides of sulphur. Unidentified organic and inorganic compounds. Carbon monoxide may be evolved if incomplete combustion occurs. Will float and can be reignited on surface water. Flammable vapours may be present even at temperatures below the flash point.
- Suitable Extinguishing Media** : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
- Unsuitable Extinguishing Media** : Do not use water in a jet.
- Protective Equipment for Firefighters** : Wear full protective clothing and self-contained breathing apparatus.
- Additional Advice** : Keep adjacent containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations. Evacuate the area of all non-essential personnel. Ventilate contaminated area thoroughly.

- Protective measures** : Do not breathe fumes, vapour. Do not operate electrical equipment. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.
- Clean Up Methods** : For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. Shovel into a suitable clearly marked container for disposal or reclamation in accordance with local regulations.
- Additional Advice** : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26. U.S. regulations may require reporting releases of this material to the environment which exceed the

Material Safety Data Sheet

reportable quantity (refer to Chapter 15) to the National Response Centre at (800) 424-8802. Under Section 311 of the Clean Water Act (CWA) this material is considered an oil. As such, spills into surface waters must be reported to the National Response Centre at (800) 424-8802. This material is covered by EPA's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Petroleum Exclusion. Therefore, releases to the environment may not be reportable under CERCLA.

7. HANDLING AND STORAGE

- General Precautions** : Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Air-dry contaminated clothing in a well-ventilated area before laundering. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Prevent spillages. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Never siphon by mouth. Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse. For comprehensive advice on handling, product transfer, storage and tank cleaning refer to the product supplier.
- Handling** : Avoid inhaling vapour and/or mists. Avoid prolonged or repeated contact with skin. When using do not eat or drink. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Earth all equipment. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.
- Storage** : Drum and small container storage: Drums should be stacked to a maximum of 3 high. Use properly labelled and closeable containers. Tank storage: Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. Vapours from tanks should not be released to atmosphere. Breathing losses during storage should be controlled by a suitable vapour treatment system. The vapour is heavier than air. Beware of accumulation in pits and confined spaces.
- Product Transfer** : Avoid splash filling. Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes. Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling. Contamination resulting from product transfer may give rise to light hydrocarbon vapour in the headspace of tanks that have previously contained

Material Safety Data Sheet

gasoline. This vapour may explode if there is a source of ignition. Partly filled containers present a greater hazard than those that are full, therefore handling, transfer and sampling activities need special care.

- Recommended Materials** : For containers, or container linings use mild steel, stainless steel. Aluminium may also be used for applications where it does not present an unnecessary fire hazard. Examples of suitable materials are: high density polyethylene (HDPE) and Viton (FKM), which have been specifically tested for compatibility with this product. For container linings, use amine-adduct cured epoxy paint. For seals and gaskets use: graphite, PTFE, Viton A, Viton B.
- Unsuitable Materials** : Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene, polyvinyl chloride (PVC), polyisobutylene. However, some may be suitable for glove materials.
- Container Advice** : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.
- Additional Information** : Ensure that all local regulations regarding handling and storage facilities are followed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Fuels, diesel, no.2	ACGIH	TWA(Vapor and aerosol.)		100 mg/m3	as total hydrocarbons
Fuels, diesel, no.2	ACGIH	SKIN_DES(Vapor and aerosol.)			Can be absorbed through the skin.as total hydrocarbons
Fuels, diesel, no.2	ACGIH	TWA(Inhalable fraction and vapor.)		100 mg/m3	as total hydrocarbons
Fuels, diesel, no.2	ACGIH	SKIN_DES(Inhalable fraction and vapor.)			Can be absorbed through the skin.as total hydrocarbons
Benzene	ACGIH	TWA	0.5 ppm		
Benzene	ACGIH	STEL	2.5 ppm		
Benzene	ACGIH	SKIN_DES			Can be absorbed through the skin.
Benzene	OSHA	TWA	1 ppm		
Benzene	OSHA	STEL	5 ppm		
Benzene	OSHA	OSHA_ACT	0.5 ppm		
Benzene	OSHA Z1A	TWA	1 ppm		
Benzene	OSHA Z1A	STEL	5 ppm		
Benzene	SHELL IS	TWA	0.5 ppm	1.6 mg/m3	

Material Safety Data Sheet

Benzene	SHELL IS	STEL	2.5 ppm	8 mg/m ³	
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- Additional Information** : In the absence of a national exposure limit, the American Conference of Governmental Industrial Hygienists (ACGIH) recommends the following values for Diesel Fuel: TWA - 100 mg/m³ Critical effects based on Skin and Irritation. Skin notation means that significant exposure can also occur by absorption of liquid through the skin and of vapour through the eyes or mucous membranes. Shell has adopted as Interim Standards the OSHA Z1A values that were established in 1989 and later rescinded. SHELL IS is the Shell Internal Standard.
- Exposure Controls** : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed systems as far as possible. Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Eye washes and showers for emergency use.
- Personal Protective Equipment** : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
- Respiratory Protection** : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. All respiratory protection equipment and use must be in accordance with local regulations. Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.
- Hand Protection** : Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.
- Eye Protection** : Chemical splash goggles (chemical monogoggles).
- Protective Clothing** : Chemical resistant gloves/gauntlets, boots, and apron (where risk of splashing).

9. PHYSICAL AND CHEMICAL PROPERTIES

Material Safety Data Sheet

Appearance : Red. Liquid.
 Odour : Hydrocarbon.
 Flash point : > 52 °C / 126 °F (ASTM D-93 / PMCC)
 Lower / upper Flammability or Explosion limits : 0.5 - 4.4 %(V)
 Auto-ignition temperature : 260 °C / 500 °F
 Specific gravity : 0.85

10. STABILITY AND REACTIVITY

Stability : Stable under normal conditions of use.
Conditions to Avoid : Avoid heat, sparks, open flames and other ignition sources.
Materials to Avoid : Strong oxidising agents.
Hazardous Decomposition Products : Hazardous decomposition products are not expected to form during normal storage.
 Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment : Information given is based on product data, a knowledge of the components and the toxicology of similar products.
Acute Oral Toxicity : Low toxicity: LD50 >2000 mg/kg , Rat
 Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
Acute Dermal Toxicity : Low toxicity: LD50 >2000 mg/kg , Rabbit
Acute Inhalation Toxicity : Low toxicity: LC50 >20 mg/l / 1.00 h, Rat
 High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.
Skin Irritation : May cause moderate skin irritation (but insufficient to classify). Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.
Eye Irritation : Slightly irritating.
Respiratory Irritation : Slightly irritating.
Sensitisation : Not a skin sensitizer.
Repeated Dose Toxicity : Kidney: caused kidney effects in male rats which are not considered relevant to humans
Mutagenicity : Mutagenic; positive in in-vivo and in-vitro assays.
Carcinogenicity : Repeated skin contact has resulted in irritation and skin cancer in animals.
 Known human carcinogen. (Benzene)
 May cause leukaemia (AML - acute myelogenous leukemia). (Benzene)

Material	: Carcinogenicity Classification
Fuels, diesel, no.2	: ACGIH Group A3: Confirmed animal carcinogen with unknown relevance to humans.

Material Safety Data Sheet

Distillates (petroleum), light catalytic cracked	:	IARC 2A: Probable carcinogen.
Benzene	:	ACGIH Group A1: Confirmed human carcinogen.
Benzene	:	NTP: Known carcinogen.
Benzene	:	IARC 1: Human carcinogen.
Benzene	:	OSHASp: Cancer hazard.

- Reproductive and Developmental Toxicity** : Not expected to be a developmental toxicant.
- Additional Information** : Myelodysplastic syndrome (MDS) was observed in individuals exposed to very high levels (50 ppm to 300 ppm range) of benzene over a long period of time in the workplace. The relevance of these results to lower levels of exposure is not known. (Benzene)

12. ECOLOGICAL INFORMATION

Information given is based on a knowledge of the components and the ecotoxicology of similar products. Fuels are typically made from blending several refinery streams. Ecotoxicological studies have been carried out on a variety of hydrocarbon blends and streams but not those containing additives.

- Acute Toxicity** : Toxic: LL/EL/IL50 1-10 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract).
- Mobility** : Floats on water. Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day. If it enters soil, it will adsorb to soil particles and will not be mobile. Large volumes may penetrate soil and could contaminate groundwater. Contains volatile constituents.
- Persistence/degradability** : Persists under anaerobic conditions. Major constituents are inherently biodegradable. The volatile constituents will oxidize rapidly by photochemical reactions in air.
- Bioaccumulation** : Contains constituents with the potential to bioaccumulate.
- Other Adverse Effects** : Films formed on water may affect oxygen transfer and damage organisms.

