

**IOWA DEPARTMENT OF NATURAL  
RESOURCES****Solid Waste Land  
Application****PERMIT APPLICATION FORM 43**

Harrison County

Applications for a solid waste land application must be accompanied by the plans, specifications and additional information required by the applicable solid waste rules under Iowa Administrative Code 567 Chapter 121.

Send completed applications with attached information to:

Planning, Permitting & Engineering Services  
Land Quality Bureau  
Iowa Department of Natural Resources  
502 East 9<sup>th</sup> Street  
Des Moines, IA 50319

Con 12-1-1  
Doc # 57736

For questions concerning this application please contact the Department at (515) 281-8150.

**SECTION 1. FACILITY CONTACT INFORMATION****Solid Waste Generator Name/Address:**

Cargill Corn Milling  
650 Industrial Road  
PO Box 300  
Blair, NE 68008-0300

Phone #: 402-533-4100 Fax #: 402-533-1499

**Site Legal Description:**

SE ¼ of      ¼ of      ¼ Section 18  
Township 18 N Range 12 E County Washington

**Name/Address of Responsible Official:**

Gavin Atkinson, Cargill Blair Facility Manager/AVP  
650 Industrial Road  
PO Box 300  
Blair, NE 68008-0300

Phone #: 402-533-4100 Fax #: 402-533-1499

**Solid Waste Generator Owner/Address:**

n/a

Phone #:                      Fax #:

**Name/Address of Certified Professional Agronomist:**

Jim Andersen  
70 Cottner drive  
Council Bluffs, IA 51503

License #: 03183

Phone #: 712-310-6956 Fax #: 712-328-0931

**Name/Address of Design Engineer (P.E.), if any:**

Rick Yoerger, PE  
Midwest Environmental Consulting  
2441 Cimarron Dr.  
Marion, IA 52302

License #: 8580

Phone #: 319-377-0334 Fax #: 319-373-2508

RECEIVED MAY 14 2010

## SECTION 2. SITE INFORMATION

Days and hours of operation of the facility:

24/7/365

Type, source and expected weight (tons) of solid waste to be handled per day, week and year at the facility:

Type: CALmax. A solid, calcium sulfate (gypsum) byproduct

Source: Cargill Corn Milling, a lactic acid manufacturing facility.

Expected Weight:

per day 20 tons "as received"

per week 100 tons "as received"

per year 5,200 tons "as received"

Description of the waste handling process to be used:

The facility processes corn into lactic acid. During this process a calcium sulfate (gypsum) byproduct is generated. We call it CALmax.

## SECTION 3. PERMIT APPLICATION CHECKLIST

Checking the appropriate boxes below certifies that the documents submitted in conjunction with this application form are complete and in compliance with the applicable chapters of the Iowa Administrative Code. While some of the documents below may have been submitted previously, updated copies of each is required to be provided with each permit renewal application. One (1) copy of each document shall be submitted. If an application is found by the department to be incomplete, it may be denied and returned to the applicant.

| Required Documents |   |                        | Attached |
|--------------------|---|------------------------|----------|
| Section A.         | <b>Executive Summary (permit renewals only)</b> <ul style="list-style-type: none"><li>Summary of modifications, if any, to the facility that occurred during the current permit cycle.</li><li>Summary of each special provision of the current permit to determine if it is to remain the same, be revised or be removed.</li><li>Summary of each permit amendment, if any, that occurred during the current permit cycle to determine if it shall be included with the renewed permit, be revised or be removed.</li><li>Provide documentation and certification as required for new permit amendment requests and new variance requests from Iowa Administrative Code, if any.</li></ul> |                        |          |
| Section B.         | Site Map or Aerial Photograph   | IAC 567 121.7(1)"a"(1) | X        |
| Section C.         | Organizational Chart  | IAC 567 102.12(5)      | X        |
| Section D.         | Proof of Ownership/Local Zoning Requirements  | IAC 567 121.7(1)"b"(6) | X        |
| Section E.         | Soil Map(s)   | IAC 567 121.7(1)"a"(2) | X        |
| Section F.         | Evidence of NRCS Review   | IAC 567 121.7(1)"a"(3) | X        |

