

**Environmental  
Protection Agency**

Ted Strickland, Governor  
Lee Fisher, Lt. Governor  
Chris Konecki, Director

August 31, 2010

RE: NPDES Compliance Inspection

Ms. Angie Duvall  
Environmental Manager  
Cargill, Inc.  
3201 Needmore Rd  
Dayton, OH 45414

Dear Ms. Duvall:

On August 18<sup>th</sup> I met with Tom Byrne, Kirk Jacobsson and you to conduct an NPDES permit compliance inspection of your facility. The inspection centered on facility operations contributing storm water runoff to the storm water basin tributary to outfall 001, non-contact cooling water discharged to outfall 001, facility operations contributing storm water runoff to outfall 002, and sample collection practices.

A review of your discharge monitoring reports from January 2008 to present revealed the following violations:

Date	Parameter	Reported Value	Limit
3-19-08	Biochemical Oxygen Demand	68 mg/l	45 mg/l
6-4-08	Total Suspended Solids	166 mg/l	45 mg/l
		457 Kg	1017 Kg
9-10-08	Oil and Grease	65.3 mg/l	20 mg/l
		603 Kg	203 Kg

In addition to these limit violations, Cargill failed to monitor Total Suspended Solids, Biochemical Oxygen Demand and Oil and Grease during the weekly period of January 1<sup>st</sup> through 7<sup>th</sup> 2009 which Cargill has previously acknowledged and addressed. Cargill addressed the limit violations in 2008 as being associated with sampling done when the storm water basin was discharging to outfall 001.

You indicated that sampling at outfall 001 is not coordinated to occur when the storm water basin overflow is active and the NPDES permit currently does not specify when or how samples are to be collected for outfall 001 relative to storm water discharges. Because the special monthly monitoring of the storm water basin discharge to outfall 001 does not include the volume of the discharge, I believe the NPDES permit will need to be modified so that monitoring results provide information on the quality of the discharge to waters of the State during precipitation events.

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### **Use of Cooling Water Chemical Additive**

When I commented on the pervasive orange tint on the stream substrate around the outfall and downstream, you informed me that Cargill recently started using a scale inhibitor (Nalco 7396 corrosion and scale control and sequestering chemical) in its cooling water system.

The recent use of Nalco 7396 (approved for use by Ohio EPA in 2003 along with Dynacool® 1383) appears to be causing accumulated iron and manganese in the cooling system to dissolve and be carried to the receiving stream. I also understand the kettle filters may have torn when solids from cleaning the heat exchangers caused excessive pressure on the filters.

Please provide me information about why the treatment chemical was put into use recently along with what conditions developed subsequent to this chemical addition. I am especially interested in knowing if Cargill has identified any new procedures necessary for times when water treatment chemicals are in use. Please provide the requested information by October 4<sup>th</sup>.

### **Operation of the Storm Water Settling Basin**

In 2008 Cargill indicated that it would utilize a portable pump to essentially empty the settling basin between storm events. It also replaced its main discharge pump with a larger self-priming one and installed a new fiberglass sump to allow the new pump to remove more water before detrimental pump cavitation occurred.

My observation was that the liquid level in the basin was the same as has been previously observed during dry weather conditions and that there was no evidence that a portable pump is used to dewater the basin. An orange-colored liquid was flowing into the basin through the north branch storm sewer inlet that you informed me was well water from a cooler leak scheduled to be repaired by September 15<sup>th</sup>.

I believe Cargill needs to make every reasonable effort to maintain the storm water basin in an empty state between precipitation events. Discharges into the basin during dry weather conditions should be conveyed quickly to the sanitary sewer as a standard practice and a small submersible pump would seem effective in achieving this goal. While I recognize the concern Cargill has about the protection of pumps and pipes during freezing weather, I believe there is much to be gained by focusing on management practices during times when freezing weather is not a factor. More involved solutions for keeping the basin empty during freezing weather can be addressed separately.

Maintaining the basin essentially empty between precipitation events would provide maximum retention volume and allow the main discharge pump to pump as much of the 'first flush' of storm water into the basin as possible to the sanitary sewer. The overall goal of this approach is to minimize the mass of pollutants in the storm water basin that is eventually discharged to outfall 001 when the basin overflows. Please review this proposal and provide a written response by October 4<sup>th</sup> that outlines your plan to address the desired goal of minimizing pollutants discharged during precipitation events.

### **Non-Storm Water Contributions to the Storm Water Basin**

In addition to storm water, Cargill has indicated that the basin receives flow from building and pavement washing. Please review the attached *Process Flow Diagram* that was included with the most recent NPDES permit renewal application and provide revisions, as appropriate, showing which facilities generate wash waters tributary to the storm water basin. If reasonable estimates of the volume and frequency of wash water is available, please provide it with the diagram. I ask that an amended diagram be provided to me by October 4<sup>th</sup>.