13. DISPOSAL CONSIDERATIONS

- Material Disposal** : Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination. Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

Material Safety Data Sheet

- Container Disposal** : Send to drum recoverer or metal reclaimer. Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard if heated above the flash point. Do not puncture, cut or weld uncleaned drums. Do not pollute the soil, water or environment with the waste container. Comply with any local recovery or waste disposal regulations.
- Local Legislation** : Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

14. TRANSPORT INFORMATION

US Department of Transportation Classification (49CFR)

Identification number UN 1202
Proper shipping name Diesel fuel
Class / Division 3

Packing group III

Emergency Response Guide No. 128

IMDG

Identification number UN 1202
Proper shipping name DIESEL FUEL
Class / Division 3
Packing group III
Marine pollutant: Yes

IATA (Country variations may apply)

Identification number UN 1202
Proper shipping name Diesel fuel
Class / Division 3
Packing group III

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

- Additional Information** : IARC has classified diesel exhaust emissions as a Class 2A carcinogen - probably carcinogenic to humans. Steps should be taken to prevent personal exposure to diesel exhaust emissions.

Ultra Low Sulfur Diesel Fuel 2 (S-15 ppm) Dyed

MSDS# 401398MU

Version 5.0

Effective Date 05/07/2010

According to OSHA Hazard Communication Standard, 29 CFR

1910.1200

Material Safety Data Sheet

Comprehensive Environmental Release, Compensation & Liability Act (CERCLA)

Ultra Low Sulfur Diesel Fuel 2 (S-15 ppm) Dyed () Reportable quantity: 5000 lbs

Benzene (71-43-2) Reportable quantity: 10 lbs

Shell classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reportable under CERCLA.

Clean Water Act (CWA) Section 311

Benzene (71-43-2) Reportable quantity: 10 lbs

Under Section 311 of the Clean Water Act (CWA) this material is considered an oil. As such, spills into surface waters must be reported to the National Response Centre at (800) 424-8802.

SARA Hazard Categories (311/312)

Immediate (Acute) Health Hazard. Delayed (Chronic) Health Hazard. Fire Hazard.

SARA Toxic Release Inventory (TRI) (313)

Benzene (71-43-2) 0.20%

State Regulatory Status

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This product contains a chemical known to the State of California to cause cancer. Known to the State of California to cause birth defects or other reproductive harm.

New Jersey Right-To-Know Chemical List

Fuels, diesel, no.2 (68476-34-6)
Benzene (71-43-2) Listed.

Pennsylvania Right-To-Know Chemical List

Fuels, diesel, no.2 (68476-34-6) Listed.
Benzene (71-43-2) Special hazard.
Environmental hazard.
Listed.

16. OTHER INFORMATION

Additional information ☐ This document contains important information to ensure the

Material Safety Data Sheet

safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.

NFPA Rating (Health, Fire, Reactivity)

: 1, 2, 0

MSDS Version Number

: 5.0

MSDS Effective Date

: 05/07/2010

MSDS Revisions

: A vertical bar (|) in the left margin indicates an amendment from the previous version.

MSDS Regulation

: The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Uses and Restrictions

: This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier.

This product is not to be used as a solvent or cleaning agent; for lighting or brightening fires; as a skin cleanser.

MSDS Distribution

: The information in this document should be made available to all who may handle the product.

Disclaimer

: The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

ATTACHMENT I
EMISSION UNITS TABLE

Attachment I

Emission Units Table

(includes all emission units and air pollution control devices
that will be part of this permit application review, regardless of permitting status)

Emission Unit ID ¹	Emission Point ID ²	Emission Unit Description	Year Installed/ Modified	Design Capacity		Type ³ and Date of Change	Control Device ⁴
1S	1E	Boiler 1	2002	21 MMBTU/HR		None	None
2AS	2AE	Grain Receiving (North Rail Station) (South Rail Station and Truck Station)	2015	1,120 tph	Combined Total 330,000 tpy Corn & 120,000 tpy Soybean Mill	Modification	FE
			1992	200 tph		None	FE
2BS	2BE	Headhouse and Grain Handling	1992/2015	1,120 tph (Max)/330,000 tpy Corn & 120,000 tpy Soybean Mill		Modification	FE
3S	3E	Storage ⁽¹⁾	1992/2015	NA		Modification	FE
4S	4E	Pneumatic System	1992	Variable ⁽²⁾		None	BH
5S	5E	Crusher	1992	38 tph	330,000 tpy Corn	None	BH
6S	6E	Crusher	1992	38 tph		None	BH
10S	10E	Crusher	2005	38 tph		None	BH
7S	7E	Pellet System	1992	50 tph	478,000 tpy	None	Cyclone
9S	9E	Pellet System	2002	40 tph		None	Cyclone
8S	8E	Boiler 2	2002	21 MMBTU/HR		None	None
11S	11E	Feed Shipping	1992	60 tph/478,000 tpy		None	FE
12S	12E	Vehicle Activity	1992	NA		None	None

Tanks located at the site have been considered de Minimis sources. The tanks contain betaine (beet juice), chicken fat, liquid lysine, Rhodimet, choline chloride-aqueous, and diesel. Material Safety Data Sheets are provided in Attachment H.

⁽¹⁾This unit is listed herein because the hourly feed rate into the unit will be increased from 560 tons per hour to 1,120 tons per hour and a new corn silo is proposed to be installed.

⁽²⁾Pneumatic System is used to receive material from pneumatic trucks and the transfer rate depends on the trucks and the type of material being delivered.

¹ For Emission Units (or Sources) use the following numbering system: 1S, 2S, 3S, or other appropriate designation.

² For Emission Points use the following numbering system: 1E, 2E, 3E, or other appropriate designation.

³ New, modification, removal

⁴ For Control Devices use the following numbering system: 1C, 2C, 3C, or other appropriate designation.

ATTACHMENT J

EMISSION POINTS DATA SUMMARY SHEET

**Attachment J
EMISSION POINTS DATA SUMMARY SHEET**

Table 1: Emissions Data

Emission Point ID No. (Must match Emission Units Table & Plot Plan)	Emission Point Type ¹	Emission Unit Vented Through This Point (Must match Emission Units Table & Plot Plan)		Air Pollution Control Device (Must match Emission Units Table & Plot Plan)		Vent Time for Emission Unit (chemical processes only)		All Regulated Pollutants - Chemical Name/CAS ³ (Specify VOCs & HAPs)	Maximum Potential Uncontrolled Emissions ⁴		Maximum Potential Controlled Emissions ⁵		Emission Form or Phase (At exit conditions, Solid, Liquid or Gas/Vapor ¹)	Est. Method Used ⁶	Emission Concentration (ppmv or mg/m ³)			
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr						
1E	Vertical		Boiler 1	NA	None			Natural Gas Fuel	PM	0.16	0.70	0.16	0.70	Solid	AP42	NA		
									PM10	0.16	0.70	0.16	0.70	Solid				
									PM2.5	0.16	0.70	0.16	0.70	Solid				
									VOC	0.12	0.51	0.12	0.51	Gas				
									SO2	0.01	0.06	0.01	0.06	Gas				
									NOX	2.10	9.20	2.10	9.20	Gas				
									CO	1.76	7.73	1.76	7.73	Gas				
									Pb	0.00002	0.00002	0.00002	0.00002	Solid				
									Total HAPs	0.0388	0.1700	0.0388	0.1700	Gas				
									No. 2 Fuel Oil									
									PM	0.50	1.50	0.50	1.50	Solid				
									PM10	0.35	1.05	0.35	1.05	Solid				
									PM2.5	0.24	0.70	0.24	0.70	Solid				
									VOC	0.05	0.16	0.05	0.16	Gas				
SO2	10.65	32.42	10.65	32.42	Gas													
NOX	3.00	9.13	3.00	9.13	Gas													
CO	0.75	2.28	0.75	2.28	Gas													
Pb	0.0002	0.0006	0.0002	0.0006	Solid													
Total HAPs	0.0063	0.0183	0.0063	0.0183	Gas													

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

¹ Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.
² Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/week).
³ List all regulated air pollutants. Specify VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO_x, all applicable Greenhouse Gases (including CO₂ and methane), etc. DO NOT LIST H₂, H₂O, N₂, O₂, and Noble Gases.
⁴ Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
⁵ Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
⁶ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).
⁷ Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO₂, use units of ppmv (See 45CSR10).