| Required Documents (Cont'd) |   |   | Attached |
|-----------------------------|---|---|----------|
| Section G.                  | Site(s) Acreage Information                               | IAC 567 121.7(1)"a"(4)  | X        |
| Section H.                  | Well Specifications                                       | IAC 567 121.7(1)"a"(5)  | X        |
| Section I.                  | Soil Loss Information                                     | IAC 567 121.7(1)"a"(6)<br>through<br>IAC 567 121.7(1)"a"(8)   | X        |
| Section J.                  | Site(s) Soil Testing                                      | IAC 567 121.7(1)"a"(9)  | X        |
| Section K.                  | Site(s) Water Table Levels                                | IAC 567 121.7(1)"a"(10)                                       | X        |
| Section L.                  | Method of Waste Treatment Prior to Disposal               | IAC 567 121.7(1)"a"(11)                                       | X        |
| Section M.                  | Waste Analytical Results                                  | IAC 567 121.7(1)"a"(12)                                       | X        |
| Section N.                  | Description of Disposal Process & Equipment               | IAC 567 121.7(1)"a"(13)<br>IAC 567 121.7(1)"a"(14)            | X        |
| Section O.                  | Evidence Waste Application Will Not Cause Adverse Affects | IAC 567 121.7(1)"a"(15)<br>through<br>IAC 567 121.7(1)"a"(17) | X        |
| Section P.                  | Site Operation Plan                                       | IAC 567 121.7(1)"a"(18)                                       | X        |
| Section Q.                  | Emergency Response and Remedial Action Plan               | IAC 567 102.14  | X        |
| Section R.                  | Site Closure Plan   | IAC 567 102.12(10)  | X        |
| Section S.                  | Proof of Financial Assurance and Closure Cost Estimate    | IAC 567 121.8   | X        |

#### SECTION 4. APPLICANT CERTIFICATION

##### CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I further certify that the construction and operation of the above described facility will be in accordance with the plans, specifications, reports and related communications accepted by the Iowa Department of Natural Resources and on file in its office; and in accordance with conditions imposed in the permit issued by the Iowa Department of Natural Resources.

Signature: G. Atkinson

Date: 5-6-90

Printed Name: GAVIN ATKINSON

Title: AVP, FACILITY MGR

## **A. Executive Summary**

This section to be completed for permit renewals only. Our application is for a new permit.

## **B. Site Map(s) and Aerial Photograph(s)**

We will submit this information in a separate letter.

## **C. Organizational Chart**

Cargill Corn Milling:

Gavin Atkinson, Cargill Blair Facility Manager/AVP

Matt Parsons, Cargill Blair Lactic Acid Team Leader

Michelle Bucklin, Cargill Blair Environmental and Wastewater Team Leader

Environmental Land Management:

Ray DeLong, President

## **D. Proof of Ownership/Local Zoning Requirements**

We will submit this information in a separate letter.

## **E. Soil Map(s)**

We will submit this information in a separate letter.

## **F. Evidence of NRCS Review**

Jim Anderson, Certified Professional Agronomist will review the site(s) information and submitted his findings to the Department.

## **G. Site(s) Acreage Information**

We will submit this information in a separate letter.

## **H. Well Specifications**

All of the homes in the area have their own wells, which are used for drinking water for humans and sometimes livestock. The wells are 60 to 80 feet deep. A metal sleeve is placed inside of the drilled hole. The actual drilled hole may be drilled deeper in the bedrock than the 60 to 80 feet metal sleeve. I will mark the well locations ("w") on the soil maps that will be submitted in a separate letter.

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### **I. Soil Loss Information**

Jim Anderson will discuss this in his reports.