### **Discharge Temperature**

In conducting my compliance review I noted that on June 4, 2008 the maximum discharge temperature was reported to be 40.6°C (105.1°F) and on November 8, 2008 it was 57.85°C (136°F). These temperatures are very high and I would be interested in knowing if the temperature logs indicate the discharge temperature throughout the day. If it is available, please provide this information at your earliest convenience.

Maximum stream temperature criterion for Limited Resource Waters in Ohio's Water Quality Standards is 37°C (98°F). For Warm Water Habitat the maximum stream temperature criterion is 29.4°C (85°F). I've attached a chart that summarizes reported temperatures since 2008 that includes the referenced temperature criteria for your review. I will be consulting our Water Quality Modeling group in Columbus to determine if temperature limits are appropriate for Cargill's discharge.

### **Temperature Monitoring**

I was not able to determine the accuracy of the thermometer Cargill uses for temperature monitoring required at outfall 001. Required methodology calls for the use of a thermometer accurate to 0.1°C. Please provide a copy of the technical specifications for the thermometer currently in use. If you determine that the thermometer currently in use does not satisfy the requirements of Standard Method 2550, please indicate when the necessary thermometer and recorder will be provided.

### **Sample Preservation**

I noted that Cargill does not maintain a thermometer in its composite sampling station refrigerator at outfall 001 nor in the refrigerator used to store samples prior to analysis in the lab. Both locations must have a thermometer accurate to 0.5°C in the  $\pm 6^\circ\text{C}$  required temperature range. The thermometer needs to be suspended in a water bath and a log book is required for each location to document temperature checks done each day of use. The thermometer must be checked against a National Institute of Standards and Technology (NIST)-traceable thermometer at least annually with any correction value posted with the thermometer. Please provide this necessary equipment and documentation by October 4<sup>th</sup>.

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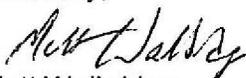
**Storm Water Pollution Prevention Plan (SWP3)**

I did not review your SWP3 at the time of the inspection and it was my understanding that it was in the process of being reviewed for possible updates. Please provide me an electronic copy of the current plan by September 13<sup>th</sup> and of the updated plan when it becomes available.

Also, I encourage you to evaluate the effectiveness of site-wide inspections I understand are currently conducted monthly and consider whether weekly inspections would be more appropriate.

If you have any questions concerning this inspection letter or the attachments, please call me at (937) 285-6095.

Sincerely,



Matt Walbridge  
Division of Surface Water

**ATTACHMENTS**

CC: Thomas Byrne and Kirk Jacobsson – Cargill (scanned copy via e-mail)



# NPDES Compliance Inspection Report

## Section A: National Data System Coding

Permit Number <b>1IN00044*GD</b>	NPDES Number <b>OH0022403</b>	Inspection Date <b>8-18-10</b>	Inspection Type <b>C</b>	Inspector <b>S</b>	Facility Type <b>2</b>
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## Section B: Facility Data

Name and Location of Facility Inspected:	Entry Time	Permit Effective Date
<b>Cargill, Incorporated 3201 Needmore Rd. Dayton, OH 45414</b>	<b>1000</b>	<b>7-1-07</b>
	Exit Time	Permit Expiration Date
	<b>1200</b>	<b>6-30-12</b>
Name(s) and Titles of On-Site Representative(s)	Phone Number(s)	
<b>Angie Duvall – Environmental Manager</b>	<b>(937) 237-2632</b>	
<b>Thomas Byrne – Environmental Coordinator</b>	<b>(937) 237-2617</b>	
<b>Kirk Jacobsson – Feed Products Supervisor</b>	<b>(937) 237-2625</b>	
Name, Title and Address of Responsible Official:	Phone Number	
<b>Greg Holler, PE Assistant Vice President and Facility Manager Cargill, Incorporated 3201 Needmore Rd. Dayton, OH 45414</b>	<b>(937) 237-1210</b>	

## Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, NA = Not Applicable, NE – Not Evaluated)

<b>S</b>	Permit
<b>S</b>	Records/Reports
<b>M</b>	Operations & Maintenance
<b>S</b>	Facility Site Review
<b>S</b>	Self-monitoring Program