**Attachment J
EMISSION POINTS DATA SUMMARY SHEET**

Table 1: Emissions Data

Emission Point ID No. (Must match Emission Units Table & Plot Plan)	Emission Point Type ¹	Emission Unit Vented Through This Point (Must match Emission Units Table & Plot Plan)		Air Pollution Control Device (Must match Emission Units Table & Plot Plan)		Vent Time for Emission Unit (chemical processes only)		All Regulated Pollutants - Chemical Name/CAS ³ (Speciate VOCs & HAPS)	Maximum Potential Uncontrolled Emissions ⁴		Maximum Potential Controlled Emissions ⁵		Emission Form or Phase (At exit conditions, Solid, Liquid or Gas/Vapor)	Est. Method Used ⁶	Emission Concentration (ppmv or mg/m ³)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
2AE	Vertical	2AS	Grain Receiving	FE	Full Enclosure	NA	NA	PM PM10 PM2.5	22.44 3.30 0.53	3.83 0.56 0.09	4.49 0.66 0.11	0.77 0.11 0.02	Solid	AP-42	NA
2BE	Vertical	2BS	Headhouse and Grain Handling	FE	Full Enclosure	NA	NA	PM PM2.5	80.52 44.88 7.66	13.73 7.65 1.31	16.10 8.98 1.53	2.75 1.53 0.26	Solid	AP-42	NA
3E	Vertical	3S	Storage	FE	Full Enclosure	NA	NA	PM PM10 PM2.5	33.00 8.32 1.45	5.63 1.42 0.25	6.60 1.66 0.29	1.13 0.28 0.05	Solid	AP-42	NA
4E	Vertical	4S	Pneumatic System	BH	Baghouse	NA	NA	PM PM10 PM2.5	38.60 5.02 5.02	169.07 21.98 21.98	0.03 0.01 0.01	0.13 0.02 0.02	Solid	Existing Permit	NA
5E	Vertical	5S	Crusher	BH	Baghouse	NA	NA	PM PM10 PM2.5	463.00 60.19 60.19	2,027.94 263.63 263.63	0.51 0.07 0.07	2.23 0.29 0.29	Solid	Existing Permit	NA
6E	Vertical	6S	Crusher	BH	Baghouse	NA	NA	PM PM10 PM2.5	463.00 60.19 60.19	2,027.94 263.63 263.63	0.51 0.07 0.07	2.23 0.29 0.29	Solid	Existing Permit	NA
7E	Vertical	7S	Pellet System	CY	Cyclone	NA	NA	PM PM10 PM2.5	385.00 50.05 50.05	1,686.30 219.22 219.22	3.96 1.50 1.50	17.34 6.58 6.58	Solid	Existing Permit	NA

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

¹ Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

² Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (e.g., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

³ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO_x, all applicable Greenhouse Gases (including CO₂ and methane), etc. DO NOT LIST H₂, H₂O, N₂, O₂, and Noble Gases.

⁴ Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁵ Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁶ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

⁷ Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO₂, use units of ppmv (See 45CSR10).

**Attachment J
EMISSION POINTS DATA SUMMARY SHEET**

Table 1: Emissions Data

Emission Point ID No. (Must match Emission Units Table & Plot Plan)	Emission Point Type ¹	Emission Unit Vented Through This Point (Must match Emission Units Table & Plot Plan)		Air Pollution Control Device (Must match Emission Units Table & Plot Plan)		Vent Time for Emission Unit (chemical processes only)		All Regulated Pollutants - Chemical Name/CAS ³ (Speciate VOCs & HAPS)	Maximum Potential Uncontrolled Emissions ⁴		Maximum Potential Controlled Emissions ⁵		Emission Form or Phase (At exit conditions: Solid, Liquid or Gas/Vapor)	Est. Method Used ⁶	Emission Concentration (ppmv or mg/m ³)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
8E	Vertical	8S	Boiler 2	NA	None	NA	NA	<u>Natural Gas Fuel</u> PM PM10 PM2.5 VOC SO2 NOX CO Pb Total HAPs <u>No. 2 Fuel Oil</u> PM PM10 PM2.5 VOC SO2 NOX CO Pb Total HAPs	0.16	0.70	0.16	0.70	Solid	AP42	NA
									0.16	0.70	0.16	0.70	Solid		
									0.16	0.70	0.16	0.70	Solid		
									0.12	0.51	0.12	0.51	Gas		
									0.01	0.06	0.01	0.06	Gas		
									2.10	9.20	2.10	9.20	Gas		
									1.76	7.73	1.76	7.73	Gas		
									0.00002	0.00009	0.00002	0.00009	Solid		
									0.0388	0.1700	0.0388	0.1700	Gas		
									0.50	1.50	0.50	1.50	Solid		
									0.35	1.05	0.35	1.05	Solid		
									0.24	0.70	0.24	0.70	Solid		
									0.05	0.16	0.05	0.16	Gas		
									10.65	32.42	10.65	32.42	Gas		
									3.00	9.13	3.00	9.13	Gas		
0.75	2.28	0.75	2.28	Gas											
0.0002	0.0006	0.0002	0.0006	Solid											
0.0063	0.0183	0.0063	0.0183	Gas											

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

¹ Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.
² Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (e.g., 5 min/day, 2 days/wk).
³ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, all applicable Greenhouse Gases (including CO₂ and methane), etc. DO NOT LIST H₂, H₂O, N₂, O₂, and Noble Gases.
⁴ Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
⁵ Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
⁶ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).
⁷ Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO₂, use units of ppmv (See 45CSR10).

Attachment J EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. (Must match Emission Units Table & Plot Plan)	Emission Point Type	Emission Unit Vented Through This Point (Must match Emission Units Table & Plot Plan)		Air Pollution Control Device (Must match Emission Units Table & Plot Plan)		Vent Time for Emission Unit (chemical processes only)		All Regulated Pollutants - Chemical Name/CAS ³ (Speciate VOCs & HAPs)	Maximum Potential Uncontrolled Emissions ⁴		Maximum Potential Controlled Emissions ⁵		Emission Form or Phase (At exit conditions, Solid, Liquid or Gas/Vapor)	Est. Method Used ⁶	Emission Concentration (ppmv or mg/m ³)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
9E	Vertical	9S	Pellet System	CY	Cyclone	NA	NA	PM PM10 PM2.5	385.00 50.05 50.05	1,686.30 219.22 219.22	3.96 1.50 1.50	17.34 6.58 6.58	Solid	Existing Permit	NA
10E	Vertical	10S	Crusher	BH	Baghouse	NA	NA	PM PM2.5	463.00 60.19 60.19	2,027.94 263.63 263.63	0.51 0.07 0.07	2.23 0.29 0.29	Solid	Existing Permit	NA
11E	Vertical	11S	Feed Shipping	FE	Full Enclosure	NA	NA	PM PM10 PM2.5	0.20 0.05 0.01	0.79 0.19 0.02	0.04 0.01 0.01	0.16 0.04 0.01	Solid	AP-42	NA
12E/12S															

See Attachment K

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

- ¹ Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.
- ² Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (i.e., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/week).
- ³ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, all applicable Greenhouse Gases (including CO₂ and methane), etc. DO NOT LIST H₂, H₂O, N₂, O₂, and Noble Gases.
- ⁴ Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
- ⁵ Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
- ⁶ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).
- ⁷ Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO₂, use units of ppmv (See 45CSR10).

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data

Emission Point ID No. (Must match Emission Units Table)	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow ¹ (acfm) at operating conditions	Velocity (fps)	Ground Level (Height above mean sea level)	Stack Height ² (Release height of emissions above ground level)	Northing	Easting
1E	2.0	-395	~6,980	37	870	35		
2AE	NA	NA	NA	NA	NA	NA		
2BE	NA	NA	NA	NA	NA	NA		
3E	NA	NA	NA	NA	NA	NA		
4E	NA	Ambient 10°F	450	NA	NA	NA		
5E	1.5	Ambient 10°F	4,500	NA	NA	23'		
6E	1.5	Ambient 10°F	4,500	NA	NA	23'		
7E	3.83	Ambient 10°F	37,500	54	899	59	4,323.630	674.2868
8E	2.0	-395	~6,980	37	870	35		
9E	3.83	Ambient 5°F	37,500	54	899	59		
10E	NA	Ambient 5°F	3,000	NA	NA	NA		
11E	NA	NA	NA	NA	NA	NA		

¹ Give at operating conditions. Include inerts.
² Release height of emissions above ground level.

ATTACHMENT K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
1.) Will there be haul road activities? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.
2.) Will there be Storage Piles? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.
3.) Will there be Liquid Loading/Unloading Operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.
4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.
6.) Will there be General Clean-up VOC Operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
7.) Will there be any other activities that generate fugitive emissions? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.
If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants ¹ Chemical Name/CAS ¹	Maximum Potential Uncontrolled Emissions ²		Maximum Potential Controlled Emissions ³		Est. Method Used ⁴
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads						
Unpaved Haul Roads	PM PM10 PM2.5	9.49 2.53 0.25	23.62 6.29 0.63	9.49 2.53 0.25	23.62 6.29 0.63	AP-42
Storage Pile Emissions						
Loading/Unloading Operations						
Wastewater Treatment Evaporation & Operations						
Equipment Leaks						
General Clean-up VOC Emissions						
Other						

¹ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, etc. DO NOT LIST CO₂, H₂, H₂O, N₂, O₂, and Noble Gases.

² Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

³ Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁴ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

ATTACHMENT L
EMISSION UNIT DATA SHEETS

Attachment L
Emission Unit Data Sheet
(INDIRECT HEAT EXCHANGER)

Control Device ID No. (must match List Form): Emission Point I.D. 1E-3E; Source 1S and 8S

Equipment Information

1. Manufacturer: Cleaver Brooks	2. Model No. CB-282-500 Serial No.
3. Number of units: 2	4. Use Heating System Boiler
5. Rated Boiler Horsepower: 500 hp	6. Boiler Serial No.: NA
7. Date constructed: 1992	8. Date of last modification and explain: NA
9. Maximum design heat input per unit: 21.0 $\times 10^6$ BTU/hr	10. Peak heat input per unit: 21.0 $\times 10^6$ BTU/hr
11. Steam produced at maximum design output: 16,595 LB/hr NA psig	12. Projected Operating Schedule: Hours/Day 24 Days/Week 7 Weeks/Year 52
13. Type of firing equipment to be used: <input type="checkbox"/> Pulverized coal <input type="checkbox"/> Spreader stoker <input checked="" type="checkbox"/> Oil burners <input checked="" type="checkbox"/> Natural Gas Burner <input type="checkbox"/> Others, specify	14. Proposed type of burners and orientation: <input type="checkbox"/> Vertical <input checked="" type="checkbox"/> Front Wall <input type="checkbox"/> Opposed <input type="checkbox"/> Tangential <input type="checkbox"/> Others, specify
15. Type of draft: <input checked="" type="checkbox"/> Forced <input type="checkbox"/> Induced	16. Percent of ash retained in furnace: NA %
17. Will flyash be reinjected? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	18. Percent of carbon in flyash: NA %

Stack or Vent Data

19. Inside diameter or dimensions: NA ft.	20. Gas exit temperature: ~395 °F
21. Height: NA ft.	22. Stack serves: <input checked="" type="checkbox"/> This equipment only <input type="checkbox"/> Other equipment also (submit type and rating of all other equipment exhausted through this stack or vent)
23. Gas flow rate: NA ft ³ /min	
24. Estimated percent of moisture: NA %	

Emissions Stream

37. What quantities of pollutants will be emitted from the boiler before controls?

Pollutant	Pounds per Hour lb/hr		grain/ACF	@ °F	PSIA
	Natural Gas	No. 2 Fuel			
CO	1.76	0.75	NA	NA	NA
Hydrocarbons	NA	NA	NA	NA	NA
NO _x	2.10	3.00	NA	NA	NA
Pb	0.00002	0.00002	NA	NA	NA
PM ₁₀	0.16	0.35	NA	NA	NA
SO ₂	0.01	10.65	NA	NA	NA
VOCs	0.12	0.05	NA	NA	NA
Other (specify)					
Total HAPs	0.0388	0.0063	NA	NA	NA

38. What quantities of pollutants will be emitted from the boiler after controls?

Pollutant	Pounds per Hour lb/hr		grain/ACF	@ °F	PSIA
	Natural Gas	No. 2 Fuel			
CO	1.76	0.75	NA	NA	NA
Hydrocarbons	NA	NA	NA	NA	NA
NO _x	2.10	3.00	NA	NA	NA
Pb	0.00002	0.00002	NA	NA	NA
PM ₁₀	0.16	0.35	NA	NA	NA
SO ₂	0.01	10.65	NA	NA	NA
VOCs	0.12	0.05	NA	NA	NA
Other (specify)					
Total HAPs	0.0388	0.0063	NA	NA	NA

39. How will waste material from the process and control equipment be disposed of?

40. Have you completed an *Air Pollution Control Device Sheet(s)* for the control(s) used on this Emission Unit.

41. Have you included the **air pollution rates** on the Emissions Points Data Summary Sheet?

42. Proposed Monitoring, Recordkeeping, Reporting, and Testing

Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING PLAN: Please list (1) describe the process parameters and how they were chosen (2) the ranges and how they were established for monitoring to demonstrate compliance with the operation of this process equipment operation or air pollution control device.

No changes to existing permit are proposed.

TESTING PLAN: Please describe any proposed emissions testing for this process equipment or air pollution control device.

None proposed.

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.

None proposed.

REPORTING: Please describe the proposed frequency of reporting of the recordkeeping.

None proposed.

43. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.

NA

**Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 2AS

<p>1. Name or type and model of proposed affected source:</p> <p style="text-align: center;">Grain Receiving</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>North Rail Receiving: Maximum corn handled per hour is 40,000 bushels per hour at 56 pounds per bushel equals 1,120 tons per hour.</p> <p>South Rail and Truck Receiving: 200 tons per hour of corn or soybean mill.</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p style="text-align: center;">NA</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p style="text-align: center;">None</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@

°F and

psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input:

× 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day

24

Days/Week

7

Weeks/Year

52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and		psia
a. NO _x		lb/hr	grains/ACF
b. SO ₂		lb/hr	grains/ACF
c. CO		lb/hr	grains/ACF
d. PM ₁₀	3.30	lb/hr	NA grains/ACF
e. Hydrocarbons		lb/hr	grains/ACF
f. VOCs		lb/hr	grains/ACF
g. Pb		lb/hr	grains/ACF
h. Specify other(s)			
		lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

<p>MONITORING</p> <p>Total amount of corn delivered.</p>	<p>RECORDKEEPING</p> <p>Total amount of corn delivered.</p>
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<p>REPORTING</p> <p>None</p>	<p>TESTING</p> <p>None</p>
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MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

**EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 2BS

<p>1. Name or type and model of proposed affected source:</p> <p>Headhouse and Grain Handling.</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>1,120 tons per hour from the North Rail Receiving and 200 tons per hour from the South Rail and Truck Receiving.</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>NA</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>None</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA
 (a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA
 @ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: × 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52
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8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used: Total Combined Heaters

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	44.88 lb/hr	NA grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)	lb/hr	
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

Amount of grain received.

RECORDKEEPING

Amount of grain received.

REPORTING

None

TESTING

None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

**EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 3S

<p>1. Name or type and model of proposed affected source:</p> <p>Storage (all grain storage).</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>1,120 tons per hour into corn storage.</p> <p>200 tons per hour into corn or soybean mill storage from South Rail and Truck Receiving.</p> <p>2,000 bushels per hour (56 tons per hour) out of the corn silos.</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>NA</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>None</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@

°F and

psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input:

× 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day 24

Days/Week 7

Weeks/Year 52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used: Total Combined Heaters

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	8.32 lb/hr	NA grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)	lb/hr	
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING
 Amount of grain received.

RECORDKEEPING
 Amount of grain received.

REPORTING
 None

TESTING
 None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.
RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.
REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.
TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

**Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 4S

<p>1. Name or type and model of proposed affected source:</p> <p style="text-align: center;">Pneumatic System (pneumatic receiving of additives).</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p style="text-align: center;">Variable depending on material with an average of 24,150 pounds per hour.</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p style="text-align: center;">NA</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p style="text-align: center;">None</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@

°F and

psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input:

× 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day

24

Days/Week

7

Weeks/Year

52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia	
a. NO _x			lb/hr grains/ACF
b. SO ₂			lb/hr grains/ACF
c. CO			lb/hr grains/ACF
d. PM ₁₀	5.02		lb/hr NA grains/ACF
e. Hydrocarbons			lb/hr grains/ACF
f. VOCs			lb/hr grains/ACF
g. Pb			lb/hr grains/ACF
h. Specify other(s)			lb/hr grains/ACF
			lb/hr grains/ACF
			lb/hr grains/ACF
			lb/hr grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

Total amount of material delivered.

RECORDKEEPING

Total amount of material delivered.

REPORTING

None

TESTING

None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

**EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 5S, 6S, 10S

<p>1. Name or type and model of proposed affected source:</p> <p>Crushers (three [3] Hammermills).</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>38 tons per hour each.</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>NA</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>None</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@

°F and

psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input:

$\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day 24

Days/Week 7

Weeks/Year 52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used: Total Combined Heaters

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	60.19 (each) lb/hr	NA grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)	lb/hr	
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

Amount of grain received.

RECORDKEEPING

Amount of grain received.

REPORTING

None

TESTING

None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

**EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 7S and 9S

<p>1. Name or type and model of proposed affected source:</p> <p>Pellet Systems (two [2] pellet systems).</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>50 tons per hour for 7S. 40 tons per hour for 9S.</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>NA</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>None</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@

°F and

psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input:

$\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day

24

Days/Week

7

Weeks/Year

52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used: Total Combined Heaters

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	50.05 (each) lb/hr	NA grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)	lb/hr	
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

Amount of feed prepared.

RECORDKEEPING

Amount of feed prepared.

REPORTING

None

TESTING

None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

**Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 11S

<p>1. Name or type and model of proposed affected source:</p> <p style="text-align: center;">Feed Shipping.</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p style="text-align: center;">60 tons per hour.</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p style="text-align: center;">NA</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p style="text-align: center;">None</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@

°F and

psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input:

× 10⁶ BTU/hr.

7. Projected operating schedule:

Hours/Day

24

Days/Week

7

Weeks/Year

52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	0.05 lb/hr	NA grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

Total amount of feed prepared.

RECORDKEEPING

Total amount of feed prepared.

REPORTING

None

TESTING

None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

Attachment L
FUGITIVE EMISSIONS FROM UNPAVED HAULROADS

UNPAVED HAULROADS (including all equipment traffic involved in process, haul trucks, endloaders, etc.)