### **J. Site(s) Soil Testing**

We will be submitting this information in a separate letter. Additionally, Jim Anderson will be submitting soil test results for sites used during previous growing season in his annual agronomist report.

### **K. Site(s) Water Table Levels**

We will submit this information in a separate letter.

### **L. Method of Waste Treatment Prior To Disposal**

Cargill Corn Milling manufactures lactic acid from corn. During this process, they generate a solid calcium sulfate (gypsum) byproduct. We call it CALmax.

### **M. Waste Analytical Results**

See attached analytical results.

### **N. Description of the Disposal Process and Equipment**

The equipment to be used will be a three wheeled floatation spreader. It will discharge the CALmax evenly from the rear. A loader will be used to load the CALmax into the spreader. The by-product will be surface applied and incorporated into the soil during normal cultivation times of the year. We will be land applying the CALmax throughout the year except when precipitation is imminent and when crops being grown at the site prevent immediate application. The sites will produce corn, soybeans, alfalfa, and/or wheat each year. The final use of the sites will be for crop production.

We will be land applying 4 tons "as received" (2.2 "dry" tons) on each acre, every three years, unless the farmer and his agronomist feel a more frequent application would help his previously damaged/underproductive soils further. At this application rate, each acre will receive 1,100 lbs. of calcium and 970 lbs. of sulfur.

## **O. Evidence That the Waste Application Will Not Cause Adverse Affects**

The benefits of land applying calcium sulfate (gypsum) on agricultural land are well documented by area farmers, university studies, agronomists' experiences, etc. It helps enhance soil structure, improves water penetration, increases nutrient availability, provides plant available calcium and sulfur, enhances root growth, reduces the ill effects of sodium, magnesium and bicarbonates in the soil, raises the air/water exchange. All of these things help to increase crop yields where it is applied.

We have tested the CALmax several times and the metal concentrations are extremely low or undetectable. The metal concentration levels are well below the 121.3(1)b. levels. There are no contaminants and therefore, no risk of site vegetation taking them up and making the site unsuitable for its intended uses. The soil pH and CEC and other soil data can be found in the soil tests submitted annually by Jim Anderson, Agronomist.

The proposed sites are fairly level with less than 9% slopes. The land is generally flat with some small rolling hills within the sites. There are several grassed waterways within the sites. When spreading, a 200 foot separation distance will be maintained from any water (streams, lakes) and down gradient tile inlets unless the byproduct is incorporated within 48 hours of application. We will also stay 200 feet away from any residential wells or occupied residences. During winter, these separation distances would double and a maximum slope of 5%. These same separation distances will be followed when stockpiling the CALmax.

There are no shallow aquifers in use or deemed to have potential for use as water sources within the spreading sites. At the proposed application rate and the separation distances from streams, lakes, and other surface waters, and the extremely low concentrations of metals found in the byproduct; there will be little to no movement of contaminants from the site to potential water sources.

Jim Anderson, certified Agronomist will advise if any sites or portions thereof are in a flood plain. If so, appropriate immediate incorporation of the byproduct into the soil will be done.

## **P. Site Operation Plan**

The operational requirement of 121.4(1) "c" and "d" will be followed as well.

## **Q. Emergency Response and Remedial Action Plan**

See attached ERRAP.

## **R. Site Closure Plan**

We will follow the rules for setbacks and application rates, therefore the crops will utilize the nutrients we are applying and no over fertilization will occur. The organic byproduct we will be applying is biodegradable and will be used by the growing crops within a year or shortly thereafter as it breaks down. If the IDNR at some time in the future would like or require a closure plan for CALmax byproduct, we can prepare one.

## **S. Proof of Financial Assurance and Closure Cost Estimate**

See attached financial assurance and closure cost estimate from Cargill Corn Milling.