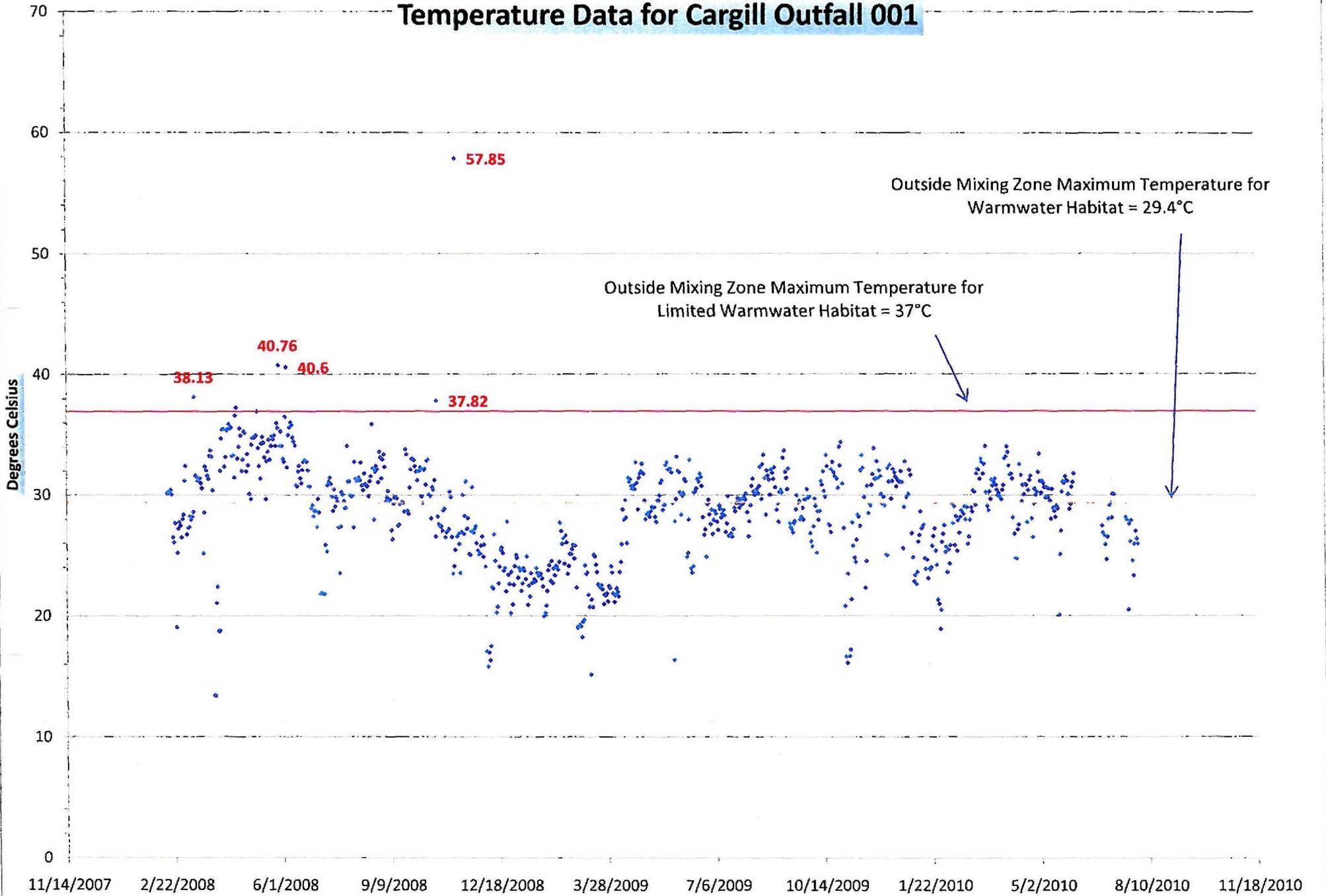
<b>S</b>	Flow Measurement	<b>NA</b>	Pretreatment
<b>M</b>	Laboratory	<b>NA</b>	Compliance Schedules
<b>M</b>	Effluent/Receiving Waters	<b>NA</b>	Collection System
<b>NA</b>	Sludge Storage/Disposal	<b>NA</b>	Other