		PM	PM-10
k =	Particle size multiplier	4.9	1.5
s =	Silt content of road surface material (%)	6	6
p =	Number of days per year with precipitation >0.01 in.	148	148

Item Number	Description	Number of Wheels	Mean Vehicle Weight (tons)	Mean Vehicle Speed (mph)	Miles per Trip	Maximum Trips per Hour	Maximum Trips per Year	Control Device ID Number	Control Efficiency (%)
1	Vehicle Activity	18	40	15	0.33	5	24,883	NA	0
2									
3									
4									
5									
6									
7									
8									

Source: AP-42 Fifth Edition – 13.2.2 Unpaved Roads

$$E = k \times 5.9 \times (s + 12) \times (S + 30) \times (W + 3)^{0.7} \times (w + 4)^{0.5} \times ((365 - p) + 365) = \text{lb/Vehicle Mile Traveled (VMT)}$$

Where:

		PM	PM-10
k =	Particle size multiplier	4.9	1.5
s =	Silt content of road surface material (%)	6	6
S =	Mean vehicle speed (mph)	15	15
W =	Mean vehicle weight (tons)	40	40
w =	Mean number of wheels per vehicle	18	18
p =	Number of days per year with precipitation >0.01 in.	148	148

For lb/hr: $[\text{lb} \div \text{VMT}] \times [\text{VMT} \div \text{trip}] \times [\text{Trips} \div \text{Hour}] = \text{lb/hr}$

For TPY: $[\text{lb} \div \text{VMT}] \times [\text{VMT} \div \text{trip}] \times [\text{Trips} \div \text{Hour}] \times [\text{Ton} \div 2000 \text{ lb}] = \text{Tons/year}$

SUMMARY OF UNPAVED HAULROAD EMISSIONS

Item No.	PM				PM-10			
	Uncontrolled lb/hr	Controlled TPY						
1	9.49	23.62	9.49	23.62	2.53	6.29	2.53	6.29
2								
3								
4								
5								
6								
7								
8								
TOTALS	9.49	23.62	9.49	23.62	2.53	6.29	2.53	6.29

FUGITIVE EMISSIONS FROM PAVED HAULROADS

INDUSTRIAL PAVED HAULROADS (including all equipment traffic involved in process, haul trucks, endloaders, etc.)

I =	Industrial augmentation factor (dimensionless)	
n =	Number of traffic lanes	
s =	Surface material silt content (%)	
L =	Surface dust loading (lb/mile)	

Item Number	Description	Mean Vehicle Weight (tons)	Miles per Trip	Maximum Trps per Hour	Maximum Trips per Year	Control Device ID Number	Control Efficiency (%)
1	All roadways estimated as unpaved						
2							
3							
4							
5							
6							
7							
8							

Source: AP-42 Fifth Edition – 11.2.6 Industrial Paved Roads

$$E = 0.077 \times I \times (4 + n) \times (s + 10) \times (L + 1000) \times (W \div 3)^{0.7} = \text{lb/Vehicle Mile Traveled (VMT)}$$

Where:

I =	Industrial augmentation factor (dimensionless)	
n =	Number of traffic lanes	
s =	Surface material silt content (%)	
L =	Surface dust loading (lb/mile)	
W =	Average vehicle weight (tons)	

For lb/hr: $[\text{lb} \div \text{VMT}] \times [\text{VMT} \div \text{trip}] \times [\text{Trips} \div \text{Hour}] = \text{lb/hr}$

For TPY: $[\text{lb} \div \text{VMT}] \times [\text{VMT} \div \text{trip}] \times [\text{Trips} \div \text{Hour}] \times [\text{Ton} \div 2000 \text{ lb}] = \text{Tons/year}$

SUMMARY OF PAVED HAULROAD EMISSIONS

Item No.	Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY
1				
2				
3				
4				
5				
6				
7				
8				
TOTALS				

ATTACHMENT M

AIR POLLUTION CONTROL DEVICE SHEETS

There are no changes proposed for air pollution control devices (baghouses and cyclones); therefore, we have not included the Air Pollution Control Device Sheets.

ATTACHMENT N

SUPPORTING EMISSIONS CALCULATIONS

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

Increase In Emissions Due to Increased Hourly Receiving, Headhouse and Handling, and Storage

Source Description	Emission Type	Proposed Emissions			
		Uncontrolled		Controlled	
		lb/hr	tons/yr	lb/hr	tons/yr
2AS-Grain Receiving	PM	12.92	1.02	2.59	0.21
	PM10	1.90	0.15	0.38	0.03
	PM2.5	0.30	0.02	0.07	0.01
2BS-Headhouse and Grain Handling	PM	46.36	3.66	9.27	0.74
	PM10	25.84	2.04	5.17	0.41
	PM2.5	4.41	0.35	0.88	0.07
3S -Storage	PM	19.00	1.50	3.80	0.30
	PM10	4.79	0.38	0.95	0.07
	PM2.5	0.84	0.07	0.17	0.01
11S-Feed Shipping	PM	0.00	0.21	0.00	0.04
	PM10	0.00	0.05	0.00	0.01
	PM2.5	0.00	0.01	0.00	0.00
12S-Vehicle Activity(1)	PM	9.49	23.62	9.49	23.62
	PM10	2.53	6.29	2.53	6.29
	PM2.5	0.25	0.63	0.25	0.63
Total	PM	87.77	30.01	25.15	24.91
	PM10	35.06	8.91	9.03	6.81
	PM2.5	5.80	1.07	1.37	0.72

Notes:

1. Vehicle activity was not included in the initial permit application and is being included here as an increase in emissions.

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

Proposed PTE

Emission Type	Facility Total			
	Uncontrolled		Controlled	
	lb/hr	tons/yr	lb/hr	tons/yr
PM	2,344.57	9,677.47	47.52	74.35
PM10	345.78	1,270.92	18.07	25.79
PM2.5	296.38	1,256.41	6.20	17.81
VOC	0.34	1.34	0.34	1.34
SO ₂	21.32	64.96	21.32	64.96
NO _x	10.20	36.66	10.20	36.66
CO	5.02	20.02	5.02	20.02
Total HAPs	0.0902	0.3766	0.0902	0.3766
Lead	0.0004	0.0014	0.0004	0.0014

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

Grain Receiving, Headhouse and Grain Handling, and Storage Emissions (2AS, 2BS, and 3S)

Proposed Emissions

Proposed Operating Rates		
Grain Type	lb/hr	tons/yr
Corn	1,120	330,000
Soybean Meal	200	120,000
Total Grain Handling	1,320	450,000

Source Description	Proposed Emissions								
	Emission Type	Emission Factor		Control Device (type)	Control Efficiency (%)	Emissions			
						Uncontrolled		Controlled	
					lb/hr	tons/yr	lb/hr	tons/yr	
2AS Grain Receiving ⁽¹⁾	PM	0.017	lbs/ton	FE	80	22.44	3.83	4.49	0.77
	PM10	0.0025	lbs/ton	FE	80	3.30	0.56	0.66	0.11
	PM2.5	0.0004	lbs/ton	FE	80	0.53	0.09	0.11	0.02
2BS Headhouse and Grain Handling ⁽²⁾	PM	0.061	lbs/ton	FE	80	80.52	13.73	16.10	2.75
	PM10	0.034	lbs/ton	FE	80	44.88	7.65	8.98	1.53
	PM2.5	0.0058	lbs/ton	FE	80	7.66	1.31	1.53	0.26
3S -Storage ⁽²⁾	PM	0.025	lbs/ton	FE	80	33.00	5.63	6.60	1.13
	PM10	0.0063	lbs/ton	FE	80	8.32	1.42	1.66	0.28
	PM2.5	0.0011	lbs/ton	FE	80	1.45	0.25	0.29	0.05
Totals					PM	135.96	23.18	27.19	4.65
					PM10	56.50	9.63	11.30	1.92
					PM2.5	9.64	1.64	1.93	0.33

Re-evaluated Existing Emissions

Existing Operating Rate = 560 tph
330,000 tpy

Source Description	Existing Emissions								
	Emission Type	Emission Factor		Control Device (type)	Control Efficiency (%)	Emissions			
						Uncontrolled		Controlled	
					lb/hr	tons/yr	lb/hr	tons/yr	
2AS Grain Receiving ⁽¹⁾	PM	0.017	lbs/ton	FE	80	9.52	2.81	1.90	0.56
	PM10	0.0025	lbs/ton	FE	80	1.40	0.41	0.28	0.08
	PM2.5	0.0004	lbs/ton	FE	80	0.22	0.07	0.04	0.01
2BS Headhouse and Grain Handling ⁽²⁾	PM	0.061	lbs/ton	FE	80	34.16	10.07	6.83	2.01
	PM10	0.034	lbs/ton	FE	80	19.04	5.61	3.81	1.12
	PM2.5	0.0058	lbs/ton	FE	80	3.25	0.96	0.65	0.19
3S -Storage ⁽²⁾	PM	0.025	lbs/ton	FE	80	14.00	4.13	2.80	0.83
	PM10	0.0063	lbs/ton	FE	80	3.53	1.04	0.71	0.21
	PM2.5	0.0011	lbs/ton	FE	80	0.62	0.18	0.12	0.04
Totals					PM	57.68	17.00	11.53	3.40
					PM10	23.97	7.06	4.80	1.41
					PM2.5	4.09	1.20	0.81	0.24

Notes:

1. Emission factors from AP-42 Section 9.9.1, Table 9.9.1-2. for PM and PM10 and estimated for PM2.5 based on Footnote g of Table 9.9.1-1 (17% of PM10). Control efficiency based on typical control efficiencies allowed by DAQ (Full Enclosure (shed with choke feed) = 80%).
2. Emission factors from AP-42 Section 9.9.1, Table 9.9.1-1. Control efficiency based on typical control efficiencies allowed by DAQ (Full Enclosure = 80%).