# **Emergency Response and Remedial Action Plan for Environmental Land Management, Inc. & Cargill Corn Milling**

## **Facility Information**

***Permitted Agency:*** Environmental Land Management, Inc. and Cargill, Inc.

***DNR Permit Number:*** To be issued.

***Facility Description:*** Environmental Land Management, Inc. land applies CALmax, a calcium sulfate (gypsum) by-product, generated by Cargill Corn Milling. We will be land applying it on agricultural land in Western Iowa.

***Responsible Official and Contact Information:***

Ray DeLong, President, Tel. 800-758-5050 off. or 303-667-8742 cell.

***Project Location:*** Various sites in Iowa.

***Site and Environs Map:*** See submitted maps.

**Regulatory Requirements:** Cargill Corn Milling is seeking to obtain a permit to operate an industrial land application project at different spreading sites in Iowa in accordance with Chapter 455B of the code. This ERRAP has been developed by Environmental Land Management and is being submitted with other permit application documentation.

## **Emergency Conditions – Response and Remedial Action**

### **Utility Failure:**

During our land application process, there is no reliance upon Natural gas, liquid propane or electricity. All of our trucks and spreaders operate on gas or diesel engines.

### **Weather Related Events:**

In the case of violent weather, depending on the severity, we either cease delivery for the duration or use our short-term wet weather storage that is on approved land spreading sites. In the case of windstorms, there is no risk. The by-product is heavy and moist and has no dustiness to be concerned about. In the case of flooding, rainstorms or erosion: We are not working in any flood zones. Any erosion of the by-product during a rainstorm would be minimal, as experience has

shown in our Odor Study Report previously submitted. No temporary storage or spreading is done near a water source or near an area where water can accumulate and move.

If lightning occurs there would be no harm done to the by-product and no explosions or fires would result because the by-product contains nothing that could catch fire because of lightning. If a tornado occurred, there is simply nothing we can do to prevent the by-product from being picked up by it. In all weather conditions and events we can always stop land spreading and/or delivery until conditions improve or the event is over.

#### **Fire and Explosions:**

The by-product if temporarily stored for a while does not have the possibility of catching unfire or exploding.

All trucks are equipped with fire extinguishers and radios/cell phones to summon assistance. The by-product contains nothing flammable or toxic. If there was a disabled vehicle on the road, the side dump trailer can easily be unhooked and reconnected to a working truck. The by-product is cool when it leaves the production site.

No evacuation procedures are necessary if a fire occurs unless human life is threatened.

#### **Regulated Waste Spills and Releases:**

The by-product land applied has no fecal matter. It consists of calcium sulfate (gypsum). It is a byproduct from Cargill's plant where they process corn into lactic acid. There are no gasses associated with this by-product. It is transported daily in side dump trailers and deposited on approved land for immediate land spreading or short-term storage due to weather or crop growing condition. As stated before, the by-product is solid and contains no toxic components. If a spill or accident with our transport occurred, equipment and personnel are in place for immediate clean up and transfer.

The site drainage system, litter and off-site releases do not apply.

#### **Hazardous Material Spills and Releases:**

The by-product is generated from Cargill's plant where they process corn into lactic acid. The by-product is not a hazardous material and contains no human fecal material.

#### **Off-Site Releases**

An off-site release could occur during the transportation of the by-product from the plant to one of our spreading sites. If this occurs, the solid by-product should not 'move' because it is a solid material. It will be reloaded into another vehicle.

If the spill is near a stream or other place where water is present, silt fences, dirt berms, straw bales, etc. will be used to prevent it from moving and entering the water until it can be cleaned up and reloaded. If it enters the water, every effort will be made to remove as much of the solids as possible from the water with a backhoe, loader or shovels.

**Mass Movement of Land and Waste:**

If an earthquake occurred, it would not affect our storage. If it affected our delivery process, in the matter of spills or accidents, then we would implement our immediate emergency cleanup and transfer. No approved sites have any slope concerns. We follow the guidelines of the Iowa DNR and stay 200 –500 feet from a water source or well, do not spread on any slopes greater than 9%. All our spreaders are aware of these restrictions. We have these procedure monitored and if spreading accidentally occurred on slope greater than the guidelines we would immediately incorporate in to the soil and monitor the clean – up.