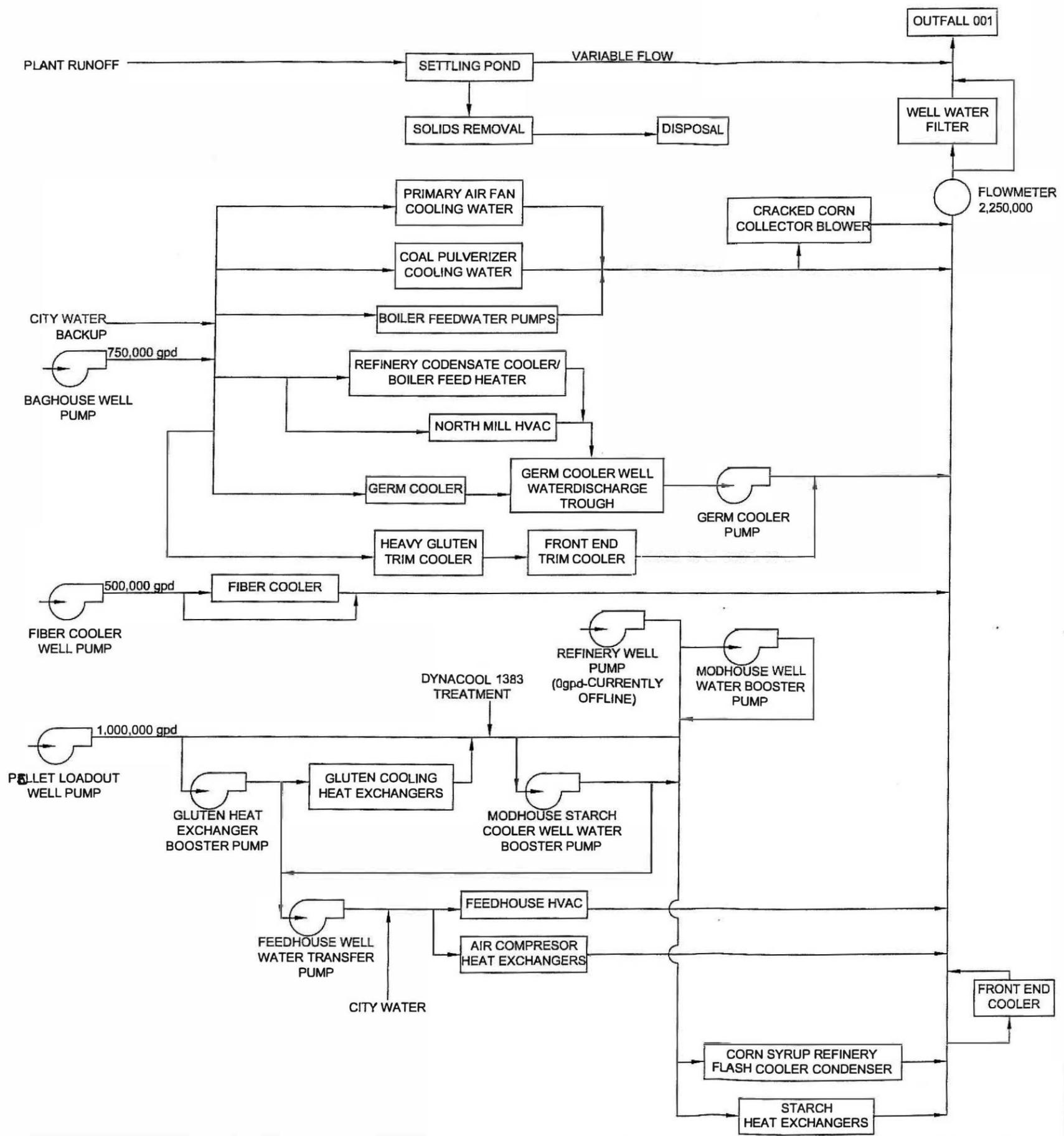
## Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

- **Thermometer has not been checked for accuracy.**
- **pH meter calibrations are not documented in a log book but are recorded in Cargill's 'PQDB' database.**
- **Refrigeration unit in the lab (used to store most collected samples) and at the sampling point do not have thermometers to verify proper temperature is being maintained. Log books would also be needed.**
- **A few weeks ago they started adding a chemical to sequester iron that was causing basket filters on the cooling water system to be cleaned more often than they used to. A new well was recently brought on-line that might be contributing high iron.**
- **The stream bed in the area around the outfall was lightly rust-colored. An absorbent boom was extended across the stream just downstream from the outfall.**
- **The stormwater pit tributary to outfall 001 contained about 6 or 8 inches of generally gray-colored water. An orange-colored water was discharging to the pit; this water was said to be from a leaking cooling pump seal.**
- **SWP3 is being updated. Inspections were said to occur monthly – may need to be done more frequently.**

Name and Signature of Inspector(s)  Matt Walbridge	Agency / Office / Telephone <b>Ohio EPA / Southwest District Office / (937) 285-6095</b>	Date <b>8-31-10</b>
Name and Signature of Reviewer(s)  Martyn G. Burt	Agency / Office / Telephone <b>Ohio EPA / Southwest District Office / (937) 285-6034</b>	Date <b>9/1/10</b>

# Temperature Data for Cargill Outfall 001





 ENVIRONMENTAL QUALITY MANAGEMENT, INC. 1800 CARLTON BLVD CINCINNATI, OHIO 45240 P. (513) 625-7500 F. (513) 625-7485	DESIGNED: D. TOMKO 10/27/08	<b>PROCESS FLOW          DIAGRAM</b>	
	CHECKED: A. BREMER APPROVED: M. MAROZARENKA		