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

Boiler No. 1 (1S)

Primary Fuel Source Emissions (Natural Gas)

Pollutant	Max. Hourly Emissions lb/hr	Max. Annual Emissions tons/yr
PM	0.16	0.70
PM10	0.16	0.70
PM2.5	0.16	0.70
VOC	0.12	0.51
SO ₂	0.01	0.06
NOx	2.10	9.20
CO	1.76	7.73
Pb	0.00002	0.00009
Total HAPS	0.0388	0.1700

Backup Fuel Source Emissions (No. 2 Fuel Oil)

Pollutant	Max. Hourly Emissions lb/hr	Max. Annual Emissions tons/yr
PM	0.50	1.50
PM10	0.35	1.05
PM2.5	0.24	0.70
VOC	0.05	0.16
SO ₂	10.65	32.42
NOx	3.00	9.13
CO	0.75	2.28
Pb	0.0002	0.0006
Total HAPS	0.0063	0.0183

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

Natural Gas Combustion Emissions Boilers 1S

Fuel Use = 21,000 scf/hr
 Heat Content of Fuel = 1,000 Btu/scf
 Maximum Burner Rating = 21,000,000 Btu/hr
 Hours of Operation = 8,760 hrs/year
 Fuel Usage = 0.0210 10⁶ scf per hour
 183.96 10⁶ scf/year

Emission Type	EF ⁽²⁾ lb/10 ⁶ scf	Emissions	
		lb/hr	tons/year
PM	7.6	0.16	0.70
PM10 ⁽¹⁾	7.6	0.16	0.70
PM2.5 ⁽¹⁾	7.6	0.16	0.70
SO ₂	0.6	0.01	0.06
NO _x	100	2.10	9.20
CO	84	1.76	7.73
VOC	5.5	0.12	0.51
Pb	0.0005	0.00002	0.00009
Total HAPS	See NG HAPS	0.0388	0.1700

Rounding to = 2
 Lead rounded to = 5

Notes:

1. It is assumed that PM10 and PM2.5 are equal to TSP (PM).
2. Emission factors from AP-42, Section 1.4 dated 7/98 for uncontrolled small (<100) boilers.

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

Natural Gas Combustion HAPS Boilers 1S

Total Heaters Rating =	21	MMBtu/hr
Operating Hours =	8,760	hrs/yr

CAS No.	Hazardous Air Pollutants	EF ¹		Emissions	
		lb/10 ⁶ scf	lb/MMBtu	lb/hr	tons/year
91-57-6	2-Methylnaphthalene	2.4E-05	2.35E-08	4.94E-07	2.16E-06
56-49-5	3-Methylchloranthrene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
57-97-6	7,12-Dimethylbenz(a)anthracene	1.6E-05	1.57E-08	3.29E-07	1.44E-06
83-32-9	Acenaphthene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
203-96-8	Acenaphthylene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
120-12-7	Anthracene	2.4E-06	2.35E-09	4.94E-08	2.16E-07
56-55-3	Benz(a)anthracene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
71-43-2	Benzene	2.1E-03	2.06E-06	4.32E-05	1.8937E-04
50-32-8	Benzo(a)pyrene	1.2E-06	1.18E-09	2.47E-08	1.08E-07
205-99-2	Benzo(b)fluoranthene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
191-24-2	Benzo(g,h,i)perylene	1.2E-06	1.18E-09	2.47E-08	1.08E-07
205-82-3	Benzo(k)fluoranthene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
218-01-9	Chrysene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
53-70-3	Dibenzo(a,h)anthracene	1.2E-06	1.18E-09	2.47E-08	1.08E-07
25321-22-6	Dichlorobenzene	1.2E-03	1.18E-06	2.47E-05	1.08E-04
206-44-0	Fluoranthene	3.0E-06	2.94E-09	6.18E-08	2.71E-07
86-73-7	Fluorene	2.8E-06	2.75E-09	5.76E-08	2.52E-07
50-00-0	Formaldehyde	7.2E-02	7.06E-05	1.48E-03	6.49E-03
110-54-3	Hexane	1.8E+00	1.76E-03	3.71E-02	1.62E-01
193-39-5	Indeno(1,2,3-cd)pyrene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
91-20-3	Naphthalene	6.1E-04	5.98E-07	1.26E-05	5.50E-05
85-01-8	Phenanthrene	1.7E-05	1.67E-08	3.50E-07	1.53E-06
129-00-0	Pyrene	5.0E-06	4.90E-09	1.03E-07	4.51E-07
108-88-3	Toluene	3.4E-03	3.33E-06	7.00E-05	3.07E-04
7440-38-2	Arsenic	2.0E-04	1.96E-07	4.12E-06	1.80E-05
7440-41-7	Beryllium	1.2E-05	1.18E-08	2.47E-07	1.08E-06
7440-43-9	Cadmium	1.1E-03	1.08E-06	2.26E-05	9.92E-05
7440-47-3	Chromium	1.4E-03	1.37E-06	2.88E-05	1.26E-04
7440-48-4	Cobalt	8.4E-05	8.24E-08	1.73E-06	7.57E-06
7439-96-5	Manganese	3.8E-04	3.73E-07	7.82E-06	3.43E-05
7439-97-6	Mercury	2.6E-04	2.55E-07	5.35E-06	2.34E-05
7440-02-0	Nickel	2.1E-03	2.06E-06	4.32E-05	1.89E-04
7782-49-2	Selenium	2.4E-05	2.35E-08	4.94E-07	2.16E-06
	VOC HAPs Subtotal			3.87E-02	1.69E-01
	Metal HAPs Subtotal			1.14E-04	5.01E-04
	Total HAPs			3.88E-02	1.70E-01

References:

1. AP-42 Table 1.4-3 and Table 1.4-4. Conversion from lb/10⁶ scf to lb/MMBtu (divide by) = 1,020

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

No. 2 Fuel Combustion Emissions Boilers IS

Burner Rating = 21 MMBtu/hr

No. 2 Fuel Oil		
Ash Content (%) =	NA	%
Sulfur Content (%) =	0.5	%
Heat Content of Fuel =	139,000	BTU/gallon
Fuel Usage ⁽⁵⁾ =	150.0	gallons per hour
	913,230	gallons per year

No. 2 Fuel Oil			
Criteria Pollutants	EF lb/10 ³ gallons	Emissions	
		lb/hr	tons/year
CO ⁶	5	0.75	2.28
NO _x ⁶	20	3.00	9.13
PM (filterable) ⁶	2	0.30	0.91
PM2.5 ⁽¹⁾ (filterable)	0.25	0.04	0.11
PM ₁₀ ⁽¹⁾ (filterable)	1.00	0.15	0.46
PM (condensable) ²	1.3	0.20	0.59
PM2.5 (condensable) ²	1.3	0.20	0.59
PM10 (condensable) ²	1.3	0.20	0.59
SO _x ⁶	71	10.65	32.42
VOC/TOC ⁷	0.34	0.05	0.16
PM (total)	NA	0.50	1.50
PM2.5 (total)	NA	0.24	0.70
PM10 (total)	NA	0.35	1.05

Hazardous Air Pollutants (HAPs) ⁽³⁾	Emission Factor lb/10 ³ gallons	Emissions	
		lb/hr	tons/year
Lead ^(4&5)	9	0.0002	0.0006
Benzene ⁽⁵⁾	2.14E-04	0.0001	0.0001
Ethylbenzene	6.36E-05	0.0001	0.0001
Formaldehyde ⁽⁵⁾	3.03E-02	0.0046	0.0139
Naphthalene	1.13E-03	0.0002	0.0006
Toluene	6.20E-03	0.0010	0.0029
Xylene	1.09E-04	0.0001	0.0001
Total HAPs		0.0063	0.0183

Rounding to = 2

Notes:

- PM10 and PM2.5 size distribution from Table 1.3-6.
- Condensable EF from Table 1.3-2.
- Table 1.3-9 (AP-42).
- Lead emissions from distillate fuel oils are 9 lbs/10¹² Btu.
- Toxic Air Pollutant (TAP) 45CSR13 Table 45-13A.
- Emission factors from AP-42, 1.3, Fuel Oil Combustion, 9/98 (<100 MMBtu/hr) boilers.
- AP-42, Table 1.3-3 for distillate oil fired.