Waste shifts and subsidence is not applicable.

**Emergency and Release Notifications and Reporting:**

Ray DeLong, Environmental Land Management, Inc. Tel. 800-758-5050 off. or 303-667-8742 cell or 402-260-0253

Hansen Hauling (equipment), Tel. 507-437-6834 off. or 507-438-1580 cell or 507-438-2657

Local Fire Department Tel. 911

Local Police Department Tel. 911

Matt McDonald, Iowa DNR, Tel. 515-281-8150

Iowa DNR Office #4, Tel. 712-243-1934

Iowa DNR Spill Response Tel. 515-281-8694

**Emergency Waste Management Procedures:**

If there is any risk for an emergency it lies in the transportation to the site. All trucks, as stated before, are equipped with radios/cell phones and can immediately make contact for assistance in an emergency.

We have multiple delivery sites set up for all matters of weather and circumstances. If it's called for we can cease delivery and a last option is to go to landfill.

Wastes in process: not applicable.

**Primary Emergency Equipment Inventory:**

The trucks are equipped with communication devices, first –aid and fire extinguishers.

Loading equipment and other tractors are also readily available.

People who operate equipment are trained, licensed and familiar with it.

Water sources and/or hydrants are available if needed.

Off – site equipment sources not applicable.

**Emergency Aid:**

Communications are on persons or in vehicles to call upon if emergency aide is needed.

Awareness of where equipment and personnel are is maintained.

In a medical emergency we would call upon local emergency services.

Contracts: not applicable

**ERRAP Training Requirements:**

ERRAP training will be provided to all personnel involved in the trucking and spreading activities by Cargill, inc. (trucking) and Ray DeLong of Environmental Land Management, Inc.(land application). They will be trained in the proper handling of the by-product from the plant to the eventual land application of it. They will also be trained in what to do in an emergency and the ERRAP will be a part of that training. Training updates will occur annually and notes of what was covered and who was in attendance will be kept by Cargill and Ray DeLong.

**Reference Tables, Figures and Maps**

Spreading maps and aerial photos show the areas in which our spreading sites are located. In an emergency the personnel involved have access to two-way radios in their vehicles or cellular telephones. The people contacted are listed in the “Emergency and Release Notifications and Reporting” section above. Ray DeLong is the main contact after emergency Fire/police have been contacted.

**MIDWEST  
ENVIRONMENTAL  
CONSULTING**



Rick Yoerger, P.E.  
2441 Cimarron Drive  
Marion IA 52302-9792  
(319) 377-0334  
Fax (319) 373-2508

August 14, 2009

Mr. Matt McDonald  
Environmental Specialists  
Iowa DNR  
Energy and Waste Management Bureau  
502 E. 9<sup>th</sup> Street  
Des Moines, IA 50319-0034

Re: Financial Assurance Amount Required for Cargill Corn Milling, Inc.  
New Land Application Permit for Harrison County.


Dear Mr. McDonald:

Ray DeLong, President of Environmental Land Management, Inc. (ELM) requested that I certify the dollar amount required for a third-party to land apply stored by-product from Cargill Corn Milling, Inc. in the event ELM fails to perform. The financial assurance amount is calculated assuming third-party labor costs to land apply the stored by-product.

A maximum of 1,362 tons of by-product could be stored between the months of June and September at approved storage areas. The third-party labor costs to apply 1,362 tons at \$8 per ton would be \$10,896. Therefore, I recommend a \$10,896 financial assurance.

If you have any questions please call 319-377-0334.

Sincerely,



Rick Yoerger, PE  
Midwest Environmental Consulting  
PE# 8580

cc Ray DeLong, Environmental Land Management, Inc.