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

Boiler No. 2 (8S)

Primary Fuel Source Emissions (Natural Gas)

Pollutant	Max. Hourly Emissions lb/hr	Max. Annual Emissions tons/yr
PM	0.16	0.70
PM10	0.16	0.70
PM2.5	0.16	0.70
VOC	0.12	0.51
SO ₂	0.01	0.06
NOx	2.10	9.20
CO	1.76	7.73
Pb	0.00002	0.00009
Total HAPS	0.0388	0.1700

Backup Fuel Source Emissions (No. 2 Fuel Oil)

Pollutant	Max. Hourly Emissions lb/hr	Max. Annual Emissions tons/yr
PM	0.50	1.50
PM10	0.35	1.05
PM2.5	0.24	0.70
VOC	0.05	0.16
SO ₂	10.65	32.42
NOx	3.00	9.13
CO	0.75	2.28
Pb	0.0002	0.0006
Total HAPS	0.0063	0.0183

Pilgrim's
Moorefield Feed Mill

Potesta & Associates, Inc.
Project No: 0101-15-0121-001

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

Natural Gas Combustion Emissions Boilers 8S

Fuel Use = 21,000 scf/hr
Heat Content of Fuel = 1,000 Btu/scf
Maximum Burner Rating = 21,000,000 Btu/hr
Hours of Operation = 8,760 hrs/year
Fuel Usage = 0.0210 10⁶ scf per hour
183.96 10⁶ scf/year

Emission Type	EF ⁽²⁾ lb/10 ⁶ scf	Emissions	
		lb/hr	tons/year
PM	7.6	0.16	0.70
PM10 ⁽¹⁾	7.6	0.16	0.70
PM2.5 ⁽¹⁾	7.6	0.16	0.70
SO ₂	0.6	0.01	0.06
NO _x	100	2.10	9.20
CO	84	1.76	7.73
VOC	5.5	0.12	0.51
Pb	0.0005	0.00002	0.00009
Total HAPS	See NG HAPS	0.0388	0.1700

Rounding to = 2
Lead rounded to = 5

Notes:

- 1 - It is assumed that PM10 and PM2.5 are equal to TSP (PM).
- 2- Emission factors from AP-42, Section 1.4 dated 7/98.

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

Natural Gas Combustion HAPS Boilers 8S

Total Heaters Rating =	21	MMBtu/hr
Operating Hours =	8,760	hrs/yr

CAS No.	Hazardous Air Pollutants	EF ¹		Emissions	
		lb/10 ⁶ scf	lb/MMBtu	lb/hr	tons/year
91-57-6	2-Methylnaphthalene	2.4E-05	2.35E-08	4.94E-07	2.16E-06
56-49-5	3-Methylchloranthrene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
57-97-6	7,12-Dimethylbenz(a)anthracene	1.6E-05	1.57E-08	3.29E-07	1.44E-06
83-32-9	Acenaphthene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
203-96-8	Acenaphthylene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
120-12-7	Anthracene	2.4E-06	2.35E-09	4.94E-08	2.16E-07
56-55-3	Benzo(a)anthracene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
71-43-2	Benzene	2.1E-03	2.06E-06	4.32E-05	1.8937E-04
50-32-8	Benzo(a)pyrene	1.2E-06	1.18E-09	2.47E-08	1.08E-07
205-99-2	Benzo(b)fluoranthene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
191-24-2	Benzo(g,h,i)perylene	1.2E-06	1.18E-09	2.47E-08	1.08E-07
205-82-3	Benzo(k)fluoranthene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
218-01-9	Chrysene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
53-70-3	Dibenzo(a,h)anthracene	1.2E-06	1.18E-09	2.47E-08	1.08E-07
25321-22-6	Dichlorobenzene	1.2E-03	1.18E-06	2.47E-05	1.08E-04
206-44-0	Fluoranthene	3.0E-06	2.94E-09	6.18E-08	2.71E-07
86-73-7	Fluorene	2.8E-06	2.75E-09	5.76E-08	2.52E-07
50-00-0	Formaldehyde	7.2E-02	7.06E-05	1.48E-03	6.49E-03
110-54-3	Hexane	1.8E+00	1.76E-03	3.71E-02	1.62E-01
193-39-5	Indeno(1,2,3-cd)pyrene	1.8E-06	1.76E-09	3.71E-08	1.62E-07
91-20-3	Naphthalene	6.1E-04	5.98E-07	1.26E-05	5.50E-05
85-01-8	Phenanthrene	1.7E-05	1.67E-08	3.50E-07	1.53E-06
129-00-0	Pyrene	5.0E-06	4.90E-09	1.03E-07	4.51E-07
108-88-3	Toluene	3.4E-03	3.33E-06	7.00E-05	3.07E-04
7440-38-2	Arsenic	2.0E-04	1.96E-07	4.12E-06	1.80E-05
7440-41-7	Beryllium	1.2E-05	1.18E-08	2.47E-07	1.08E-06
7440-43-9	Cadmium	1.1E-03	1.08E-06	2.26E-05	9.92E-05
7440-47-3	Chromium	1.4E-03	1.37E-06	2.88E-05	1.26E-04
7440-48-4	Cobalt	8.4E-05	8.24E-08	1.73E-06	7.57E-06
7439-96-5	Manganese	3.8E-04	3.73E-07	7.82E-06	3.43E-05
7439-97-6	Mercury	2.6E-04	2.55E-07	5.35E-06	2.34E-05
7440-02-0	Nickel	2.1E-03	2.06E-06	4.32E-05	1.89E-04
7782-49-2	Selenium	2.4E-05	2.35E-08	4.94E-07	2.16E-06
			VOC HAPs Subtotal	3.87E-02	1.69E-01
			Metal HAPs Subtotal	1.14E-04	5.01E-04
			Total HAPs	3.88E-02	1.70E-01

References:

1. AP-42 Table 1.4-3 and Table 1.4-4. Conversion from lb/10⁶ scf to lb/MMBtu (divide by) = 1,020

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

No. 2 Fuel Combustion Emissions Boilers 8S

Burner Rating = 21 MMBtu/hr

No. 2 Fuel Oil		
Ash Content (%) =	NA	%
Sulfur Content (%) =	0.5	%
Heat Content of Fuel =	139,000	BTU/gallon
Fuel Usage ⁽⁵⁾ =	150.0	gallons per hour
	913,230	gallons per year

No. 2 Fuel Oil			
Criteria Pollutants	EF lb/10 ³ gallons	Emissions	
		lb/hr	tons/year
CO ⁶	5	0.75	2.28
NO _x ⁶	20	3.00	9.13
PM (filterable) ⁶	2	0.30	0.91
PM2.5 ⁽¹⁾ (filterable)	0.25	0.04	0.11
PM ₁₀ ⁽¹⁾ (filterable)	1	0.15	0.46
PM (condensable) ²	1.3	0.20	0.59
PM2.5 (condensable) ²	1.3	0.20	0.59
PM10 (condensable) ²	1.3	0.20	0.59
SO _x ⁶	71	10.65	32.42
VOC/TOC ⁷	0.34	0.05	0.16
PM (total)	NA	0.50	1.50
PM2.5 (total)	NA	0.24	0.70
PM10 (total)	NA	0.35	1.05

Hazardous Air Pollutants (HAPs) ⁽³⁾	Emission Factor lb/10 ³ gallons	Emissions	
		lb/hr	tons/year
Lead ^(4&5)	9	0.0002	0.0006
Benzene ⁽⁵⁾	2.14E-04	0.0001	0.0001
Ethylbenzene	6.36E-05	0.0001	0.0001
Formaldehyde ⁽⁵⁾	3.03E-02	0.0046	0.0139
Naphthalene	1.13E-03	0.0002	0.0006
Toluene	6.20E-03	0.0010	0.0029
Xylene	1.09E-04	0.0001	0.0001
Total HAPs		0.0063	0.0183

Rounding to = 2

Notes:

1. PM10 and PM2.5 size distribution from Table 1.3-6.
2. Condensable EF from Table 1.3-2.
3. Table 1.3-9 (AP-42).
4. Lead emissions from distillate fuel oils are 9 lbs/10¹² Btu.
5. Toxic Air Pollutant (TAP) 45CSR13 Table 45-13A.
6. Emission factors from AP-42, 1.3, Fuel Oil Combustion, 9/98 (<100 MMBtu/hr) boilers.
7. AP-42, Table 1.3-3 for distillate oil fired.

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

Pneumatic System 4S

Pollutant ⁽¹⁾	Max. Potential Hourly Emissions lb/hr	Max. Potential Annual Emissions tons/year	Max. Controlled Hourly Emissions lb/hr	Max. Controlled Annual Emissions tons/year
PM	38.60	169.07	0.03	0.13
PM10	5.02	21.98	0.01	0.02
PM2.5	5.02	21.98	0.01	0.02

(1) Emission estimates based on information in Permit R13-1506 and associated applications. Annual uncontrolled emissions based on 8,760 hours per year. Hourly controlled emissions based on the permit and yearly emissions are based on 8,760 hours per year. PM2.5 assumed to be equal to PM10.

Crusher 5S - Corn Only

Pollutant ⁽¹⁾	Max. Potential Hourly Emissions lb/hr	Max. Potential Annual Emissions tons/year	Max. Controlled Hourly Emissions lb/hr	Max. Controlled Annual Emissions tons/year
PM	463.00	2,027.94	0.51	2.23
PM10	60.19	263.63	0.07	0.29
PM2.5	60.19	263.63	0.07	0.29

(1) Emission estimates based on information in Permit R13-1506 and associated applications. Annual uncontrolled emissions based on 8,760 hours per year. Hourly controlled emissions based on the permit and yearly emissions are based on 8,760 hours per year. PM2.5 assumed to be equal to PM10.

Crusher 6S - Corn Only

Pollutant ⁽¹⁾	Max. Potential Hourly Emissions lb/hr	Max. Potential Annual Emissions tons/year	Max. Controlled Hourly Emissions lb/hr	Max. Controlled Annual Emissions tons/year
PM	463.00	2,027.94	0.51	2.23
PM10	60.19	263.63	0.07	0.29
PM2.5	60.19	263.63	0.07	0.29

(1) Emission estimates based on information in Permit R13-1506 and associated applications. Annual uncontrolled emissions based on 8,760 hours per year. Hourly controlled emissions based on the permit and yearly emissions are based on 8,760 hours per year. PM2.5 assumed to be equal to PM10.

Pellet System 7S

Pollutant ⁽¹⁾	Max. Potential Hourly Emissions lb/hr	Max. Potential Annual Emissions tons/year	Max. Controlled Hourly Emissions lb/hr	Max. Controlled Annual Emissions tons/year
PM	385.00	1,686.30	3.96	17.34
PM10	50.05	219.22	1.50	6.58
PM2.5	50.05	219.22	1.50	6.58

(1) Emission estimates based on information in Permit R13-1506 and associated applications. Annual uncontrolled emissions based on 8,760 hours per year. Hourly controlled emissions based on the permit and yearly emissions are based on 8,760 hours per year. PM2.5 assumed to be equal to PM10.

Pellet System 9S

Pollutant ⁽¹⁾	Max. Potential Hourly Emissions lb/hr	Max. Potential Annual Emissions tons/year	Max. Controlled Hourly Emissions lb/hr	Max. Controlled Annual Emissions tons/year
PM	385.00	1,686.30	3.96	17.34
PM10	50.05	219.22	1.50	6.58
PM2.5	50.05	219.22	1.50	6.58

(1) Emission estimates based on information in Permit R13-1506 and associated applications. Annual uncontrolled emissions based on 8,760 hours per year. Hourly controlled emissions based on the permit and yearly emissions are based on 8,760 hours per year. PM2.5 assumed to be equal to PM10.

Crusher 10S - Corn Only

Pollutant ⁽¹⁾	Max. Potential Hourly Emissions lb/hr	Max. Potential Annual Emissions tons/year	Max. Controlled Hourly Emissions lb/hr	Max. Controlled Annual Emissions tons/year
PM	463.00	2,027.94	0.51	2.23
PM10	60.19	263.63	0.07	0.29
PM2.5	60.19	263.63	0.07	0.29

(1) Emission estimates based on information in Permit R13-1506 and associated applications. Annual uncontrolled emissions based on 8,760 hours per year. Hourly controlled emissions based on the permit and yearly emissions are based on 8,760 hours per year. PM2.5 assumed to be equal to PM10.

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

Feed Shipping 11S

Proposed Operating Rate = 60 tph
478,000 tpy

Source Description	Proposed Emissions								
	Emission Type	Emission Factor		Control Device (type)	Control Efficiency (%)	Emissions			
						Uncontrolled		Controlled	
					lb/hr	tons/year	lb/hr	tons/year	
Feed Shipping ⁽¹⁾	PM	0.0033	lbs/ton	FE	80	0.20	0.79	0.04	0.16
	PM10	0.0008	lbs/ton	FE	80	0.05	0.19	0.01	0.04
	PM2.5	0.0001	lbs/ton	FE	80	0.01	0.02	0.01	0.01
	Totals					PM 0.20 PM10 0.05 PM2.5 0.01	0.79 0.19 0.02	0.04 0.01 0.01	0.16 0.04 0.01

Existing Operating Rate = 60 tph
350,000 tpy

Source Description	Proposed Emissions								
	Emission Type	Emission Factor		Control Device (type)	Control Efficiency (%)	Emissions			
						Uncontrolled		Controlled	
					lb/hr	tons/year	lb/hr	tons/year	
Feed Shipping ⁽¹⁾	PM	0.0033	lbs/ton	FE	80	0.20	0.58	0.04	0.12
	PM10	0.0008	lbs/ton	FE	80	0.05	0.14	0.01	0.03
	PM2.5	0.0001	lbs/ton	FE	80	0.01	0.02	0.01	0.01
	Totals					PM 0.20 PM10 0.05 PM2.5 0.01	0.58 0.14 0.02	0.04 0.01 0.01	0.12 0.03 0.01

Notes:

1. Emission factors from AP-42 Section 9.9.1, Table 9.9.1-2. for PM and PM10 and estimated for PM2.5 based on Footnote g of Table 9.9.1-1 (17% of PM10). Control efficiency based on typical control efficiencies allowed by DAQ (Enclosure - Feed Chute to Truck in a Shed = 80%).

By: PEW
Date: 8/11/2015

Checked By: LKB
Date: 8/13/2015

Vehicle Activity 125

Emission factor equation:
 $E = k(s/12)^a (W/3)^b ((365-p)/365)$
 From AP-42 Fifth Edition, Section 13.2.2, Fugitive Sources

	PM	PM10	PM2.5	
E =	7	7	7	lb/VMT
k =	4.9	1.5	0.15	particle size multiplier constant
a =	0.7	0.9	0.9	constant
b =	0.45	0.45	0.45	constant
s =	6	6	6	% silt in road surface
W =	40	40	40	mean vehicle weight
p =	146	148	148	# days with 0.01" rain
E_{road} =	5.75	1.53	0.15	lb/VMT

Estimated Amount of Trucking			
Material	per hour	per week	per year
Corn and Soymeal	1	40	2,083
Feed Shipyng	3	300	18,385
Liquids	1	6	268

Trucks Deliveries/Shipping	
346	per week
5	per hour (estimated)
52	weeks per year
24,883	Trucks per year (plus 20%)
40	tons (estimated total truck weight)

Rounding to = 2

Vehicular Traffic ID	Miles/Trip	Number of Trips/Hour	Number of Trips/Year	Control Device		TSP Emissions			
				Type	Effic(%)	Uncontrolled		Controlled	
						lb/hr	tons/year	lb/hr	tons/year
Trucks	0.32	5	24,883	N	0	9.49	23.62	9.49	23.62
						9.49	23.62	9.49	23.62

Vehicular Traffic ID	Miles/Trip (miles)	Number of Trips/Hour (trips/hour)	Number of Trips/Year (trips/year)	Control Device		PM10 Emissions			
				Type	Effic(%)	Uncontrolled		Controlled	
						lb/hr	tons/year	lb/hr	tons/year
Trucks	0.33	5	24,883	N	0	2.53	6.29	2.53	6.29
						2.53	6.29	2.53	6.29

Vehicular Traffic ID	Miles/Trip (miles)	Number of Trips/Hour (trips/hour)	Number of Trips/Year (trips/year)	Control Device		PM2.5 Emissions			
				Type	Effic(%)	Uncontrolled		Controlled	
						lb/hr	tons/year	lb/hr	tons/year
Trucks	0.33	5	24,883	N	0	0.25	0.63	0.25	0.63
						0.25	0.63	0.25	0.63

ATTACHMENT O

**MONITORING, RECORDKEEPING, REPORTING,
TESTING PLANS**

ATTACHMENT O

MONITORING/RECORDKEEPING/REPORTING/TESTING PLANS

Pilgrim's requests that current monitoring, recordkeeping, reporting, and testing requirements of the permit be maintained as is.

ATTACHMENT P

PUBLIC NOTICE

LEGAL ADVERTISEMENT

AIR QUALITY PERMIT NOTICE Notice of Application

Notice is given that Pilgrim's has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a permit for the modification of the Moorefield Feed Mill by installing new conveyances and a silo and update the facility throughput located on Industrial Park Road in Moorefield, Hardy County, West Virginia. The latitude and longitude coordinates are: 39.044367 and -78.986096.

The applicant estimates the potential to discharge the following Regulated Air Pollutants will be: PM of 24.91 tons per year (tpy); PM₁₀ of 6.81 tpy; PM_{2.5} of 0.72 tpy.

The facility anticipates beginning operations of the modified facility in January 2016. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, Extension 1250, during normal business hours.

Dated this the (PLEASE INSERT DATE) day of September, 2015.

By: Pilgrim's
Matthew Herman
Senior Vice President, Operations
PO Box 539
Moorefield, West Virginia 26836